

A Layer of Old Chinese Readings in the Traditional Zhuang Script¹

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Prologue

It is appropriate here to begin by acknowledging the pioneering contribution of Dr. V.K. Ting, whose article 'Notes on the Language of the Chuang in N. Kuangsi' was published in the first issue of the *Bulletin* in 1929.² A geologist by training, V.K. Ting (Ding Wenjiang) passed through Liuzhou in 1928, and collected a brief list of words in the local Zhuang language, which he then compared with vocabulary in F.M. Savina's *Dictionnaire Tay-Annamite-Français*. He thus became the first modern scholar to posit a genetic relationship between Zhuang and the Tai languages on the basis of comparative evidence.³

For many centuries, like a number of other non-sinitic peoples in the south of China, the Tai people now known as the Zhuang have made use of a character script derived from Chinese. The Zhuang are a Tai-speaking people primarily inhabiting present-day Guangxi, but also parts of Guizhou, Guangdong, and Yunnan; they are closely related to the Bouyei in Guizhou and the Nùng and Tày in northern Vietnam.⁴ The character script they use varies from place to place and has traditionally been used to write song texts, narrative verse, moral homilies, casual notes, and liturgical scriptures recited in the local language by vernacular priests.

The standard view among scholars in China on the age of the traditional Zhuang character script has for some time been that it took form during the Tang dynasty.⁵ This view is based on internal and external evidence. The external evidence is not plentiful, and comes primarily from inscriptions which date from the Tang period. Otherwise, in the written tradition, there is silence. This is curious but understandable. Broadly speaking, it was characteristic of scholar-officials in the Chinese state bureaucracy that they took no notice of unorthodox uses of the Chinese script among non-sinitic peoples, or at least refrained from mentioning such practices in their writings.

More recently, the grammatologist Lu Xixing 陸錫興 in his work on the dissemination of the Chinese script has argued that the Zhuang character script can

¹ The research on which this article is based has been supported by a research grant from the National Science Council. I wish to thank my Zhuang colleagues Meng Yuanyao and Ling Shudong. I am grateful to Laurent Sagart and William Baxter for making their Old Chinese reconstructions available to me, and to William Baxter for kindly providing reconstructions for additional characters. I am grateful to Zhengzhang Shangfang for additional information about his OC reconstructions.

² V.K. Ting, 'Notes on the Language of the Chuang in N. Kuangsi', *BMFEA* 1 (1929), 61–64.

³ I am grateful to Magnus Fiskesjö of Cornell University for drawing my attention to this article. For further information on the intellectual background of Ting [Ding Wenjiang] and his friendship and association with Johan Gunnar Andersson, founder of the BMFEA, see Fiskesjö, 'Science across Borders: Johan Gunnar Andersson and Ding Wenjiang', in Denise M. Glover et al., eds., *Explorers and Scientists in China's Borderlands, 1880-1950*, Seattle: University of Washington Press, 2011, pp. 240–266.

⁴ Unless otherwise indicated, in this article I use the term 'Zhuang' as a shorthand way to refer to the peoples officially classified as Zhuang and Bouyei in China, and Nùng and Tày in Vietnam. There is in any case a linguistic, cultural and graphic continuum spanning this whole area.

⁵ This view was first articulated in an influential article by Wei Qingwen in 1953. See Wei Qingwen 韋慶穩, 'Guangxi Zhuangzu de fangkuai wenzi' 廣西僮族的方塊文字, *Zhongguo yuwen* 中國語文, 1953, 1, 21–22.

be dated from the time of the kingdom of Nanyue 南越, based at present-day Guangzhou 廣州, which enjoyed a brief period of de facto independence between the fall of the Qin dynasty (206 BCE) and its re-conquest during the reign of Han Wudi (r. 140-86 BCE). The overlord of this kingdom, Zhao Tuo 趙佗, is known to have been favourably disposed to the native inhabitants of the area and – unusually – to have pursued policies leading to a blending of Chinese and local cultures. He also founded schools and promoted education among native inhabitants. In Lu's view, such measures provided conditions highly favourable for the transfer of knowledge of the Chinese script to local non-sinitic families.⁶

The above considerations require us to look anew at the possibility of a stratum of Old Chinese readings in the traditional Zhuang script. We would not expect such readings to be very plentiful, and their absence would not necessarily falsify Lu Xixing's hypothesis of Qin-Han period origins. But if we were to find some evidence of an OC layer in the script, Lu Xixing's explanation of a time, place, opportunity and motive would add considerable weight to it. Fortunately there is new evidence with which we can explore this possibility.

New Evidence

With the help and collaboration of Zhuang colleagues, I have recently conducted a survey of traditional texts in the Old Zhuang Script, covering 60 common words in some 48 locations in Guangxi, Guizhou, eastern Yunnan, and northern Vietnam. In analysing these data I have reviewed the evidence for the age and affiliation of the script character by character and phonetic series by phonetic series.⁷

In the main, the Zhuang script employs standard Chinese graphs and vernacular characters in common circulation to write the Zhuang language. Calligraphically and grammatologically, in other words, it is a script that looks like Chinese. Typically also page layout and other writing protocols (vertical columns, punctuation, repeat signs) follow mainstream Chinese manuscript conventions. It is only when one begins to read a Zhuang text that one realises that it makes no sense in Chinese, although Chinese readers will often recognise borrowed phrases here and there. Only a relatively small number of graphs represent Zhuang innovations, either novel combinations of phonophores and semantophores, radical simplifications of graphic structure, or double-decker characters with two complete Chinese compound graphs representing sound and sense in some combination.⁸

Standard Chinese characters in Zhuang texts can be read in up to twelve different ways. In addition to straightforward phonetic and semantic readings, there are secondary borrowing processes such as synonym substitution, reading a character as a different character in the same graphic-phonetic series, reading a compound character according to the pronunciation of only one of its graphic components ('catalytic readings'), and so on.⁹ The only way to reliably make sense of these texts is to work closely with the traditional owner of the manuscript – the priest or other village specialist who has learnt how to read the text in the traditional fashion, from the master to whom he was apprenticed.

⁶ Lu Xixing 陸錫興, *Hanzi chuanbo shi* 漢字傳播史 (Beijing: Yuwen chubanshe, 2002), 184–187.

⁷ David Holm, *Mapping the Old Zhuang Character Script: a Vernacular Writing System from Southern China* (Leiden: Brill, 2013).

⁸ See David Holm, 'The Old Zhuang Script', in Anthony V.N. Diller, Jerold A. Edmondson, and Yongxian Luo, eds., *The Tai-Kadai Languages* (London: Routledge, 2008), 415–428.

⁹ David Holm, 'A typology of readings of Chinese characters in traditional Zhuang manuscripts', *Cahiers de Linguistique Asie Orientale* 38:2 (2009), 245–292.

The script falls overall into three major regional groupings. In Guizhou, the north and northwest of Guangxi, and in eastern Yunnan, readings of Chinese characters used to represent Bouyei and Zhuang words were based on Southwest Mandarin (SWM); these readings date from the beginning of the Ming dynasty onwards; it was only in the early Ming period that Mandarin (*guanhua* 官話) was introduced in this region and promoted as the official language. In the central part of Guangxi, we found that readings of Chinese characters used to represent Zhuang words were based on Pinghua 平話, other older dialects, and a form of schoolhouse pronunciation that was used until the 1940s in traditional private schools in Zhuang-speaking areas. The formation of Pinghua goes back to the earliest Han Chinese settlers in Lingnan during the Qin-Han period, and these readings often also correspond closely to Middle Chinese.¹⁰ In this area, Zhuang and Chinese readings have been in rough correspondence over a very long time, from at least the time of Early Middle Chinese (EMC) right up to the present. Sound changes in Chinese and Zhuang have for the most part proceeded in parallel. Finally, in northern Vietnam there is a mixed system, with some readings taken from Southwestern Mandarin, some from Pinghua, and some from Hán-Việt, the Vietnamese system of pronouncing Chinese characters. Hán-Việt primarily represents a form of Late Tang pronunciation of Chinese, but as with Pinghua readings, the problem is that the date of incorporation into the traditional scripts of the Tai-speaking peoples of the area, now officially classified as Nùng and Tày, could be any time between the Late Tang and the present.

I have also compared what seemed to be the earliest readings with reconstructions of Proto-Tai (PT). An essential point of reference here is still Li Fang Kuei's reconstruction, published in 1977,¹¹ but I also looked at Liang Min and Zhang Junru's reconstruction of Proto-Kam-Tai (PKT),¹² Graham Thurgood's reconstruction of Proto-Kam-Sui (PKS),¹³ Weera Ostapirat's reconstruction of Proto-Kra,¹⁴ and Pittayawat Pittayaporn's reconstruction of Proto-Tai.¹⁵ Often we have found that Early Middle Chinese or Late Han readings of Chinese characters have been in rough correspondence with the PT reconstructions of the Tai words they were intended to represent.¹⁶

A major problem in dating the script is that the script itself is unstandardised, varies from locality to locality, and texts from any one place incorporate readings of various ages. Once incorporated, at least some of these readings became fixed: that is, they continued to be pronounced in Zhuang texts conservatively, as they were when they were first borrowed. In central Guangxi, some readings seem clearly to

¹⁰ See Li Lianjin 李連進, *Pinghua yinyun yanjiu* 平話音韻研究 (Nanning: Guangxi renmin chubanshe, 2000).

¹¹ Fang Kuei Li, *A Handbook of Comparative Tai* (Honolulu: The University Press of Hawai'i, 1977).

¹² Liang Min 梁敏 and Zhang Junru 張均如, *Dong-Tai yuzu gailun* 侗台語族概論 (Beijing: Zhongguo shehui kexue chubanshe, 1996).

¹³ Graham Thurgood, 'Notes on the Reconstruction of Proto-Kam-Sui'. In Jerold A. Edmondson and David Solnit, *Comparative Kadai: Linguistic Studies Beyond Tai* (Arlington: SIL International and the University of Texas at Arlington, 1997), pp. 179–218.

¹⁴ Weera Ostapirat, 'Proto-Kra', *Linguistics of the Tibeto-Burman Area* 23.1 (Spring 2000). The term 'Kra' here includes languages like Gelao, Lachi, Laha, and Buyang.

¹⁵ Pittayawat Pittayaporn, 'The Phonology of Proto-Tai', PhD dissertation, Cornell University, 2009.

¹⁶ This is admittedly a vague formulation, intended to indicate correspondence at the phonetic level, that is to say, matches in place and manner of articulation of initial consonants, vowel height and frontedness, and presence or absence of nasal and stop codas. Tone categories sometimes correspond, but in some times and places the correspondence is between tone contours rather than categories, e.g. for SWM. For further discussion see below.

correspond most closely to EMC, and others most closely with modern Pinghua. However, in many cases readings correspond equally well with both EMC and modern Pinghua, and thus could date equally well from the time of the Sui-Tang transition or from the recent past. This is a span of roughly 1400 years. During this long period, sound changes in the Chinese dialects in Guangxi have run roughly parallel with sound changes in Zhuang. It is only with the introduction of Southwestern Mandarin in the 14th century that we get a clear demarcation line, and a quite different set of graphic practices.

Given these circumstances, and the relative lack of hard evidence external to the script itself, we have found that the age of the script has had to be investigated not only locality by locality, but also character by character. In assigning dates I have opted for a conservative approach to the interpretation of available evidence, which includes reconstructions of various historical stages of Chinese and Tai and a range of modern dialect readings. Bearing in mind the limitations of the Zhuang linguistic survey data, and mindful also of the many unknown factors over a very long historical period, including mobility and migration, it seemed best to err on the side of caution. By and large, we have approached the question of the age of the script by asking, how old must these readings be?

Occasionally one finds exceptions to the general pattern of sound changes running in parallel. These are mainly with words that had initial consonant clusters in proto-Tai, and where subsequently dialect pronunciations have markedly diverged. A good example is *raen* 'to see', which is an etymon for which Li Fang Kuei has reconstructed PT **thren* A1, Liang Min and Zhang Junru have reconstructed PKT **tren*, and Pittayaporn has reconstructed **tran*^{An}. This word is realised as *ran*¹, *hjan*¹, *han*¹ or *zan*¹ in Northern Tai (NT) dialects, but as *than*¹, *thən*¹ or *han*¹ in the Central Tai (CT) dialects. In most of the localities in the east-central and central part of Guangxi this word is represented by compound graphs with the phonophore 吞 *tūn* 'to swallow' (EMC *t^hən*).¹⁷ The character 吞 *tūn* represents the modern CT pronunciation well enough, but no longer fits NT, where sound changes have led to r- initials. How did this situation come about? One could argue that the broad pattern of distribution and migration patterns make it unlikely that this reading was imported from the CT dialect area – in other words from west to east and from south to north. If the establishment of 吞 *tūn* as a phonophore for *raen* took place in east or central Guangxi, in NT areas which were sinified fairly early, then it must pre-date the sound changes in NT. We cannot date these sound changes precisely, but at least we can rule out the possibility that this particular reading is of recent date. On the other hand, there is some evidence of southern CT readings in northern texts, so movement in the other direction, south to north and east to west, is also possible.¹⁸ At any rate examples of this type, and their pattern of distribution, serve to confirm that there was a strong conservative tendency in the script. That is to say, once a word was written in a certain way, scribes continued to write it in that way, even if the pronunciation no longer fit because of historic sound changes, or did not fit the local pronunciation because the usage was imported from elsewhere.

¹⁷ EMC (Early Middle Chinese) and LMC (Late Middle Chinese) transcriptions are taken from Edwin Pulleyblank, *Lexicon of Reconstructed Pronunciation in Early Middle Chinese, Late Middle Chinese, and Early Mandarin*, (Vancouver: University of British Columbia Press, 1991).

¹⁸ For example, graphs based on 懇 *kěn* 'sincere, earnest' (implying a reading pronunciation *k^hum³*, as found in CT areas) are used in texts in the Tianzhou area to represent *hwnj* 'to ascend'. See Holm, *Mapping the Old Zhuang Character Script*, pp. 419–420.

Taken overall, the survey evidence has tended to confirm that, in the central part of Guangxi, the script took form during the Tang dynasty, in the sense that most readings were incorporated at that time. This is also the commonly held view among Zhuang and Chinese scholars. Many of the older readings correspond also with reconstructions of Proto-Tai, and may well date from the period before EMC. The problem with trying to confirm the dating of these older borrowings, or to identify readings of Late Han or even Old Chinese date, is by and large the same as we have encountered with respect to the MC loans. That is, sound changes in Chinese and the Tai languages (or lack of them) often makes it difficult to identify the date of a borrowing.

Let me give two examples to illustrate this point.

The graph 恩 *ēn* 'kind-hearted' is found widely in the western part of Guangxi and in Vietnam to represent *aen* (ʔen^1), a classifier for inanimate objects. In all these areas the pronunciation of *aen* is ʔen^1 , in other words a zero or plain glottal stop initial, a short centralised vowel, a nasal coda -n, and A1 of the tones. Correspondence is close with Pinghua readings of this character (en^1 , ən^1 , or ʔən^1),¹⁹ but less close with Cantonese (j)ien⁵⁵ or SWM $\eta\text{ən}^{55}$. At the same time, the close match with MC (ʔən) and even earlier pronunciations of Chinese (Late Han *ʔən) means this graph could have been borrowed at any time during the last 1800 years or so.²⁰ This example is typical of the older stratum of readings. We can be fairly confident in thinking of this as an older reading if the graph is widespread, if it is found distributed across a number of graphic regions, and if it is found in areas which have long been subject to Chinese cultural influences. In other words, the judgment about the age of a reading takes into account factors additional to phonetic resemblance.

The graph 扶 *fú* 'support' is used to represent *boux* (pou^4), a classifier for men (mature males). This graph is found in east-central Guangxi, an area long subject to Chinese influence, where the pronunciation of this morpheme is pou^4 . 扶 *fú* has pre-modern readings such as Late Han *buə , EMC bũə , and LMC $\text{fɦj̥ə}/\text{fɦu̯ə}$. Modern Pinghua readings include fou^{41} (Mashan), fu^{21} (Nanning), fu^{25} (Hengxian), and fou^{213} (Binyang). Pinghua has initial f- everywhere, including the northeast (Lingui Liangjiang fu^{12}). SWM readings are fu^{31} (Liuzhou and Guiyang). Hán-Việt is fu^{44} . As with 夫 *fú*, which is also used in Zhuang texts to represent *boux*, the most likely source of this reading is Late Han or EMC. In this case, processes of labiodentalisation in Chinese and Hán-Việt have differentiated newer from older pronunciations, and we can therefore rule out modern dialects (Pinghua, Cantonese, and SWM) as sources of the borrowing.

'Correspondence'

This article is exploratory in nature, and in what follows my use of the term 'correspondence' or 'rough correspondence' is avowedly pre-theoretical. There are many reasons why I think that this is appropriate at this stage in the enquiry, rather than looking for or seeking to establish regular correspondences between the sounds of Old Chinese and those of the Tai (Zhuang) words that Chinese graphs were chosen to represent. One reason is that the actual process of choosing Chinese characters to represent Tai words may have varied considerably in ways that we can no longer recover. We are talking here about phonetic borrowings rather than

¹⁹ Pinghua readings come from Li Lianjin, *op.cit.*

²⁰ The Late Han reconstruction comes from Axel Schuessler, *Minimal Old Chinese and Later Han Chinese: A Companion to Grammata Serica Recensa* (Honolulu: University of Hawai'i Press, 2009).

semantic borrowings. Unlike ordinary spoken language behaviour, inscription – the process of writing down – is the result of conscious decision-making processes, and the scribes may have had choices to make. The earliest Tai scribes would have chosen Chinese characters to represent the sound of Tai words, as they heard or understood them, but how accurately they did that and whether they were able to find what we would regard as good phonetic matches would have varied, one would imagine, from word to word as well as from scribe to scribe. Our survey has demonstrated conclusively, I think, that the Zhuang script had many different points of origin.²¹ Another factor was the availability of graphs. The earliest Tai scribes would not have access to the full range of characters in the Chinese script as it then existed, or some dictionary or catechism that would have given them an overview of all the possibilities, but only what they had to hand.

Borrowing a script is an inter-language practice, and the sound systems of Tai languages and Sinitic languages would have corresponded at some points and not at others, so we would naturally expect that some borrowings would be phonetically closer than others. In circumstances like this, also, one would naturally expect that there would be some degree of asymmetric cognitive structure at the heart of the process – that is, hearer perception would not necessarily match speaker articulation.²² Of course there is no direct evidence for the way in which the earliest Tai scribes heard the sounds of Chinese, other than the script itself, but one can speculate that the way in which any underlying phonemic categories were conceptualised even for sinified Tai would have been at best analogical, like the earliest sound glosses in Chinese sources: identifying the sound of a word by reference to another word with which it was thought to be homophonous. It was only later, by the Tang dynasty or somewhat earlier, that scribes from educated Tai families probably had access to more systematic information in the form of rhyme tables, as a result of Chinese-style schooling.²³ Rhyming practices in Zhuang verse also give us a sense of the indigenous language-internal conception of the soundscape.²⁴ What can be ruled out quite definitely, I think, is that the scribes had the ability to analyse the sounds of language in an alphabetic or Indic sense, into constituent consonants and vowels; such analytical ability is a concomitant of alphabetic writing systems rather than a human universal.²⁵

Old Chinese and Thai

The age of the script needs to be considered in relation to a mounting body of evidence for early contact between Chinese and Tai. A generation ago, Prapin

²¹ On which see D. Holm, *Mapping the Old Zhuang Character Script*, Leiden: Brill, 2013, *passim*.

²² Recent modelling of sound change influenced by the work of William Labov has been based on the assumption that production and perception may be non-symmetric. See Ching-Pong Au, *Acquisition and Evolution of Phonological Systems* (Nankang: Institute of Linguistics, Academia Sinica, 2008), pp. 9–13. For a careful study on Dai language learners' acquisition of Chinese which discusses these issues, see Chen Baoya 陳保亞, *Yuyan jiechu yu yuyan lianmeng* 語言接觸與語言聯盟, Beijing: Yuwen chubanshe, 1996.

²³ *Ibid.*, pp. 48–49.

²⁴ See Holm, *Killing a Buffalo for the Ancestors*, pp. 33–34. Salient features are centralisation and rhyming of short vowels /a/, /o/, /u/ and /w/; rhyming of words with different nasal codas -n, -ŋ, and -m; and rhyming of words in the same proto-Tai tone category (A, B, C and D), rather than according to modern tones, which have split.

²⁵ See Mark Aronoff, 'Segmentalism in Linguistics: The alphabetical basis of phonological theory', in Paula Downing et al., *The Linguistics of Literacy* (Amsterdam: John Benjamins, 1992), pp. 71–82.

Manomaivibool undertook an investigation of Chinese loan-words in Thai.²⁶ Using Bernhard Karlgren's and Li Fang Kuei's reconstructions of Old Chinese, the work of Edwin Pulleyblank and other scholars on Middle Chinese, and Li's reconstructions of proto-Tai, then soon to be published as *A Handbook of Comparative Tai*, she investigated in detail the correspondence patterns in initials, rimes and tones, and identified historical layers matching Old Chinese, Early Middle Chinese, Late Middle Chinese, and more recent dialect readings. Her study uncovered 621 words which corresponded in Chinese and Thai, including quite considerable numbers of Thai readings corresponding to Old Chinese. One of the strengths of her study was that it was informed by a great depth of knowledge about the older lexical layers in Thai.

Subsequently, many scholars have investigated such correspondence sets, either under the rubric of Han loans into the Tai languages, or more recently, under the heading 關係詞 *guānxi cí* 'linked words', a term which is used in order to indicate that the Sinitic and Tai languages have been in contact for a very long time, leaving open the question of the direction of borrowing or indeed whether or not the words are cognate.²⁷ Xing Gongwan and Luo Yongxian, to mention only two scholars who have made salient contributions in this area, have uncovered even more correspondences between Chinese and Tai.²⁸ In China, at least, the search for such correspondences has gone hand in hand with the prevailing view that the Kam-Tai languages are a branch of the Sino-Tibetan language family, and are therefore genetically related to Chinese in any case in deep historical time. OC correspondences have thus been understood as further corroboration of this posited genetic relationship; likewise, if there is a genetic relationship between Tai and Sino-Tibetan, OC correspondences are what one would expect to find. For us, however, it is not necessary to subscribe to this theory.

Zeng Xiaoyu 曾曉渝 has investigated 'linked words' in Sui, and likewise found lexical correspondences dating from Middle Chinese and Old Chinese. While the OC correspondences she found in Sui are in relatively small numbers, they are of great interest.²⁹

Recently also, Gong Qunhu 龔群虎 has published a book-length study on the historical layering in Chinese-Thai correspondences.³⁰ Basing his work on the Old Chinese reconstructions of Zhengzhang Shangfang 鄭張尚芳 and Pan Wuyun 潘悟云, and the PT reconstruction of Li Fang Kuei, he identified around 1,230 words which correspond either with Middle Chinese or Old Chinese. Using instances where a Chinese word had a number of different correspondences in Thai, he provided a systematic exposition of the Old Chinese loans in Thai.

²⁶ Prapin Manomaivibool, 'A Study of Sino-Thai Lexical Correspondences', PhD thesis, University of Washington, 1975.

²⁷ See Robert Bauer, 'Identifying a Tai substratum in Cantonese', *Pan-Asiatic Linguistics* Volume V, 1996, pp. 1808–1809, summarising Dai Qingxia's 戴慶廈 discussion of this issue.

²⁸ Xing Gongwan 邢公畹, *Han-Taiyu bijiao shouce* 漢台語比較手冊 (Beijing: Shangwu yinshuguan, 1999). Luo Yongxian, 'From "Head" to "Toe": Sino-Tai Lexical Correspondence in Body Part Terms'. *Journal of Chinese Linguistics* 28.1 (2000), 67–99.

²⁹ Zeng Xiaoyu 曾曉渝, *Hanyu Shuiyu guanxi lun* 漢語水語關係論 (Beijing: Shangwu yinshuguan, 2004). On the OC correspondences see further below.

³⁰ Gong Qunhu 龔群虎, *Han-Tai guanxicide shijian cengci* 漢泰關係詞的時間層次 (Shanghai: Fudan daxue chubanshe, 2002).

In the discussion that follows, I will cite the Old Chinese reconstructions of Zhengzhang Shangfang, but also those of William Baxter and Laurent Sagart.³¹ In the Baxter and Sagart reconstructions, square brackets ‘[]’ are used to indicate that more than one reconstruction is possible on the basis of MC reflexes, while round parentheses ‘()’ are used to indicate that an element may or may not be present, evidence being insufficient to determine the matter one way or another.³²

Gong Qunhu on Early Tai Borrowings

Gong Qunhu notes that language contact in high antiquity is a matter which is still unclear, but there is ample evidence for borrowings from Chinese dating from ‘over two thousand years ago’. S. E. Yakhontov in a 1976 article held that the earliest contacts between Han and Tai could not be older than the Han period, but the reason he gave for this was that Chinese from the Central Plains first came into direct contact with the non-sinitic peoples of South China at this time. Analysis of loan words in Thai, however, shows conclusively that the earliest contact layer is earlier than the formation of the Eastern Han lingua franca.³³

Gong concedes that it was not possible to tell which dialect was involved, but observes that Pinghua and Cantonese were in correspondence with the Middle Chinese layer in Thai. He is therefore basically in agreement with the proposition that old Pinghua was the primary source of most of the Middle Chinese loans found in the Tai languages of Guangxi, as Zhang Junru had argued.³⁴ Pinghua readings, however, cannot be relied upon for earlier borrowings. Here one is reliant on reconstructions of OC, specifically on liquid initials, CL- type consonant cluster initials, departing tone codas, voiceless nasals, codas for rimes in the 歌 *gē* rime group, and the phonemic value of the 魚 *yú* group rimes.³⁵

Gong Qunhu summarises the situation as follows:³⁶

Taking into account various factors such as the conservatism of the southern Chinese dialects, the results of research on the dating of splits in the Kam-Tai languages, and the semantics of lexical items common to Chinese and Tai, we are inclined to put the theoretical date [for this infusion] some three or two centuries before the Common Era.

The above-mentioned features of the OC sound system changed at various times in the direction of MC. With liquid initials, determination of the date around which *r- changed to *l- is based on changes in the transcription of Sanskrit, with for example characters like 羅 *luó* used to transcribe -la and -ra indiscriminately from about the

³¹ Zhengzhang Shangfang 鄭張尚芳, *Shanggu yinxi* 上古音系 (Shanghai: Shanghai jiaoyu chubanshe, 2003). For the latter system, which is not yet published, I use the tables in ‘Baxter-Sagart Old Chinese Reconstruction, version of 20 February 2011’, which contain 4000 characters found in pre-Qin texts; and also the reconstructions in a number of recent articles by Baxter and Sagart.

³² Laurent Sagart and William H. Baxter, ‘Reconstructing Old Chinese Uvulars in the Baxter-Sagart System (Version 0.99)’, *Cahiers LAO* 38:2 (2009), 227–228.

³³ Gong Qunhu, *op.cit.*, p. 57, citing Yahongtuofu 雅洪托夫 [Yakhontov], ‘Shanggu hanyu de kaitou fuyin L he R’ 上古漢語的開頭輔音 L 和 R, in Tang Zuofan 唐作藩 and Hu Shuangbao 胡雙寶, eds., *Yahongtuofu “Hanyu shi lunji” 雅洪托夫漢語史論集* (Beijing: Beijing daxue chubanshe, 1986), p. 163.

³⁴ Zhang Junru 張均如, ‘Guangxi zhongnanbu diqu Zhuangyu zhong de lao jeci yuanyu Hanyu gu “Pinghua” kao’ 廣西中南部地區壯語中的老借詞源於漢語古平話考, *Yuyan yanjiu* 語言研究 1982, 2, 197–219.

³⁵ Gong Qunhu, *op.cit.*, 57–8.

³⁶ *Ibid.*

5th century CE, while use of a first division character like 陀 *tuō* to represent -dra, with medial -r-, and a second division character like 藐 *miǎo* ‘small, petty; despise’ to transcribe -myak-, shows that medial -r- as a characteristic of second division characters had disappeared.³⁷

Simplification of consonant cluster initials may well have happened centuries earlier. Some Chinese scholars, such as He Jiuying 何九盈, proposed that Chinese had lost its initial clusters by the time of composition of the *Shijing* 詩經, and Wang Li’s OC reconstruction contained no cluster initials. Mei Tsu-lin and Jerry Norman, however, opined that simplification of consonant clusters were basically complete by the Eastern Han, with the 2nd century *Shiming* 釋名 the latest clear indication of this.³⁸ South Coblin argued on the basis of Late Han sound glosses that the Chinese of that time retained the gl- cluster, and that this changed to l- in the Wei-Jin period.³⁹ Gong Qunhu notes, however, that the compiler of the *Shiming* 釋名 was most familiar with the pronunciation current in Qing 青, Qi 齊 and Xu 徐, and cites evidence that suggests he could well have come from Qingzhou 青州, a strongly conservative area where cluster initials were retained long after they had died out elsewhere in the ‘common language’.⁴⁰

Gong Qunhu’s investigation of ‘related words’ in Chinese and Thai uncovered a very substantial list words in Thai with consonant clusters that correspond to OC consonant clusters. He has also shown that these correspondences are systematic. Of the 1000-odd Chinese-Thai ‘related words’, 165 or roughly 14% had initial clusters in Thai.⁴¹ These are summarised in the following table.⁴²

Gong Qunhu’s Table 5-2: Distribution of Consonant Clusters in Thai reflecting CL-Clusters in Old Chinese

| Thai (transcription) | No. of Examples | Thai (transcription) | No. of Examples |
|----------------------|-----------------|----------------------|-----------------|
| bl- | 10 | thl- | 5 |
| gl- | 14 | br- | 8 |
| hl- | 26 | cr- | 1 |
| kl- | 25 | dr- | 3 |
| khl- | 4 | gr- | 21 |
| ml- | 4 | hr- | 4 |
| pl- | 16 | kr- | 12 |
| phl- | 5 | pr- | 1 |
| tl- | 1 | tr- | 5 |

We shall be concerned here primarily with CL- type consonant cluster initials. What follows are examples drawn from Gong Qunhu’s data.⁴³

³⁷ Ibid., pp. 98–99.

³⁸ Mei Zulin 梅祖麟 and Luo Jierui 羅杰瑞 (Jerry Norman), ‘Shilun jige Minbei fangyan zhong de lai-mu s- shengmu zi’ 試論幾個閩北方言中的來母 聲母字, *Tsing Hua Journal of Chinese Studies*, n.s. 9: (1971) 96–105.

³⁹ W. South Coblin, ‘The System of Initials in Eastern Han Sound Glosses’, 1977, 1978.

⁴⁰ Gong Qunhu, *op.cit.*, 98–100.

⁴¹ Ibid., 102.

⁴² Ibid. Gong provides a transcription of written Thai, which retains evidence of voiced initial consonants, rather than a rendering based on modern pronunciation.

⁴³ In this and the following tables I have added Modern Standard Chinese pronunciation in the second column, and translated Gong’s Chinese glosses in the right-hand column into English. According to Gong, the OC reconstructions in his tables are based on those of Pan Wuyun. On which see Pan

4.3.2 Different reflexes, all from OC (63-4)

| Item | MSC | MC | OC | Thai | Mod.Th. | Tone | Wr.Th. | Gloss |
|------|------|-------|--------|--------|---------|------|---------|----------|
| 嵌 | qiàn | khuam | khraam | klɛɛm | kleem | C1 | แก้้ม | insert |
| 嵌 | qiàn | khuam | khraam | glam | khlam | B2 | คร้า | inlay |
| 嵌 | qiàn | khuam | khraam | liiam | liam | B2 | เลี่ยม | inlay |
| 昏 | hūn | huon | hmuuun | hm[o]n | mon | A1 | หม่น | twilight |
| 婚 | hūn | huon | hmuuun | hman | man | C1 | หมั้น | betroth |
| 攪 | jiǎo | kuau | kruuʔ | klwa | klua | C1 | กิ้ว | mix |
| 攪 | jiǎo | kuau | kruuʔ | kluuua | kluaa | C1 | เก็ลื้อ | stir in |
| 攪 | jiǎo | kuau | kruuʔ | glau | khlau | C2 | เค็ล้า | stir in |

In other cases, Thai has various alloforms reflecting OC initials but MC vowels, or reflecting borrowings of different time depths.⁴⁴

4.3.5 Alloforms reflecting both OC and MC (66–67)

| Item | MSC | MC | OC | Thai | Mod.Th. | Tone | Wr.Th. | Gloss |
|------|------|-------|--------|-------------|------------|------|----------|------------|
| 棒 | bàng | buaŋ | brooŋʔ | บวอŋ | phlwaŋ | A2 | พลอŋ | club |
| 棒 | bàng | buaŋ | brooŋʔ | ʔbwaŋ | bwaŋ | A1 | [กระ]บอŋ | cudgel |
| 棒 | bàng | buaŋ | brooŋʔ | [taʔ]ʔbwaŋ | [taʔ]bwaŋ | A1 | [คะ]บอŋ | club |
| 棒 | bàng | buaŋ | brooŋʔ | [traʔ]ʔbwaŋ | [traʔ]bwaŋ | A1 | [ตระ]บอŋ | club |
| 變 | biàn | puien | prons | pliian | plian | B1 | เปลี่ยน | change |
| 變 | biàn | puien | prons | pleeŋ | pleeŋ | A1 | เปลง | change |
| 變 | biàn | puien | prons | phleeŋ | phleeŋ | A1 | เปลง | alteration |
| 變 | biàn | puien | prons | phan | phan | A1 | ผัน | change |

OC Readings in the Zhuang Script

Let us now see if we can find evidence for this in the Zhuang script itself.

I give here first some examples which I think quite probably date from OC. That is to say, these are readings which cannot be explained by reference to any reconstructions that post-date the late OC period; nor can they be explained by any other mechanism such as serial borrowing. These examples have emerged from the process of annotating Zhuang texts. Generally speaking, in editing Zhuang texts, we

Wuyun 潘悟云, *Hanyu lishi yinyunxue* 漢語歷史音韻學 (Shanghai: Shanghai jiaoyu chubanshe, 2000). Baxter and Sagart's OC reconstructions are: 嵌 *C.[g]<r>em; 昏 *m'ʷu[n]; 婚 cf. 昏 *m'ʷu[n]; and 攪 *k'ruʔ.
⁴⁴ Cf. Baxter and Sagart OC: 棒, cf. 棒 *b[ʔ]roŋʔ; 變 *pro[n]-s.

have found that if there is a disparity between a character and its reading pronunciation that cannot be explained by any of the usual mechanisms – semantic borrowing or re-borrowing, synonym substitution and so on – then it is worth exploring the possibility of borrowings from other languages such as Buyang and Gelao, or readings dating back before MC.

Rengx (ɣeŋ⁴) ‘drought’

One particularly clear example of an OC reading is 𠄎, a vernacular graph used for *rengx* (ɣeŋ⁴) ‘drought’ in a narrative text from the eastern part of Bama county.⁴⁵ The initial consonant of the phonophore 丁 *dīng* ‘4th of the Heavenly Stems’ is on the face of it anomalous as a phonophore for *rengx*, since we would expect initial l-. Neither MC readings nor Pinghua readings of 丁 *dīng* are of much help. EMC is teŋ, while typical Pinghua readings are tɔŋ⁴¹ (Nanning) and tən⁵⁴ (Tiandong).⁴⁶ The OC reading however is *teeŋ for ‘nail’ and *rteeŋ for ‘sound of wood chopping’ (Zhengzhang p. 304) or *t^heŋ (Baxter and Sagart).⁴⁷ We explain the Zhuang reading as follows: in Chinese the initial consonant cluster *rt- was later simplified to an unvoiced retroflex stop in EMC (Pulleyblank’s trəiŋ/trə:ŋ), while in Tai the *r- was retained and the *-t- was dropped. The long -e- vowel in the final corresponds with OC, and also with EMC. Additionally, the word *rengx* ‘drought’ may itself very well have originally had an initial consonant cluster: Pittayaporn reconstructs PT *C.leŋ^C for this etymon, glossed as ‘dry season’ (262). A further corroborating factor is that the Heavenly Stems and Earthly Branches are known to have been borrowed at a very early date into the Tai languages.⁴⁸

Zhengzhang notes further that the first-division pronunciation is the most common, but that Li Fang Kuei had reconstructed the second-division form as OC *triŋ, with medial -r-. In his view, this form is too late, probably dating to the late Warring States and Han period, and is best seen as representing a stage in the language when initial *r- had already changed to medial *-r-, and was already in the process of changing into what would later become the MC *zhī* 知 initial.⁴⁹

Ruz (ɣu:²) ‘boat’

In the same text, the character 般 *bān* ‘move; category’ is read repeatedly as *ruz* (ɣu:², or lu:² in the local dialect) and glossed as 船 ‘boat’. There is little doubt that this reading is correct, since the same character is read as *ruz* recurrently in this text (12 locations altogether). The problem is how to explain this pronunciation, since 般 *bān* in any dialect has initial, final and tone which are quite different from *ruz*. There is an alternative reading for 般 *bān*, which is *bō*, used as a transcription character in the

⁴⁵ D. Holm and Meng Yuanyao, *Hanvueng: The Goose King and the Ancestral King, an Epic from Guangxi in Southern China*, forthcoming, line 839.

⁴⁶ Li Lianjin, *Pinghua yinyun yanjiu*, p. 348.

⁴⁷ In addition to the reconstruction with initial *t- or *t^h-, it will be noted that Zhengzhang reconstructs a prefixed *r- for this graph. This is the reading as a division 2 word, the modern pronunciation of which is *zhēng*. This reading appears in the *Shijing* 詩經 (Xiaoya ‘Fa mu’ 小雅伐木), so it is not late. Zhengzhang includes an *r- prefix in his OC reconstruction of division 2 words on the basis of Tibetan, following a proposal from Gong Huangcheng 龔煌城 and Pan Wuyun 潘悟云 (Zhengzhang, *Shanggu yinxi*, pp. 147–148). The current pronunciation of 丁 *dīng* in Zhuang and other Tai languages is *dīng* (tɪŋ¹). Zhengzhang’s reconstruction is not based on evidence from Tai, so the argument presented here is not circular.

⁴⁸ Fang Kuei Li, ‘Some Old Chinese Loan Words in the Tai Languages’, *HJAS* 8:3-4 (1945), 333–42.

⁴⁹ Zhengzhang Shangfang, personal communication, February 2014.

collocation 般若 *bōrě*, Skrt. *prajñā* ‘wisdom’; this pronunciation has pre-modern readings EMC pa and LMC pua (Pulleyblank p. 40); this reading seems to go back as far as the Tang, and is listed in the Song dynasty Buddhist dictionary *Longkan shoujing* 龍龕手鏡. This is closer, even if the initial is not in correspondence. Seeking an explanation in PT or PKT does not help, since ‘boat’ in PT is *dr̥io A2 (HCT 128, 282) and PKT is *druw̥ (Gailun p. 909); Pittayaporn’s PT is *C.rwuə^A. One possibility is to interpret 般 *bān* as a graphic approximation for 船 *chuán* ‘boat’, a substitution which could easily happen if the ‘mouth’ element (口) in the lower right-hand corner were written as 厶 *sī* or as a repeat sign (々), as is frequently seen in vernacular manuscripts. The problem with this is that 般 *bān* is found quite consistently for *ruz* in this text, so it is unlikely to be a ‘mistake’. A more promising possibility is that 般 *bān* has been read catalytically, with the boat radical (舟) on the left-hand side and 戛 *shū* ‘pike’ as a phonetic element on the right. 戛 *shū* in turn has pre-modern readings EMC dzūǎ and LMC šh̥yǎ (Pulleyblank 287). For OC the Baxter-Sagart reconstruction is *[d]o; and Zhengzhang Shangfang’s OC reconstruction is *djo (467).⁵⁰ It will be noted that OC and EMC are a reasonably close match with PT and PKT.

The 戛 *shū* was a pike of wood or bamboo, used in warfare in the classical period. There are references to it in the *Shijing* 詩經 (Weifeng: Boxi 衛風伯兮) and the ritual classics. The shape and appearance of this weapon are described in the commentary to the *Maoshi* 毛詩 (長丈二而無刃, ‘It was twelve feet long, and had no sharp edge’), suggesting perhaps that it had passed out of current use and become unfamiliar at an early date. In fact it continued to be used later in ceremonial guards of honour (*yizhangdui* 儀仗隊), and Tang and later references to it are always in the context of ceremonial. One can speculate that such a relatively infrequent character as 戛 *shū* might come to be used as a phonophore in a Zhuang text either because the script itself – or at least elements of it – took shape at an early date, or because Zhuang literacy, being school-based, naturally included texts like the *Shijing* and the ritual classics.

Naeng (nɛŋ¹) ‘skin’

In the same text, the character 宋 *sòng* ‘(ancient state; surname)’ is found read as *naeng* (nɛŋ¹) ‘skin’. This reading is peculiar. 宋 *sòng* is usually used to represent words like *soeng* and *soengj*,⁵¹ and the initial n- would seem difficult to justify. The reading *naeng* ‘skin’ is not in doubt, since it provides a semantic parallel with *noh* ‘flesh’ in the previous line and a rhyme with *mwn* ‘braise’ at the end of the line. All modern dialects have nɛŋ¹ for this lexeme.⁵² 宋 *sòng* has pre-modern readings such as EMC sawŋ^h and LMC səwŋ (Pulleyblank 293); Pinghua readings include ɬɛŋ³⁵ in Tiandong and ɬɛŋ⁵⁵ in Nanning (Li 366). Li (HCT 6.6) reconstructs this etymon for ‘skin’ with PT initial *hn-, as do Liang and Zhang for PKT. Pittayaporn reconstructs PT *^hnaŋ^A (58). It is possible that this reading came about at a time when the initial nasal of *naeng* was still unvoiced, and that this unvoiced nasal came to be represented by a character with initial s- in Chinese. Zhengzhang Shangfang’s reconstruction of the OC pronunciation of 宋 *sòng* is *sluŋs (473), while Baxter and

⁵⁰ The initial ‘d’ in the Baxter-Sagart reconstruction is placed in square brackets ‘because the initial could be something more complex, like *N-to’ (William Baxter, personal communication, February 2014).

⁵¹ *Sawndip sawdenj - Gu Zhuang zi zidian* 古壯字字典, ed. Guangxi Zhuangzu zizhiqū Shaoshu minzu guji zhengli chuban guihua lingdao xiaozu 廣西壯族自治區少數民族古籍整理出版規劃領導小組 (Nanning: Guangxi minzu chubanshe, 1989), p. 466.

⁵² Zhang Junru et al., *op.cit.*, p. 362.

Sagart reconstruct *[s]¹uŋ-s. It will be noted that both PT and Zhengzhang's OC have a consonant cluster initial composed of an unvoiced first component (h- vs. s-) followed by a voiced alveolar continuant (-n- vs. -l-). Of course there is the further question of whether other examples of this particular equivalence can be found in the Zhuang script. We are not yet at the stage of being able to answer that, but there is at least a possibility that this reading may date from OC.

Consonant Clusters

We pass now to evidence from the survey of common words. Here, we are not just asking how old a reading can be proven to be, but also how old it might be. How far back can we trace phonetic correspondences, and specifically, can we find coherent traces of Old Chinese in the Zhuang script? One good place to look is OC words which have initial consonant clusters, -r- infixes, and various prefixes in Old Chinese. Manomaivibool and Gong Qunhu have shown how they are reflected in the oldest stratum of borrowings into Thai.

In fact, Li Fang Kuei in his PT reconstruction had already noted the possibility that some of the words he reconstructed with PT *ʔd- might be derived from words beginning with cluster initials.⁵³ Independently, in the early 1980's Wang Jingliu 王敬驩, comparing Austroasiatic borrowings in the Dai 傣 language of Sipsong Panna, observed that sesquisyllables in AA frequently corresponded to single-syllable words with pre-glottalised initials in Dai. This evidence, he found, was abundant. As he put it, pre-glottalised initials 'are mostly the result of the dropping off of a prefix, or to put it another way, are the trace left behind by the prefix that has dropped off.'⁵⁴ Gong Qunhu in his discussion of the simplification of initial consonant clusters cites evidence from other Kadai languages in support of the idea that pre-glottalised initial ʔd- in Tai-Kadai languages may have come from earlier unvoiced consonant clusters. Forms such as Gelao klai⁵⁵ 'ladder' and kləw⁵⁵ 'inside' with initial kl- correspond with Thai [kra]-dai¹ and nai².⁵⁵ The second of these etyma, nai² 'inside', is equivalent to Zh. *ndaw* (ʔdau¹); Gong cites a weak form of this etymon for Thai, with initial n- derived from ʔd- and codal -i derived from -u (-uŋ). He goes on to say, 'These correspondences reflect a sound change CL > ʔd-, and also indicate that there may be other words with pre-glottalised initials that we would not be able to account for otherwise; these too may have their origins in earlier consonant clusters.'

This theory can be backed up by comparative evidence. Joseph Greenberg discussed the phenomenon of pre-glottalised and implosive initials in a classic article, suggesting on the basis of Austroasiatic languages and data from African languages that glottalisation or implosion developed from consonant clusters that resulted from the weakening and disappearance of a minor first syllable.⁵⁶ Greenberg showed that when the first consonant in a CVCV(C) word is a voiced stop and the second consonant is a glottal stop (ʔ), the result of syllable telescoping will

⁵³ Li Fang Kuei, *A Handbook of Comparative Tai* (Honolulu: University of Hawai'i Press, 1977), p. 108.

⁵⁴ Wang Jingliu 王敬驩 and Chen Xiangmu 陳相木, 'Xishuang banna lao Daiwen wushi-liu zimu kaoshi' 西雙版納老傣文五十六字母考試, *Minzu xuebao* 民族學報 1982, 2, 178. Recently, Huang Xing has also put forward a similar theory. See Huang Xing 黃行, 'Neibaoyin shengmu tanyuan' 內爆音聲母探源, *Minzu yuwen* 民族語文 2012, 2, 19–27.

⁵⁵ Gong Qunhu, p. 105.

⁵⁶ James Matisoff coined the term 'sesquisyllable' for words which were effectively 'a syllable and a half'. See Matisoff, 'Tonogenesis in Southeast Asia', in Larry M. Hyman, *Consonant Types & Tone*, Southern California Occasional Papers in Linguistics, No.1 (Los Angeles: University of Southern California, 1973), pp. 71–96.

be a glottalised voiced stop.⁵⁷ Recently, Graham Thurgood has conducted a thorough investigation of this phenomenon in the Chamic language group, an Austronesian language group that has undergone systemic change from two-syllable forms to monosyllabic forms under the influence of neighbouring AA languages. Chamic languages made a transition first to iambic forms (with unstressed first syllables), then to sesquisyllabic forms with reduced first syllables, and finally to monosyllabic forms with various consonantal clusters and tones.⁵⁸ Chamic is pertinent because the Tai languages (or at least very substantial parts of their basic vocabulary) are now thought to have branched off from Austronesian and to have undergone a comparable process of transition to monosyllabicity under the influence of neighbouring languages.⁵⁹

Gong Qunhu also discusses the other ways in which consonant clusters with -L are simplified in MC, but remain unsimplified in the OC layer of loan words in Thai. There are three major categories of these:⁶⁰

| Type | Example | OC | MC | Thai transcr. | Thai gloss |
|------------|---------|-----------|-------------------|-----------------------|------------|
| A CL- > C- | 變 biàn | *prons | puien | pliian ^{B1} | change |
| B CL- > L- | 鑾 luán | *b-roon | l ^w an | brw[a]n ^{A2} | neck-bell |
| C CL- > T- | 吞 tūn | *qhlluuun | thən | kluuun ^{A1} | swallow |

In Type A, the cluster is simplified to the consonant preceding the -L, in Type B the L is retained but the preceding consonant is dropped, and in Type C the resulting consonant is T-. Simplification of consonant clusters took place late in the OC period and was complete by the end of the Han, well before the time of EMC (*circa* 601 CE), so loan words like the above examples clearly came from OC. Numerous similar examples have been found for other languages in the Tai-Kadai family. The question then is, can we find traces of OC borrowing in the script?

The examples already cited suggest two possible points of departure. In the table just above, we have 吞 *tūn*, which is used to write a number of the 60 common words included in our preliminary survey of the Zhuang script. These are:⁶¹

- (1) *aen* (ʔdɛn¹ in some dialects) ‘lump’; clf. for inanimate objects;
- (39) *mbwn* (ʔbun¹) ‘the sky’;
- (44) *ndang* (ʔdaŋ¹) ‘body’;
- (45) *ndaw* (ʔdɛw¹) ‘inside’;
- (48) *ndwen* (ʔdɛwən¹) ‘moon’;
- (50) *ngoenz* (ŋon²) ‘daytime, day’;
- (54) *raen* (CT t^han¹) ‘to see’.

⁵⁷ Joseph H. Greenberg, ‘Some Generalizations concerning Glottalic Consonants, especially Implosives’, *International Journal of American Linguistics*, XXXVI: 3 (1970), 123–145.

⁵⁸ Graham Thurgood, *From Ancient Cham to Modern Dialects: Two Thousand Years of Language Contact and Change* (Honolulu: University of Hawai’i Press, 1999), pp. 86–91.

⁵⁹ For a systematic exploration of the implications of this scenario for PT reconstruction, see Pittayawat Pittayaporn, *op.cit.*

⁶⁰ Gong Qunhu, p. 104. Cf. Baxter and Sagart OC *pro[n]-s for 變 *biàn*; *mə.r^o[n] for 鑾 *luán*; and *l^ʔən for 吞 *tūn*. The -ll- in the OC reconstruction for 吞 *tūn* in Gong’s table is an earlier form of -l^ʔ-, with the doubled ‘l’ or apostrophe in Pan Wuyun’s and Zhengzhang Shangfang’s system indicating an ‘l’ that turns into an alveolar stop.

⁶¹ The numbers in parentheses refer to the section headings in Holm, *Mapping the Old Zhuang Character Script*.

It can be seen that 5 out of 7 of these etyma begin with a glottal stop or pre-glottalised consonant. We can rule out 39 *Mbwn* (ʔbun¹) as either a phonetic-then-semantic borrowing (吞 *tūn* for 天 *tiān* ‘the sky’; the two words were homophonic in OC) or as a semantic borrowing based on a catalytic reading (reading 吞 *tūn* only for its upper component 天 *tiān* ‘the sky’),⁶² and also 50 *Ngoenz* (ŋon² ‘day’) for a similar reason. In the case of 54 *Raen* (CT t^han¹) 吞 *tūn* as a phonophore dates from the MC period (it corresponds with thən¹). So we can say that in 4 out of 5 cases 吞 *tūn* represents a pre-glottalised initial. Note also that 6 out of 7 of the above examples have tone A1. We will discuss these examples further below.

Zeng Xiaoyu also identifies 吞 *tūn* as an OC loan word in Sui, ʔdan¹ ‘to swallow’, with initial ʔd-.⁶³ This seems to suggest that Sui underwent parallel sound changes, also leading to a pre-glottalised initial. In the other direction, this provides further support for the argument that the type C initial cluster (CL- > T-) in 吞 *tūn* was reflected in the Kam-Tai languages with initial ʔd-.

Let us now look at other words with pre-glottalised initials or an initial glottal stop and see how these are realised in the OZS more generally. Again, we will rely here on our survey data in the first instance. We will concentrate our attention on the graphic-phonetic series for each morpheme that are most widely found in the central part of Guangxi, for the most part leaving the more idiosyncratic renderings of outlying areas and the SWM readings aside. In the tables that follow I will list both the Zhengzhang Shangfang OC reconstructions (OC1) and the Baxter-Sagart reconstructions (OC2). The capital letters for the graphic-phonetic series (A, B, C and so on) refer to the corresponding series in *Mapping the Old Zhuang Script*.

The relevant morphemes are listed below, together with PT reconstructions and brief details of dialect pronunciations:⁶⁴

- 1 *Aen* ‘lump’, clf. for inanimate objects PT *ʔan A1 (Li), *ʔal^A (Pittayaporn)
 Zhuang: mainly ʔen¹ and ʔden¹; variants ʔnen¹ (east-central Guangxi); nen¹ (Lianshan in Guangdong); len¹ (Rongshui); and ren¹ (Longsheng); Guizhou Bouyei dan¹ (ʔdan¹).

| Series | | MSC | EMC | OC(1) | OC(2) |
|--------|---|-----|-------------------|-----------------------|------------------------|
| A | 吞 | tūn | t ^h ən | *qhl ^ʔ uun | *l ^ʔ ən |
| B | 恩 | ēn | ʔən | *quun | *ʔ ^ʔ ə[n] |
| C | 安 | ān | ʔan | *qaan | *[ʔ] ^ʔ a[n] |
| E | 吝 | lìn | lính | *mrins | *mə.rə[n]-s |
| F | 爛 | làn | lanh | *g·raan | *[r] ^ʔ an-s |
| G | 難 | nán | nan | *mGlaan | *n ^ʔ ar |

Comment:

⁶² See Holm, ‘A typology of readings of Chinese characters in traditional Zhuang manuscripts’, 260–265.

⁶³ Zeng Xiaoyu 曾曉渝, ed.-in-chief, *Dong-Tai Miao-Yao yuyan de hanjienci yanjiu* 侗台苗瑤語言漢借詞研究 (Beijing: Shangwu yinshuguan, 2010), p.120.

⁶⁴ For fuller discussion of the distribution of dialect pronunciations, together with maps, see the relevant sections in Holm, *Mapping the Old Zhuang Character Script*. See the same source for fuller arguments about dating.

There are two main dialect variants of this word in Zhuang and Bouyei, ʔan^{A1} and ʔdan^{A1}. It is the former that has been reconstructed by Li and Pittayaporn for PT. I am not aware of any sound change that would produce ʔd- from ʔ-. At the very least, PT reconstructions need to be revised in order to take account of data from Guizhou Bouyei and northern Guangxi Zhuang, which have ʔden¹. This also gives us a clue to a possible grammaticalisation pathway for this etymon, since ʔden¹ (*ndaen*) also means ‘earth’, as in *mbwn ndaen* ‘heaven and earth’.

The *q- in Zhengzhang’s system represents an unvoiced uvular stop, while *-^ʕ- in Baxter-Sagart OC represents pharyngealisation.⁶⁵ In Zhengzhang’s system, at least, the reconstructed OC pronunciation of this morpheme has a consonant cluster. The oldest series are likely to be A and B. A represents modern ʔd-, while B and C represent ʔ-.

Baxter-Sagart OC 安 *ān* has alternative final -r, which might be thought to reflect Pittayaporn’s final *-l in PT. This is fortuitous. Series C is found in northern Vietnam and eastern Yunnan, where Hán-Việt and Southwestern Mandarin readings predominate. Readings from Vietnam could still be ancient, reflecting OC, but this particular reading comes from SWM.

G with initial consonant cluster or pharyngealised n- might go back to OC, and develop to ʔd- in Tai; this etymon also has final -r in Baxter and Sagart’s reconstruction, which corresponds to final -l in Saek and Pittayaporn’s PT. However, the reading comes from southern Guizhou, and probably represents local dialect pronunciation.

OC correspondences: A, and possibly B.

2. *Aeu* ‘to take, need’ PT *ʔəu A1 (Li), PT *ʔaw^A (Pitt.)

Zhuang: consistently ʔeu¹, with only minor variations in tone class

| Series | | MSC | EMC | OC(1) | OC(2) |
|--------|---|-----|-------------------|---------------------|------------------------|
| A | 偶 | ǒu | ŋəw ^h | *ŋoo’ | *ŋ ^ʕ (r)oʔ |
| B | 歐 | ōu | ʔəw | *qoo’ | *q ^ʕ (r)o |
| C | 要 | yāo | ʔjiaw | *qew | cf. 腰 *ʔew |
| D | 又 | yòu | wuw ^h | *G ^w uus | *[G] ^w əʔ-s |
| E | 幼 | yòu | ʔjiw ^h | *qruiws | *[ʔ](r)iw-s |

Comment:

Both Manomaivibool and Gong Qunhu propose a lexical correspondence between *aeu* and 要 *yāo*. This is an interesting case. If this is right, then we would expect PT to be found in close correspondence with at least late-period OC. Indeed this is pretty much what we find, with a difference in central vowel and Tai initial *ʔ- derived

⁶⁵ See Laurent Sagart and William H. Baxter, ‘Reconstructing Old Chinese Uvulars in the Baxter-Sagart system (Version 0.99)’, *Cahiers de Linguistique Asie Orientale* 38 (2010), 224–225.

Pharyngealisation is a feature that entails moving the base of the tongue back so as to produce a constriction in the pharynx. See Peter Ladefoged and Ian Maddieson, *The Sounds of the World’s Languages* (Oxford: Blackwell, 1996), pp. 365–366. Baxter and Sagart, following Jerry Norman, reconstruct pharyngealised initials in Pulleyblank’s ‘type A syllables’, i.e. traditional divisions 1, 2, and 4. By contrast, Zhengzhang Shangfang continues to reconstruct lengthened vowels in type A syllables.

from earlier OC *q- in Zhengzhang's reconstruction. By the same token, PT should be revised to accord with OC; thus PT *qew^{A1} or *ʔew^{A1}. Note however that apart from Mashan in central Guangxi, the distribution of 要 *yāo* is mainly in the west and northwest. 要 *yāo* developed a palatal medial and ceased to be homophonic with *aeu* some time before EMC; I would hypothesise that 要 *yāo* was replaced at that time by other graphs in the central area of Guangxi, the area of most intense contact with Chinese administrators and settlers.

We would expect the oldest series to be B on grounds of geographic location and wide distribution in central Guangxi. It could be an OC reading, but is more likely to date from EMC. It may have been introduced when 要 *yāo* ceased to be homophonic with *aeu*.

E is the series most closely homophonous with 要 *yāo* in OC. This reading is found in Yishan in the central north, which was settled quite early (Six dynasties), but post-dating OC. The older graphic systems of this area have mostly been replaced with readings drawn from SWM. This graph is also found in Vietnam. Again, the age of Vietnamese readings need to be investigated systematically.

D is recent, as is A.

OC correspondences: C 要 *yāo*.

43 *Ndaej* 'to get, obtain' PT *ʔdɛi^{C1} (Li), *daj^C (Pitt.), PKT *ʔdai

Zhuang: most commonly ʔdɛi³; lɛi³ in the northeast; nɛi³ in the south of Guangxi and in Vietnam

| Series | | MSC | EMC | OC(1) | OC(2) |
|--------|---|----------|-------------------------------------|---------------|---|
| S | 得 | dé | tək | *tuuug | *t ^s ək |
| A | 礼 | lǐ (禮) | lej' | *riiʔ | *[r] ^s ijʔ |
| B | 戾 | lì | lej ^h | *ruuuds | *[r] ^s e[t] -s |
| C | 累 | lěi, lèi | lwǐə ^h /lwi ^h | *ruuuls, rolʔ | *[r]oj, *[r]ojʔ |
| D | 裡 | lǐ | li'/li' | *g.ruu' | *mə.[r]əʔ |
| E | 呂 | lǚ | lǎ' | *g.raʔ | *[r]aʔ |
| F | 來 | lái | ləj | *m.ruuug | *mə-r ^s ək (> *mə-r ^s ə) wheat *r ^s ək (> *r ^s ə) come |

Comment:

The semantic borrowing 得 'get, obtain' is prevalent over a wide area in Guangxi, Guizhou, eastern Yunnan, and northern Vietnam. The -k/g coda in pre-modern and modern dialect pronunciations except for SWM means that this cannot be a phonetic borrowing. From the Ming onwards, with the introduction of SWM to the Guangxi area, readings such as tə²¹ (Liuzhou) may have been close enough for this to have become a reading of the semantic-phonetic approximate type.⁶⁶ When it was first used as a semantic borrowing cannot be determined.

Otherwise, the most widespread and well-established series is A. This reading probably comes from EMC l-.

⁶⁶ Holm 'Typology' type 3.

D and F could go back to OC, with ʔd- going back to either an initial consonant cluster or a sesquisyllable; likewise with E, going back to an initial consonant cluster at least in OC(1). However, the marginal locations of these series, at least in present-day distributions (northern Guangxi, Guizhou, and eastern Guangxi garrisons), suggests that they come from initial l- in the MC or post-MC period.

OC correspondences: probably none.

44 *Ndang* ‘body’ PT *dl/raŋ^{A1} (Li), PKT *ʔdraŋ

Zhuang: predominantly ʔda:ŋ¹, except for la:ŋ¹ and ra:ŋ¹ in the northeast, and na:ŋ¹ in the central south and northern Vietnam

| Series | MSC | EMC | OC(1) | OC(2) |
|--------|------------|---------------------------------------|------------|---|
| A 當 | dāng | taŋ | *taaŋ | *t ^ʰ aŋ |
| B 囊 | náng | naŋ | *naaŋ | *n ^ʰ aŋ |
| D 郎 | láng | laŋ | 浪 *g.raaŋs | *C.r ^ʰ aŋ |
| E 扛 | gāng, káng | kaiwŋ/ke:wŋ | *khlooŋ | cf. 工 *k ^ʰ oŋ 江 *k ^ʰ roŋ |
| F 湯 | tāng | t ^h aŋ | *k.laŋ | *l ^ʰ aŋ |
| G 淩 | lǎn | [ləm ^ʰ /lam ^ʰ] | *g.ruumʔ | cf. 婪 *[r] ^ʰ [ə]m |

Comment:

A is found in Zhuang compound graphs such as 𪗇 (44.1) and 𪗈 (44.2). It is distributed very widely and probably dates from MC. It would seem to represent a pronunciation later than PT *dl/r-.

B, found now only in Donglan, was an early borrowing into Thai (Th. naŋ A1 ‘skin’, corresponding to Zh. *naeng* ‘skin’). Plain initial n- in OC, MC and modern dialect readings makes it impossible to assign a date to this borrowing into Thai. Use of this character in the OZS to represent *ndang* ‘body’ may be in part semantically motivated. Most of the characters in this text are given SWM readings, so this is unlikely to be very early.

In series D, 浪 *làng* ‘wave’ is an early borrowing into Thai (Th. [daʔ]-raŋ A1 ‘wave’). Initial r- corresponds to OC. This graphic-phonetic series could also be an OC borrowing, though MC initial l- also corresponds.

扛 *gāng* is reconstructed by Zhengzhang Shangfang as *krooŋ. Series E is represented by two early borrowings into Thai, Th. grɔŋ (khrɔŋ) A2 ‘to set in order, govern’, corresponding to 控 *kòng* ‘to control’ (OC *khlooŋs), and Th. klw[a]ŋ [kluəŋ] ‘hollow in the middle’ (OC *khlooŋ), corresponding to 空 *kōng* ‘empty’.⁶⁷ These borrowings preserve initial consonant clusters, but in this series the cluster simplifies to a velar consonant. Use of this character to represent *ndang* has yet to be adequately explained.

F is more likely to date from OC. The consonantal cluster CL- simplifies to T-, or in the Baxter-Sagart reconstruction, a pharyngealised voiceless lateral simplifies to T-. This reading comes from a text from eastern Yunnan, where readings based on Southwestern Mandarin predominate, but even here it is possible that old readings might occasionally be found. The entire text needs to be analysed and more investigation is needed in this area.

⁶⁷ Gong Qunhu, *op.cit.* p. 121.

G, found in Guiping, is evidently a Southwestern Mandarin reading dating from the Ming, with SWM final -n representing -ng (-ŋ).

OC correspondences: F, and possibly D.

45 *Ndaw* ‘inside’ PT *ʔdl/rəi^{A1}, *C̣.dau^A (Pitt.), PKT *ʔdəu

Zhuang: ʔdəu¹ predominates in the NT areas of central GX, south-central Guizhou, and eastern Yunnan; ʔdə¹ is found in east-central GX, lə¹ and rəu¹ in the northeast, and ʔdai¹ in some counties in the west of GX and Guizhou; in CT areas nai¹ and nuu¹ are found to the south of Nanning, ʔdəu¹ in the Longzhou area, dɔ:y¹ in a band across the southwest, di¹ in eastern Yunnan, and ʔdɛŋ¹ in northern Vietnam

| Series | | MSC | EMC | OC(1) | OC(2) |
|----------------|-----|--------|----------------------------------|-----------------------|--------------------------------------|
| S ₁ | 內 | nèi | nwəj ^h | *nuubs | *n ^ʰ [ə]p-s |
| S ₂ | 裏 | lǐ | li ^ʰ /li ^ʰ | *g.ruwʔ | *mə.[r]əʔ |
| B | 吝 | lìn | lin ^h | *mrins | *mə.rə[n]-s |
| E | 护 | hù (護) | ɣə ^h | *G ^w raags | *[G] ^{wʰ} ak-s |
| | (攬) | lú | lɔ | *raa | cf. 虜 *C.r ^ʰ aʔ 膚 *pra |
| | (攄) | shū | trɿə | *rha | *ra |
| | 慮 | lù | lɿə ^h | *ras | *ra-s |
| H | 吞 | tūn | t ^h ən | *qhlluuun | *l ^ʰ ən |
| L | 多 | duō | ta | *kllaal | *t-l ^ʰ aj |
| M | 登 | dēng | təŋ | *tuuwŋ | *t ^ʰ əŋ |

Comment:

Gong Qunhu identifies 裏 *lǐ* ‘inside’ as corresponding with Thai *nau*² ‘inside’. If this is accepted, PT should be adjusted to reflect this; thus *g.ruwʔ or *mə.rəʔ.

Quite a number of these graphs have initial *r- in OC.

B: it will be noted that 吝 *lìn* is a close homophone of 裏 *lǐ* ‘inside’ in Baxter and Sagart’s OC. This raises the possibility that this usage might be based on phonetic borrowing at the OC stage. This character is found representing *ndaw* in a graphically idiosyncratic manuscript from an isolated area in the northern part of Tianyang county.

In series E, as explained in *Mapping the OZS*, the character 护 *hù* does not represent 護 *hù* ‘to protect’, but rather 护, itself a simplified variant of either 攬 *lú* ‘to pull together, collect’ or 攄 *shū* ‘to spread, extend’, or other graphs in the same graphic-phonetic series. This graph is also found representing *lawz* ‘which?’.⁶⁸ The initial consonant cluster in Baxter and Sagart’s OC reconstruction suggests that initial ʔd- may possibly be an OC reading. The final -əu however seems to match MC -ɿə more closely (with vowel metathesis).

Series L (內, 𪗇) is found in Cao Bằng in northern VN, where the pronunciation of *ndaw* is đâu (ʔdəu¹). This reading of 多 *duō* comes from Pinghua (e.g. tɔ⁵⁴ in Bose and tɔ⁴¹ in Nanning) or Hán-Việt (đá⁴⁴).

⁶⁸ Holm, *Mapping the Old Zhuang Script*, (35) *Lawz* ‘which?’, p. 451.

For series M, Gong Qunhu has identified Th. *thləŋ* A1 ‘to ascend’ as a possible loan word for 登 *dēng* ‘to ascend’, but notes that it is doubtful. More certain is the identification of Thai *thluŋ* (tha-luŋ) A1 ‘to stare at’ in the same series as a loan for 瞪 *dèng* (OC(1) **duŋs* ‘to stare at’ or *chéng* OC(1) **rduuŋ*).⁶⁹ Here the minor syllable in Thai seems not to be derived from OC. This way of writing *ndaw* is found in Lạng Sơn in northern Vietnam, where the pronunciation of *ndaw* is *đâng* (ʔdəŋ¹), and Ceheng in southwestern Guizhou, where the pronunciation is *dau*¹. 登 *dēng* represents the modern local pronunciation in Vietnam, but is anomalous in Guizhou and probably an import.⁷⁰

OC correspondences: S₂, E.

46 *Ndei* ‘good’ PT *ʔdi^{A1} (Li), PT *dʒj^A (Pitt.), PKT *ʔdiei
 Zhuang: variously ʔdei¹, ʔdi¹, and ʔdɛi¹ in the central part of GX and Guizhou; li¹ and rei¹ in the northeast; nu:i¹ and nui¹ in the counties south of Nanning (CT); dɛi¹ and dɛi¹ in the Longzhou area; dɛi¹ in the southwest and eastern Yunnan

| Series | | MSC | EMC | OC(1) | OC(2) |
|--------|---|--------|----------------------------------|-------|-----------------------|
| A | 利 | li | li ^h | *riil | *C.ri[t]-s |
| D | 礼 | li | lej ^ʔ | *riiʔ | *[r] ^ʔ ijʔ |
| E | 里 | li | li ^ʔ /li ^ʔ | *ruʔ | *(mə.)rəʔ |
| F | 黎 | li | lej | *riil | *[r] ^ʔ ij |
| I | 离 | li (離) | liə/li | *rel | *[r]aj |

Comment:

A, D and E, all *qusheng* 去聲 or *shangsheng* 上聲 syllables, are readings that probably date from the MC period, after the formation of tones, with initial l- representing ʔd- and *qusheng* or *shangsheng* representing the tonal contours of the Tai word rather than the tone category.

F and I probably also date from the MC period, with l- representing ʔd-. This morpheme is found widely in the Tai languages, and there is no indication in the contemporary data that this word ever had final -l. Zhengzhang’s final -l changes to final -j by the late OC period. By comparison, in Chǔ manuscripts the character 知 *zhī* ‘to know’ is found in the *Wúshí’èr bìngfāng* 五十二病方 meaning ‘to get better’; this usage has been identified as *dei, ‘good; get well’ in the Tai languages.⁷¹ Zhengzhang’s OC reconstruction for 知 *zhī* is *te < *ʔl’e, and Baxter and Sagart reconstruct *tre, so this reading is plausible.

OC correspondences: all the above series are most likely to date from MC.

47 *Ndeu* ‘one, only’ PT *ʔdeu^{A1} (Li), *dɛiəw^A (Pitt.), PKT *ʔdeu

⁶⁹ This character has three pronunciations listed in the *Guangyun* 廣韻: *chéng* 宅耕切 (dæŋ) appearance of looking at directly; (2) *chéng* 直庚切 (dǎŋ) ‘look at directly’; and (3) *dèng* 丈證切 (dǎŋ^ʔ) appearance of looking at directly.

⁷⁰ For further discussion see Holm, *Mapping the Old Zhuang Script*, pp. 564–566.

⁷¹ Zheng Wei 鄭偉, ‘Gudai Chu fangyan “罷” zi de lai yuan’ 古代楚方言“罷”字的來源, *Zhongguo yuwen* 中國語文 2007, 4, 380.

Zhuang: meaning ‘one’ only in the NT areas, pronounced mainly ʔdeu¹, ʔdi:u¹; reu¹ in the far northeast; ʔdeu¹ and ʔdiau¹ in Guizhou and eastern Yunnan

| Series | MSC | EMC | OC(1) | OC(2) | |
|--------|-----|------|------------------|--------------------|---|
| A | 夭 | yāo | ʔiaw | *qrow | *[ʔ](r)aw |
| B | 了 | liǎo | lewʻ | *reewʔ | *[r] ^ʕ ewʔ or *[r] ^ʕ iwʔ |
| C | 利 | lì | li ^h | *rids | *C.ri[t] -s |
| E | 鳥 | niǎo | tewʻ | *tuuwʔ | *t ^ʕ iwʔ |
| F | 刁 | diāo | tew | *tiiwG | *t ^ʕ [e]wk |
| I | 廖 | liào | luw ^h | *ruuw | cf. 膠 * [k] ^ʕ riw 謬 *m-riw-s |
| K | 于 | yú | wuǎ | *q ^w la | *G ^w (r)a |

Comment:

A could well date back to OC, with *qr- or *[ʔ](r)- developing into *ʔl- and then *ʔd-. B, C and E are oblique tone syllables and were probably borrowed in the MC period, with initial l- representing ʔd-. B, with such a small number of brush-strokes, was a convenient representation of *nde*u ‘one’.

Series E is a rare instance of initial t- in MC representing ʔd-.

F is another instance of initial t- representing ʔd-. Again, the small number of brush strokes made this a convenient representation of *nde*u. The codal *-G or *-k in OC mean that this series must have been borrowed in the MC period or afterwards.

I, found in Guizhou, is based on Southwestern Mandarin readings.

OC correspondences: A.

48 *Ndwen* ‘moon’ PT *ʔbl/r̄ien^{A1} (Li), *ʔluən^A (Pitt.), PKT *ʔmbluen

Zhuang: ʔdu:ən¹ in the central counties of GX; lə:n¹ and rə:n¹ in the northeast; ʔdi:n¹, ʔdu:n¹ and ʔdun¹ in Guizhou and eastern Yunnan; in CT areas, mainly hai¹, but mu:n² and mun¹ in the southwest; ʔbuən¹ in northern Vietnam

| Series | MSC | EMC | OC(1) | OC(2) | |
|--------|-----|------|-------------------|----------|-------------------------|
| A | 年 | nián | nen | *niin | *C.n ^ʕ i[n] |
| B | 吞 | tūn | t ^h ən | *qhlʻuun | *l ^ʕ ən |
| C | 天 | tiān | t ^h en | *kthiin | *l ^ʕ i[n] |
| G | 班 | bān | pain/pɛ:n | *praan | - |
| H | 暖 | nuǎn | nwanʻ | *noonʔ | *[n] ^ʕ o[n]ʔ |
| L | 鸞 | luán | lwan | *b.roon | *[r] ^ʕ on |

Comment:

All of the above series take the form of compound graphs with 月 *yuè* ‘moon’ as a semantic indicator. Thus A 𠂇, B 𠂈, C 𠂉, G 𠂊, H 𠂋, and L 𠂌. B, C, and L have Thai lexical correspondences.

On B, see under *Aen* above. This graph provides a semantic link (the upper component ‘sky’ with ‘moon’).

C is similar to B, in that OC ʔd- corresponds to either a consonant cluster CL- or a pharyngealised voiceless lateral in OC. This graph provides a semantic link (‘sky’ with ‘moon’).

G is found in northern Vietnam, where the pronunciation of *ndwen* is *buon* (ʔbuən¹). The vowel corresponds best with EMC (with vowel metathesis, -ai- for -ia-), but b- (from ʔb-) corresponds with OC *pr- (cf. series L). OC *pr- matches proposed PT reconstructions, all of which have a pre-glottalised bilabial cluster.

H corresponds with EMC and with modern dialect pronunciations, but not with OC. This series is found in Jingxi in the far southwest of Guangxi, where the local pronunciation is nu:n¹ and Pinghua and SWM readings are predominant.

L: this graph is found in Tianbao, where the pronunciation of *ndwen* is ʔbuun¹. This pronunciation is one in which the initial consonant cluster of PT (*ʔbl/r- or *ʔl-) has been simplified by retaining the first component *ʔb- and eliding the following *-l/r-. The phonophore *luán* is not in correspondence with this local pronunciation, at least not in its EMC and modern dialect pronunciations. OC(1) corresponds closely to PT reconstructions.

OC correspondences: B, C, G, and L.

Discussion

Quite a number of these graphs used to write words with pre-glottalised initials have initial consonant clusters and could go back as far as OC. Particularly noteworthy is the relatively high number of representations of *ndwen* ‘moon’ that have initial clusters matching PT and PKT. In some other cases, though, the initials could arguably be derived from OC, but the finals seem closer to MC. This is similar to one pattern which Gong Qunhu found in the Thai data.

Overall, in the above tables around half of the characters used to represent initial ʔd- in Zhuang have MC initial l-. This curious fact needs to be put in context. I have collated representations of pre-glottalised initials in Zhuang ritual texts from four locations in northern Tianyang, southern and western Bama, and eastern Bose.⁷² This area is part of a graphic region on the northern flank of the Youjiang river valley, closely associated with the native chieftaincy of Tianzhou 田州. The writing system in this area is graphically conservative and probably took shape during the Tang dynasty. In these texts 33 morphemes were found beginning with *nd-* (ʔd-), and of these, *nd-* was represented 74.8% of the time by characters with initial l-; 5.8% of the time with initial n-; 14.8% of the time with initial t-; and 4.2% of the time with initial j-. Characters with phonophores beginning with l- and n- tend most often to be borrowings dating from MC, and can be said to represent ʔd- by approximation (Ch. l- > Zh. ʔl- > ʔd- and Ch. n- > Zh. ʔn- > ʔd-). The words with j- initial in modern Chinese tend to have initial ɲ- in MC followed by a high front or mid vowel; these borrowings also are most likely to date from MC. Some of the characters with initial t- or t^h- in modern Chinese have consonant clusters in Old Chinese. Some of the characters with initial l- in Modern Chinese and MC also go back to consonant clusters in OC: such for example are 林 *lín* (OC *g.rum) and 浪 *làng* (OC *g.raaŋs). These readings of course could date from any time between OC and the present. In the case of 林 *lín*, for example, ʔd- could be derived from OC *g.r-, and subsequently

⁷² D. Holm, ‘Representation of pre-glottalised initials in traditional Zhuang texts’, forthcoming.

reduced to a simple pre-glottalised initial, or it could be derived from MC or modern l-.

It is interesting that the ways in which these morphemes are represented in this small survey are distributed quite unevenly. Numbers for t- initials are considerably augmented by *ndaen* 'earth' and *ndeū* 'one'. It is of particular interest that *ndaen* 'earth', often paired with *mbwn* 'the sky' in the texts surveyed, was consistently and invariably written with 吞 *tūn* 'to swallow'. In folk etymology there was an iconic dimension to this usage, encapsulated in the saying 天圓地方 *tian yuan di fang*, 'Heaven is round and the earth is square'. The same graph was also found representing *aen* (general classifier) in this region.

It may come as a surprise that initial *nd-* (?d-) in Zhuang is represented most frequently by initial l- in Chinese, rather than with an alveolar stop (d- or t-) as one might reasonably expect. After all, if Chinese did not have pre-glottalised initials, then this feature in Zhuang could not be represented directly via the Chinese script in any case, and so one would be left with d- or t- as an approximation. Or so one would think. However, things are not so simple. In fact, the phonetic reality represented by the conventional phonemic notation ?d- is quite varied, and the ?- and -d- 'components' are not neatly sequential, as their representation in IPA would have one believe. In Donglan, a county to the north of Tianzhou and part of a different sub-dialect, the pre-glottalised initials (?b-, ?d-, ?j-, ?l-, ?m-, ?n-, and ?v- in this dialect) are characterised not so much by a pre-posed glottal stop as by pervasive constriction of the glottis both before and after onset, a phenomenon known as 'creaky voice'. Often the whole syllable is affected. Initial /?d/ is realised variously as ?ḍ-, ?ḷ-, ṇ?-, ṇ?̣^d-, ṃ-, and ?γ̣-.⁷³

Other patterns of variation are likely to be found in other areas. Our information here is not adequate to the task. In *Mapping the Old Zhuang Character Script* I made use of the dialect survey material for Zhuang, dating mainly from the 1950's but supplemented by later investigations undertaken in the 1980's.⁷⁴ The transcriptions in that work, however, are all standardised at the phonemic level. The full picture of phonetic variation across Zhuang dialects is something which has yet to be documented.⁷⁵ At any rate, comparable phenomena may have been present when the first scribes made their choices of how to represent the sounds of Zhuang using Chinese characters.

Other instances of OC readings may be found in other texts, outside the confines of our survey of sixty common words. The 45 traditional texts in the survey have yet to be searched systematically for OC readings.

OC in other Kadai languages

An OC layer has been postulated for quite a number of the Kadai languages, including languages of the Kam-Sui branch as well as Zhuang in the Tai branch.

⁷³ Holm, 'The Language of Donglan Bouyei', p. 5, Companion CD, in Holm, *Killing a Buffalo for the Ancestors*. See also the sound files on the Companion CD. In that work I opted for a narrow rather than phonemic transcription of the recitation of the texts, in order to represent the range of this allophonic diversity. The sub-script tilde (~) is used as the IPA symbol for creaky voice. On creaky voice and laryngealisation, see Ladefoged and Maddieson, *op.cit.*, pp. 53–55.

⁷⁴ Now published in Zhang Junru et al., *op.cit.*

⁷⁵ See however Wei Feng and Jerold A. Edmondson, 'The Tonal Cylinder in Sanfang Zhuang', in Jerold A. Edmondson and David B. Solnit, *Comparative Kadai: The Tai Branch* (Dallas: Summer Institute of Linguistics, 1997), pp. 35–56.

Early borrowings from Chinese have been documented in a detailed study by Zeng Xiaoyu and her colleagues at Nankai University. The figures are as follows:⁷⁶

| <i>Language</i> | <i>No. of etyma</i> | <i>% of total Han loans</i> |
|-----------------|---------------------|-----------------------------|
| Kam | 8 | 1% |
| Sui | 39 | 9% |
| Mulam | 7 | 0.8% |
| Zhuang | 15 | 2.2% |

The specific dialects they investigated are Sanjiang Kam (Sanjiang Dongyu 三江侗語), Sandong Sui (Sandong Shuiyu 三洞水語), the Mulam of Huangjin zhen 黃金鎮 in Luo Cheng 羅城 county; the Zhuang of Gaotian 高田 in Yangshuo 陽朔 county, the Yao of Zheshan 柘山 in Jinxiu 金秀 county, and the She of Boluo 博羅 county in Guangdong.⁷⁷

It is the Zhuang data that are of most interest here. On the Zhuang OC layer, Zeng comments:

- (1) Correspondence in tones is not clearly evident; most loans have tone categories different from MC and from modern tone categories.
- (2) Initials reflect the dictum that “in ancient times there were no light lip sounds”, and “in ancient times there were no sounds on the tongue”; also, there are no aspirated initials.
- (3) Generally, Zhuang pre-glottalised initials do not appear among Han loan words, but here there are a number of pre-glottalised voiced initials.⁷⁸

In Gaotian Zhuang these etyma with pre-glottalised initials are:⁷⁹

| | | |
|--------------------------------------|---------------------------------------|--|
| 鑽 <i>zuān</i> ‘drill’ (v) | ʔdwan ⁵⁵ | OC(1) *ʔsoon, OC(2) *[ts] ^ʕ or |
| 躲 <i>duǒ</i> ‘hide’ | ʔdo ⁵² | OC(1) *toolʔ, OC(2) *[t] ^ʕ ojʔ |
| 糍粑 <i>cíba</i> ‘glutinous rice cake’ | ʔba ⁵² tsei ²³¹ | cf. 巴 OC(1) *praa, OC(2) *p ^ʕ ra |
| 擺 <i>bǎi</i> ‘set out’ | ʔbai ⁵² | OC(1) *preelʔ, OC(2) cf. 罷 <i>pí</i> *[b]raj |
| 筒 <i>tǒng</i> ‘bamboo tube’ | ʔdoŋ ⁵⁵ | OC(1) *doon, OC(2) *l ^ʕ on |
| 吞 <i>tūn</i> ‘swallow’ | ʔdun ⁵² | OC(1) *qhl’iin, OC(2) *l ^ʕ ən |

The OC initials represented in the above etyma vary considerably and it is hard to see which factors are critical in conditioning the development of pre-glottalised initials in Zhuang. The numbers and percentages of OC loanwords in the languages Zeng investigated are lower than those Gong Qunhu found in the Thai data, though this may be an artefact resulting from different investigation procedures. An

⁷⁶ Zeng Xiaoyu, ed., *Dong-Tai Miao-Yao yuyan de hanjienci yanjiu*, pp. 39, 61, 134, and 163. Interestingly, Zeng and her colleagues were not able to identify an OC layer in Yao or any of the other Hmong-Mien languages (p. 295).

⁷⁷ *Ibid.* In the analysis of She vocabulary, the emphasis was on identifying borrowings from various Chinese dialects rather than historical strata.

⁷⁸ Zeng Xiaoyu, *op.cit.*, p. 163.

⁷⁹ *Ibid.*, p. 163.

additional consideration is that certain Zhuang dialects show pervasive pre-glottalisation of d- and b- initials; a well-documented example is the dialect of Dongmiao 東廟 in the western part of Du'an 都安 county.⁸⁰ These are of recent provenance, and do not go back to PT *ʔd- and *ʔb-. Gaotian Zhuang seems to be one of these dialects. Standard Zhuang equivalents of the above etyma, based on the dialect of Wuming, are *con* (ɕon¹), *ndoj* (ʔdo:³), *bajceiz* (pa:³ ɕei²), *baij* (pai:³) or *baiz* (pai:²), *doengz* (təŋ²), and *ndwn* (ʔdun¹). Thus only two of these pre-glottalised initials go back to PT. On 吞 *tūn*, see above. For 'hide', Liang Min and Zhang Junru reconstruct PKT *ʔdɔ.⁸¹

Where did the OC readings come from?

If there is at least some evidence for an OC layer in the Zhuang script, two questions then arise: how did it get there? and how is it that such archaic readings were retained, and continued in use right up to the present? It is one thing for a layer of OC loans to be found in spoken languages – in Thai, Vietnamese, Korean, and the non-sinitic languages of the southern part of China; it is quite another thing to find such an old layer retained in the script.

Let us consider the latter question first. An important characteristic of the Zhuang character script, at least in the context of liturgical texts recited by vernacular priests, is that it is transmitted from generation to generation in a highly conservative fashion. Moreover, the process of young apprentices learning to read takes place long after they have memorised the way in which the texts are recited. Young boys will typically attend rituals along with older male relatives from a young age, as young as five years old, and they learn to recite or sing the liturgical texts by singing along and imitating their elders. In other words, the transmission is effectively an oral transmission. Once boys have reached the age for ordination, they are required to make their own hand-written copies of their master's liturgical texts and handbooks. This written transmission was highly conservative, replicating not just the individual graphs but also the style and even idiosyncracies of individual brushstrokes in the master's manuscript. Under these conditions, there was very little change from generation to generation in the actual texts.

This practice of 'performative literacy' was the key to ensuring that recited pronunciations of Chinese characters in ritual texts were in effect insulated from ordinary reading pronunciations. There would normally be a variety of these, including schoolhouse pronunciation and the local vernacular standard. But since the recited pronunciation of liturgical texts was mastered by listening and imitation at a young age, recitation of texts did not require actual reading, line by line, even though acolytes did learn to turn the pages at more or less the right time. Thus there was usually a disconnection between the recited pronunciation and the ability to pronounce individual characters that appeared in the text.⁸²

Such a dynamic also explains the fact that the texts themselves are frequently very mixed, with readings of various ages or dialects – EMC, Pinghua, Southwestern Mandarin – all mixed up together. It seems clear that, once absorbed into the Zhuang textual system, particular readings of individual Chinese characters became

⁸⁰ *Zhongguo shaoshu minzu yuyan yindang: Zhuangyu beibu fangyan Hongshuihe tuyu Du'an Dongmiaohua* 中國少數民族語言音檔: 壯語北部方言紅水河土語都安東廟話, ed. Zhongguo shehui kexueyuan Minzu yanjiusuo Yuyan yanjiushi 中國社會科學院民族研究所語言研究室, mimeo, March 1993.

⁸¹ Liang Min and Zhang Junru, *Dong-Tai yuzu gailun*, p. 913.

⁸² For a fuller discussion of performative literacy, see D. Holm, 'A typology of readings', 276–277.

conventionalised, that is, read in such a way as to preserve archaic recited pronunciations.

One implication of finding OC readings in Zhuang texts is that the transmission among literate Tai families or among vernacular priests would have to have been unbroken from early times up to the present. For if at any time the transmission were interrupted, the script would have to be re-constituted or re-invented, and this could only be done on the basis of the current Chinese reading pronunciation in the locality.⁸³ Thus if there was serious social disruption, for example, at the end of the Yuan dynasty, we would expect to find new varieties of script taking form that would have readings reflecting the language of the early Ming period. Or if local society underwent cataclysmic changes between the Han and the Tang and the tradition was disrupted, one would expect to find no OC readings at all, since the pronunciation of Chinese would have changed radically in the meantime.⁸⁴ This is not to say that texts would not be interpolated with more recent material, or patched together with chunks of text from different places, or that individual graphs and their Tai readings might not have been preserved in the memory of old men in times of troubles. It is also possible to conceive of linguistically conservative communities of Chinese migrants in remote areas of Guangxi who might have served as a separate source of archaic readings. Even so, the implications for our understanding of Zhuang (Tai) society would be nothing less than momentous.

So much is made these days of ‘invented traditions’ that it hard for us to understand cultural continuity over very long periods, or even believe that it is possible. Nevertheless, there are orally-transmitted human cultures that do instantiate quite a remarkable degree of continuity over time, and developed elaborate safeguards to prevent distortion of essential content across generations. Such for example was the Indian preservation of the Vedas, which were preserved orally for many centuries before they were written down. The oral tradition was structured in such a way as to preserve the original recitation intact with a high degree of accuracy, word for word, complete with a secondary elaboration on the canonical pronunciation of Sanskrit, the meanings of words, and so on.⁸⁵ Among the Zhuang, ‘ancient songs’ (*fwengeq*) many times the length of written ritual texts were recited with word-for-word accuracy on appropriate ceremonial occasions by the most accomplished singers in the locality. Recitations traditionally would sometimes last for as long as seven days, and while recitations could be abbreviated if

⁸³ This is the situation in the northern counties of Guangxi, where a script based largely on Southwestern Mandarin has replaced older systems. See Holm, *Mapping the OZS*, pp. 745, 752.

⁸⁴ The converse, also possible, is that old readings would be preserved, and the texts later modified to suit. I have just one example thus far: in Donglan, but also very widely across Guangxi, the name of the sage king Fu Xi 伏羲 is pronounced fu:² ni?⁶ and written as 伏羲 (義) or some graphic variation of this. My original thought was that the Zhuang priests were articulating an approximate Zhuang-ized pronunciation of the name and had substituted a relatively simple and common graph 义 (義) *yì* ‘righteousness’ for the original graph 羲, which is less common and more complex. However, Baxter and Sagart’s OC reconstruction of 羲 *xī* is *ɣaj { *ɣ(r)aj }, with a voiceless nasal initial. This raises the possibility that the priests actually retained an early pronunciation, but when it no longer matched the pronunciation of written Chinese, they substituted a character which did match.

⁸⁵ Michael Witzel, ‘The Development of the Vedic Canon and its Schools: The Social and Political Milieu’, in Witzel, *Inside the Texts, Beyond the Texts. New Approaches to the Study of the Vedas*, Harvard Oriental Series (Cambridge: Harvard University Press, 1997), p. 257.

circumstances required, they could not be freely altered.⁸⁶ Any mistake in recitation would meet with sharp rebuke from attentive elders in the audience.⁸⁷

The question then becomes, apart from ‘ancient songs’ that were transmitted orally, was there any core cultural content that would have been assiduously preserved across generations in spite of local perturbations? Among traditional Zhuang manuscripts, the ones in which the OC readings are found, and the ones which demonstrate the greatest degree of internal variety in age of readings, are the liturgical texts of the vernacular priests called mogong 麼公 in Chinese and *bouxmo* in Zhuang. Now found mainly in the western part of Guangxi and in parts of Guizhou, eastern Yunnan and northern Vietnam, these priests officiate over Tai-style rituals addressed to ancestral and tutelary spirits, drive out demons, and guarantee well-being through the offering of appropriate sacrifices, including buffalo sacrifices.⁸⁸ Comparative evidence from northern Vietnam and eastern Yunnan indicates that in former times the mogong were hereditary and were attached directly to the courts of the native chieftains, where their primary role was to conduct annual public rituals addressed to the spirit of the domain. Failure to conduct such rituals would risk disaster.⁸⁹ It would seem that such functions were regarded with utmost seriousness, sufficient to guarantee the punctilious and assiduous transmission of the scriptural contents. Of course, chiefly succession was often contested, and the chieftains of various domains were often at war with each other. The transmission was protected also by the fact that, before the Ming and Qing intrusion into chiefly succession and appointment, the native chieftains held their office by virtue of their position as head of the chiefly clan, and could be replaced by a council of elders in cases of malfeasance. It was the chiefly clan as a body, and not the individual chieftain, who guaranteed continuity and the collective welfare of the domain.⁹⁰

Two Scenarios

Turning to the next question, how did the OC readings make their way into the Zhuang character script? When did this happen, and where? There are at least two possible scenarios. One might be described as local and late, and the other as exotic and earlier. By local and late, I mean in the Lingnan area, and post-dating the Qin conquest of 221 BCE and subsequent colonisation of the far south. By exotic and earlier, I mean some kind of transmission from the sinicised kingdoms to the south of the Central Plains, and dating from some time in the Warring States period, possibly from the time of the Chu conquest of Yue in 331 BCE or thereabouts.

Local and Late

The argument that the kingdom of Nanyue 南越 was the site (or one of the sites) where knowledge of the script was transferred to the Tai-speaking peoples of the

⁸⁶ D. Holm, *Killing a Buffalo for the Ancestors*, DeKalb: Northern Illinois University Southeast Asian Publications, 2003, p. 194.

⁸⁷ D. Holm, *Recalling Lost Souls*, Bangkok: White Lotus Publishing Company, 2004, p. 22.

⁸⁸ Holm, *Killing a Buffalo for the Ancestors*.

⁸⁹ He Dawei 賀大衛 [David Holm], ‘Dongnanya, Guangxi xibu de mogong yu tusi zhengquan zhi guanxi’ 東南亞、廣西西部的麼公與土司政權之關係 [Mogong and Native Chieftaincy in Southeast Asia and Western Guangxi], *Baise xueyuan xuebao* 百色學院學報, 2013, 2, 32–40.

⁹⁰ *Ibid.* I have used the word ‘clan’ here, but more precisely, in Donglan at least, this kin group was structured more like a kindred. See Holm, *Killing a Buffalo*, pp. 178–179.

south is worth considering further. This is particularly so because native Yue men were involved in the government of the Nanyue kingdom at the highest level. Zhao Tuo himself not only married a woman of the native Lü 呂 clan, but also governed in close association with his prime minister Lü Jia 呂嘉, who served in this office over a long period and ‘played an exceptionally important role in the kingdom’. In fact, Sima Qian’s *Historical Records* tell us that no fewer than 70 men of the Lü clan held official positions in the Nanyue kingdom. The Lü women married into the Zhao family, while the Zhao men took wives from the Lü clan.⁹¹

This situation provided a political and social context highly favourable for an effective transfer of literacy within the governing elite. Zhao Tuo was known to have founded schools and promoted education among native inhabitants as well as the immigrant Chinese population.⁹² Even though the Nanyue kingdom was short-lived, it lasted long enough for literacy in Chinese to take root among the aristocratic families attached to the court. Even if the script was used at the time only for writing in Chinese, as was commonly the case elsewhere, this literacy could eventually be put to other uses when the need arose. In time, also, literacy would have spread to other well-to-do native families. Already in the materials excavated from tombs in Luobowan 羅泊灣 (present-day Guigang 貴港 in Guangxi) there is ample evidence of a literate culture dating from this period.⁹³

Lest there be any question about it, everything indicates that the Chinese were always keen to pass on the benefits of higher civilisation, including and indeed especially literacy, to leading non-sinitic families on the edges of the empire. To my knowledge there was never any worry about technology transfer – that is, any concern that literacy might be used by non-sinitic societies to enhance their own internal capacity for organisation and coordination in a way potentially inimical to the interests of the Chinese state. This because the Chinese script was not seen as a technology, but rather as an integral part of a cosmic and moral order.⁹⁴

Another reason for considering this time and place as a possible candidate for script transfer is that there was a sizeable forced transmigration policy. It is well documented in classical sources that there was a substantial in-migration of Chinese settlers in Lingnan following the Qin conquest. According to Zhang and Huang’s analysis, settlers were despatched to the south on at least four separate occasions. In 214 BCE condemned criminals, surplus males and traders were sent along with the invading armies; traders were included in the expectation that their activities would help provision the garrison troops. The second consignment was in 213 BCE, when criminals were despatched to the south to labour on engineering works such as roads and fortifications. A third batch was sent in 212 to ‘garrison the frontiers’. Finally, Zhao Tuo requested a consignment of 30,000 unmarried women to ‘mend

⁹¹ Zhang Rongfang 張榮芳 and Huang Miao Zhang 黃淼章, *Nanyueguo shi* 南越國史 (Guangzhou: Guangdong renmin chubanshe, 1995), p.113, quoting from the *Shiji* 史記, ‘Nanyue liezhuan’ 南越列傳, repr. Beijing: Zhonghua shuju, 2nd edn. 1982, 9:2972.

⁹² Zhang Rongfang and Huang Miao Zhang, *op.cit.*, p. 100.

⁹³ *Guangxi Guixian Luobowan hanmu* 廣西貴縣羅泊灣漢墓 [The Han Tombs at Luobowan in Guixian, Guangxi], ed. Guangxi Zhuangzu zizhiqu bowuguan 廣西壯族自治區博物館 (Beijing: Wenwu chubanshe, 1988). Guixian was the location of Bushan 布山 county, the governmental seat of the commandery of Guilin 桂林郡. See Zhang and Huang, p. 95. The variety of artefacts found at this site indicate the presence of an official aristocratic class that was ethnically and linguistically mixed.

⁹⁴ W. South Coblin, *A Handbook of Eastern Han Sound Glosses* (Hong Kong: The Chinese University Press, 1983), p.15. For the concept of literacy as a technology, see especially Walter Ong, *Orality and literacy: the technologizing of the word*, London and New York: Methuen, 1982.

clothes' for the garrison troops, of which the emperor approved the despatch of 15,000.⁹⁵

Nothing is known about whether any of these people were literate, but at least the language they spoke could have been the source for an old stratum of borrowings in the Tai and Kam-Sui languages.⁹⁶ This is the view of Zeng Xiaoyu. The contemporary view among Chinese scholars on the distribution of the speakers of Kadai languages, articulated by Liang Min and Zhang Junru among others, is that the speakers of the Kadai proto-languages were indigenous to Lingnan and more or less confined to that area.⁹⁷

It could of course be argued that 221 BCE is too late as a starting date for the infusion of OC readings into the Kadai languages. The position one takes here would be partly dependent on the chronology one adopts on the timing of various sound changes leading from late-period OC to Late Han Chinese, for example the hardening of OC laterals, the merger of OC *-r/-n into *-n, and the simplification of consonant cluster initials. On the other hand, it could be argued that the populations that were transported to the south would not have been linguistically uniform, and would have included speakers of a range of dialects and lects, including quite possibly some who spoke archaic varieties of Chinese.⁹⁸ So regardless of the timing of OC-Late Han sound shifts, a transfer of borrowings corresponding to OC in the far south and post-dating the Qin conquest is still a possibility.

While the above scenario is plausible, the identification of the local native language in pre-Qin times is a matter that has been contested, with some scholars arguing that the Yue peoples were ancestral to the modern Vietnamese, and speakers of Austro-Asiatic languages.⁹⁹ So what is the evidence?

There have been now quite a number of studies on the non-sinitic substrate in Cantonese and other southern dialects. One of the earliest of these was the work by Yuan Jiahua 袁家驊, *Hanyu fangyan gaiyao* 漢語方言概要 (1st ed. 1960, 2nd ed. 1983), which presented a detailed analysis of the history of Cantonese and listed specific lexical items that resulted from contact between Cantonese and Zhuang.¹⁰⁰ Another classic study was *Fangyan yu Zhongguo wenhua* 方言與中國文化 by Zhou Zhenhe and You Rujie, published in 1986.¹⁰¹ Zhou and You demonstrated that a number of features indicating a Tai substratum spread well beyond Guangxi and included a substantial part of present-day Guangdong. Village names beginning with 那 *nà*, for instance, a common way of writing the Tai word *na*² 'wet-rice field', were found distributed widely throughout the western half of Guangdong and east as far as

⁹⁵ Zhang and Huang, pp. 40–41. The date of the consignment of women is not recorded.

⁹⁶ According to the 'Records of Gaodi' (Gaodi ji 高帝紀) in the *Hanshu* 漢書, Qin moved these people from the 'central counties' (*zhong xian* 中縣). On Qin forced migration policies, see Ma Feibai 馬非百, *Qin ji shi* 秦集史 (Beijing: Zhonghua shuju, 1982), pp. 916–929.

⁹⁷ Liang Min and Zhang Junru, *Dong-Tai yuzu gailun*, pp. 1–49.

⁹⁸ I owe this suggestion to Professor Lin Yi 林亦 of the Department of Chinese at Guangxi University. Personal communication, January 2013.

⁹⁹ Jerry Norman and Mei Tsu-lin, 'The Austroasiatics in ancient south China: some lexical evidence', *Monumenta Serica* 32:(1976) 274–301.

¹⁰⁰ Yuan Jiahua 袁家驊, *Hanyu fangyan gaiyao* 漢語方言概要 (Beijing: Wenzi gaige chubanshe, 1960).

¹⁰¹ Zhou Zhenhe 周振鶴 and You Rujie 游汝杰, *Fangyan yu Zhongguo wenhua* 方言與中國文化 (Shanghai: Shanghai renmin chubanshe, 1986).

Guangzhou and the Pearl River Delta.¹⁰² Other writers such as Li Jinfang and Li Rulong have written on the Tai substratum in Cantonese, covering not only the lexicon but also sound features such as pre-glottalised initial consonants.¹⁰³ Mai Yun has pointed out that in the Cantonese dialects to west of the Pearl River delta, quite a few words with *jing* 精 and *qing* 清 initials are pronounced with initial t- and th-, features which can be linked to Zhuang habits of pronunciation.¹⁰⁴ Among Western scholars, Robert Bauer has written a series of articles identifying a substantial part of the non-Sinitic vocabulary within Cantonese as resulting from contact with Tai languages similar to Zhuang.¹⁰⁵

Other language groups may well have been present in the area in prehistoric times. One fairly promising candidate for an Austroasiatic item in Cantonese is *maa*¹ 孖 ‘two, pair, dual’. The traditional reading of 孖 as Cantonese *maa*¹ is an instance of *xundu* 訓讀, i.e. reading the character for its meaning and not its etymologically correct pronunciation; the standard Cantonese reading pronunciation of 孖 is *zi*¹, which is similar to Mandarin and undoubtedly Sinitic. This was a very old borrowing from some AA language, ultimately related to the reconstructed AA root **mbar* ‘two’.¹⁰⁶

This is an isolated example. The weight of the evidence points to a Tai substratum in Cantonese, and the identification of the language of the Nanyue as a form of Tai. For now, and barring the discovery of new and massive evidence to the contrary, it seems reasonable to conclude that the language of the kingdom of Nanyue was a form of Tai, and that, as Lu Xixing argued, Nanyue could well have been the site for the transfer of the Chinese script to the Tai-speaking elites of Lingnan.

Exotic and Early

The other possibility is that the script was acquired by Tai-speaking elites or scribes somewhat earlier, in the Warring States kingdoms bordering on the Central Plains. The kingdoms I have in mind are primarily Wu 吳 and Yue 越, located in the Jiangnan area and in coastal Zhejiang, but other states could also have provided the context for script transfer, and of course there may have been more than one source.

¹⁰² See *ibid.*, Map 5-3 and pp. 152–154. Such village names are also common in the Zhuang-speaking parts of Guangxi. See Zhang Shengzhen 張聲震, ed., *Guangxi Zhuangzu diming xuanji* 廣西壯族地名選集 (Nanning: Guangxi renmin chubanshe, 1988).

¹⁰³ Li Jinfang 李錦芳, ‘Yueyu zhong de Zhuang-Dongyuzu yuyan diceng chuxi’ 粵語中的壯侗語族語言底層初析, *Zhongyang minzu xueyuan xuebao* 中央民族學院學報, 1990, no.6, 71–76; and Li Rulong 李如龍, ‘Guanyu dongnan fangyan de “diceng” yanjiu’ 關於東南方言的“底層”研究, *Minzu yuwen* 民族語文 2005, no.5, 1–15. See also Ban Chao 班弢, *Lun Hanyu zhong de Taiyu diceng* 論漢語中的台語底層 (Beijing: Minzu chubanshe, 2006), pp. 66–86, for a list of 161 correspondences between Cantonese lexical items and Tai.

¹⁰⁴ Mai Yun 麥耘, ‘Zhonggu jingzu zi zai Yueyu zhu cifangyan de butong dufa ji qi lishi hanyi’ 中古精組字在粵語諸次方言的不同讀法及其歷史涵義, *Zhongguo yuyanxue bao* 中國語言學報, 1997, vol. 25.

¹⁰⁵ Robert Bauer, ‘In Search of Austro Tai Strata in Southern Dialects’, *Computational Analyses of Asian and African Languages*, 28:(1987) 53–65; ‘Kadai Loanwords in Southern Chinese Dialects’, *Transactions of the International Conference of Orientalists in Japan*, The Tōyō Gakkai, XXXII (1987), 95–111; and ‘Identifying a Tai substratum in Cantonese’, *Pan-Asiatic Linguistics Volume V*, Salaya: Institute of Language and Culture for Rural Development, Mahidol University, 1996, pp. 1806–1842.

¹⁰⁶ Robert Bauer, personal communication, April 2013. Bauer notes that it was originally Paul Benedict who pointed out the possible connection of this etymon with AA.

Here I will first briefly state why I think it is necessary to consider these possibilities at all, and then I will go on to describe what I think may have happened. My concern here is to demonstrate the existence of a possibility, and not to provide proof for a favoured hypothesis. I will not have either time or space here to review all of the relevant evidence. Careful weighing of the evidence would require considerable effort and space, given that the archaeological, genetic, inscriptional and historical evidence would all have to be included in the discussion as well as the linguistic evidence from all possibly relevant language families.

The reasons I think this possibility should be considered are twofold. First, Gong Qunhu in his book on Han-Tai correspondences has uncovered an unexpectedly large layer of OC borrowings in Thai. His work represents a very considerable advance from the work of Prapin Manomaivibool a generation ago. Gong Qunhu bases his comparisons on a much more recent reconstruction of the OC sound system, that of Zhengzhang Shangfang and Pan Wuyun, both of whom in turn are fully conversant with the work of William Baxter, Sergei Jakhontov, Laurent Sagart, and other scholars working internationally. Gong Qunhu's methodology allows him to discriminate more finely between MC, Late Han, and OC borrowings in Thai than was possible when Manomaivibool was writing. Looking at Thai borrowings, by the way, has the advantage over other Tai languages in pinpointing early borrowings because, according to the best estimate, the ancestors of the Thai moved out of the ambit of Chinese linguistic influence around 1600 years ago.¹⁰⁷

The question is, where did this infusion of OC borrowings take place? One can rule out the possibility that the transfer took place in mainland Southeast Asia, where Thai speakers are now, since Chinese speakers were very far away and the ancestors of the Thai did not arrive in the area until well after the OC period. Lingnan or the southeast coast might be possible sites, but the problem is that the OC layer in Thai is so large that it is hard to imagine a suitable contact situation in the pre-Qin period that would provide sufficient motivation. If however the site of the contact were in eastern China, just on the edge of the Chinese states of the Central Plain, and in a context in which the rulers were in tributary relations with the Zhou court and in military competition with the states to the north and west, then extensive borrowings are exactly what one would expect.

The size of the OC layer in Thai is in itself an argument for considering a northern locus for the contact situation. The second reason for considering this earlier and more distant scenario is simply this: Gong Qunhu, and before him Chinese scholars such as Zhengzhang Shangfang, have argued that the kingdoms of Wu and Yue were Tai speakers, or more precisely, speakers of a language which they call 'old Yue' (*gu Yueyu* 古越語). Zhengzhang in a series of articles and book chapters has provided detailed arguments in favour of identifying the remaining traces of 'old Yue' as a language related to Tai.¹⁰⁸ These arguments have not yet been carefully scrutinised by the international scholarly community.¹⁰⁹ This state of affairs needs to be rectified. If it is not yet possible to confirm or refute the identifications made by

¹⁰⁷ Huang Xingqiu 黃興球, *Zhuang-Tai zuqun fenhua shijian kao* 壯泰族群分化時間考 (Beijing: Minzu chubanshe, 2008).

¹⁰⁸ See especially his chapter on 'Gu Yueyu' 古越語 in Dong Chuping 董楚平 et al., *Wu Yue wenhua zhi* 吳越文化誌 (Shanghai: Shanghai renmin chubanshe, 1998), vol. 1, pp. 253–281.

¹⁰⁹ See however the brief remarks by Laurent Sagart, in 'The expansion of *Setaria* farmers in East Asia: A linguistic and archaeological model', in Alicia Sanchez-Mazas et al., *Past Human Migrations in East Asia: Matching archaeology, linguistics and genetics*, (London: Routledge, 2008), p. 143.

Gong and Zhengzhang, this is because data from all the possibly relevant language families – Tai-Kadai, Hmong-Mien, Austroasiatic, and Austronesian have not yet been brought to bear on them. This task has yet to be undertaken.

The Hundred Yue

This issue brings into play the question of the geographic spread of the Tai peoples in the pre-Qin period, and also the relationship of the Tai to the peoples known in Chinese historical records as the Baiyue 百越 ('Hundred Yue'). In recent decades, scholars in Guangxi and elsewhere have articulated the view that the forebears of the Zhuang and other Tai peoples were indigenous to the south of China (or rather, what is now China), and were largely confined to the sub-tropical south. The earlier ideas espoused by a number of European scholars including Wolfram Eberhard, who held that the Tai were found much more widely in southern China as far north as the Yangtze, were dismissed as speculation; some scholars in Guangxi have even suggested that these views represented part of a Western imperialist plot to undermine Chinese national unity.

Even more sober scholarship on the Kam-Tai languages has tended to confine its purview to the areas in which these languages are now found. Liang Min and Zhang Junru, for example, in their *Dong-Tai yuzu gailun*, put forward a view wherein the earliest forebears of the Tai, Kam-Sui and Hlai inhabited the area just west of the mouth of the West River system in present-day western Guangdong in deep historical time. The Hlai (Li) were the first to split away, and migrate south and west onto Hainan. The Kam and Sui spent a period in close proximity to the coast of western Guangdong before migrating upstream and eventually into the highlands of Guizhou. The northern and southern Zhuang, finally, moved upstream into Guangxi along the West River system, where they remain to this day. Migrations further westward into Yunnan (the Zhuang and Dai) and into mainland Southeast Asia followed later.¹¹⁰

Zeng Xiaoyu has put forward another variation on this basic story. To account for OC loans in Sui, she notes Tang dynasty sources describe the Sui as located then in the central north of what is now Guangxi,¹¹¹ well to the south of their current location in the highlands of southern Guizhou. She notes also that the Qin conquest was quickly followed by a massive influx of northerners into the newly conquered lands of the south, and that this population would have spoken a form of late OC lingua franca (*gongtongyu* 共同語). It was the resultant contact situation, she argues, that resulted in the transfer of OC borrowings into Sui.¹¹²

The narrative of southern origins tends to fit well with the idea that the Tai languages are genetically related to Austronesian. This view was first articulated by Paul Benedict, and has subsequently led many scholars to explore Tai-Austronesian correspondences. One of the first scholars to do this systematically was Weera Ostapirat, who published his reconstruction of the proto-languages of Buyang, Gelao, Lachi and other 'outlyer languages' in 2000.

At the same time, in Western scholarship studies of place-names and the few isolated non-sinitic words found in early Chinese sources were tending to suggest

¹¹⁰ Liang Min and Zhang Junru, *Dong-Tai yuzu gailun*, pp. 1–49.

¹¹¹ Zeng Xiaoyu, *Hanyu Shuiyu guanxi lun*, p. 37. Fushui zhou 撫水州 ('Pacifying the Sui sub-prefecture') was located in the area of present-day Huanjiang 環江 county in the northern part of Guangxi. The general direction of the Sui migration was upstream.

¹¹² *Ibid.*, pp. 118, 124. For Zeng's reconstruction of this form of late OC, see pp. 83–85.

that the languages current in other parts of south China were languages other than Tai. Traces of Austroasiatic etyma were found along the coast of Fujian and in classical writings, and typological studies of the records of the Wu and Yue kingdoms in the lower Yangtze suggested that the inhabitants probably spoke a disyllabic language, possibly related to Austronesian. The kingdom of Chu in the middle Yangtze was most commonly associated with the forebears of Hmong-Mien (Miao Yao) speakers. It seemed as if the term Bai Yue 'Hundred Yue' was indeed a hold-all term that encompassed any number of different non-sinitic populations.

Recently these matters have come again under scrutiny. Gong Qunhu has re-examined the evidence in sources on the Wu and Yue kingdoms, such as the *Yue jue shu* 越絕書, and demonstrated that the non-sinitic words that appear in that and other near-contemporaneous records can be decoded as an early form of Tai.¹¹³

Evidence has also come from another quarter, from the enormous quantity of Chu manuscript material that has been unearthed since the early 1970s. Wolfgang Behr has recently shown that all of the identifiable non-sinitic loans in Chu inscriptional materials are Tai-Kadai words, rather than mixed Hmong-Mienic, Austroasiatic, and Tai-Kadai as might be expected.¹¹⁴ This raises the possibility that the scribes in the kingdom of Chu were recruited from among the Yue. The archaeological record shows not only that Yue-style tombs are widely distributed, but that at least a substantial part of the population in the southern part of the kingdom was Yue.¹¹⁵

The other strata of society in these southern kingdoms would have been ethnically and linguistically diverse, in this regard rather similar to the Tai polities that until recently were scattered across the map in northern mainland Southeast Asia. As Karl Izikowitz has observed of the Tai in Laos, the Tai are highly practiced at the exercise of a form of feudal governance that is fundamentally different from that of the Chinese, and is especially adapted to state formation in ethnically and linguistically diverse montane environments centered on valleys suitable for wet-rice cultivation. The form of society is a highly stratified one.¹¹⁶

So where did the sinified Tai come from, and when did they arrive in the tropical south? One possibility is that they came from the southern kingdoms of Wu, Yue, and Chu. The destruction of these kingdoms during the latter part of the Warring States period is reasonably well documented. Early Chinese historical records recount how the royal families of these southern kingdoms fled southwards, following a period of mutual destruction capped by the encroachment and finally conquest of the Yangtze area by the Qin armies. The royal house of the Yue kingdom was forcibly re-located, along with higher officials, the army, and the inhabitants of the royal domain, leaving the other inhabitants to their own devices, where they eventually became known as Shan Yue 山越 ('mountain Yue').¹¹⁷ Collateral branches of the royal clans fled south with their retinues. Records mention the subsequent emergence of regional kingdoms (*fang guo* 方國), the Dong Yue 東越 (also known as the Dong Ou 東甌), the Min Yue 閩越, the Nan Yue 南越, the Luo Yue 駱越 and Xi Ou 西甌, as well as mountain-dwelling Shan Yue.

¹¹³ Gong Qunhu, *op.cit.*, pp. 198–202.

¹¹⁴ Wolfgang Behr, 'Some Chū 楚 words in early Chinese literature', 4th conference of the European Association for Chinese Linguistics, Budapest, 19–22 January 2006.

¹¹⁵ Xiang Taochu 向桃初, *Xiangjiang liuyu Shang Zhou qingtong wenhua yanjiu* 湘江流域商周青銅文化研究 (Beijing: Xianzhuang shuju, 2008), pp. 443–446.

¹¹⁶ Karl Izikowitz, 'Expansion' (1963), repr. in Izikowitz, *Compass for Fields Afar: Essays in Social Anthropology*, ed. Göran Aijmer, Göteborg: Acta Universitatis Gothoburgensis, 1985, pp. 93–116.

¹¹⁷ Wu Anqi 吳安其, 'Wenzhou fangyan de Zhuang-Dongyu diceng chutan' 溫州方言的壯侗語底層初探, *Minzu yuwen* 民族語文 1986, 4, p. 37.

This account of the dispersal of the Yue has tended to be discounted or ignored, partly because the concepts of ethnicity (nationality) brought to bear have tended to encourage people to imagine that the ancestors of the Tai formed solid territories, and moved as one people across vast distances by land. This is indeed difficult to believe. It is more plausible to say that the southern kingdoms were highly-stratified multi-ethnic entities in the first place, and that when the Qin armies approached, the Tai-speaking royal clans, their bodyguards and retainers, and the trusted core of their military forces left the rest of the population behind, and went in search of new areas in which to re-establish their domains in areas beyond the reach of the Qin state. They would have migrated to Fujian, Guangdong, Guangxi or Annam not as unorganised rice-growing peasants, but as mobile state formations. This is a pattern which the Tai were to repeat, under different circumstances and somewhat later, in their expansion across Southeast Asia as far as India. Once they arrived in Lingnan, they would either have formed an alliance with the native population in the valleys, or driven them out, or subjugated them and turned them into serfs, slaves, and indentured labourers; and then established trading relations with the population in the surrounding hills, garrisoning the choke-points along rivers and overland transport routes.¹¹⁸

As mobile state formations, the Tai royal clans would have brought with them not only their experience in statecraft, but also their scribes, if they had them.

A Scenario

Let me however pass to what I think may have happened. I think it is at least plausible that the ruling families of Wu and Yue were speakers of a form of Tai. I begin by putting the point in this way because I think in all probability that the states on the edge of the sinosphere, including Wu and Yue but also Shu 舒 and Chu, were what you might call multi-ethnic layer cakes, ruled over by partly sinified elites but incorporating a variety of linguistic and occupational groups. These societies showed marked stratification, with aristocratic families and their entourages, household slaves, and bodyguards at the centre, surrounded by a secondary layer of craftsmen, scribes, and suppliers of other important services to the court, and farmer-soldiers providing military service. Scions of collateral branches were put at a safe distance from the court by requiring them to go out and establish satellite houses in new locations. This is very much the kind of Tai polity and confederation that investigators like Georges Condominas found in the peripheral areas of Southeast Asia in the recent past, and the chieftaincies of the Zhuang and Dai were structured along similar lines.¹¹⁹ I should emphasise here that I am making an argument by analogy, but my point is not to 'essentialise' any supposed traits of the Tai as an ethnic group. To the contrary, I hold that the analogies are valid because of

¹¹⁸ This pattern of expansion and feudal incorporation of the original inhabitants was widespread among the Tai, and can be seen very clearly in the ethnographic material from the social and historical surveys conducted in the 1950s. See for example the reports on Menghai 勐海 in the western part of Xishuang Banna (Sipsong Panna). See esp. 'Menghai de fengjian zhengquan yu dengji' 勐海的封建政權與等級, in *Daizu shehui lishi diaocha (Xishuang banna zhi wu)* 傣族社會歷史調查 (西雙版納之五), ed. "Minzu wenti wuzhong congshu" Yunnan sheng bianji weiyuanhui "民族問題五種叢書" 雲南編輯委員會 (Kunming: Yunnan minzu chubanshe, 1983), pp. 29–40.

¹¹⁹ Georges Condominas, *From Lawa to Mon, from Saa' to Thai: Historical and anthropological aspects of Southeast Asian social spaces* (Canberra: Department of Anthropology, Research School of Pacific Studies, Australian National University, 1990).

underlying and highly persistent continuities in political structure and culture. Tai feudalism, after all, was a highly successful political form until very recently in human history.

Geographically, away from the centres of power, these polities were often organised with the mountain valley as the unit. Zhong Chong 鐘翀 of Kyoto University has recently published an article exploring the historical geography and cultural dynamics of mountain valleys in the Yue cultural area of Zhejiang, noting that both coastal plains and flat-bottomed river valleys suitable for wet-rice agriculture were typical sites for colonisation by the Yue. The latter have not been investigated as thoroughly as the former. Using the ancient cultural area of Gumo 姑末 in the western half of the Quzhou-Jinhua 衢州金華 Plain as an example, he demonstrates that the area inherited its position as a separate administrative unit from the pre-Qin period and retained a substantial measure of territorial and cultural integrity until modern times, including a dialect quite distinct from that of neighbouring areas. This valley began as an independent domain and was absorbed into the Yue kingdom sometime in the Spring and Autumn period. It was connected with the Yue heartland and with other areas upstream and downstream by river transport.¹²⁰

One fact about the ancient Yue that comes out saliently from the historical literature is that they were unique among the sinicised states of the time in having navies. Indeed, these states seem to have relied heavily on military fleets, both seaborne and riverine. This enabled the Yue to move with what commentators at the time regarded as remarkable speed, moving much faster than the cumbersome land armies of the time. Yue military boats were large enough to hold 50 men, along with three months' provisions, and could travel 300 *li* downstream in a single day.¹²¹ The battles with Chu and with other states usually took place on rivers and inland lakes, but the Yue were also given to seafaring, both along the coast and further afield.¹²² To this day, Tai communities far inland continue to sing 'boat songs' as part of various indigenous ritual practices, and the seas and sea voyages feature in the geography of their spirit world.¹²³

Taken together, the archaeological, linguistic, historical and genetic evidence seems to indicate that the Yue kingdoms were stratified multi-ethnic entities, ruled over by a mainly Tai-speaking military and administrative elites. The structure was such that the ruling families could easily metastasise into widely dispersed statelets. Any AA, Hmong-Mien, or Tibeto-Burman speakers in the locality could easily have been incorporated into such ranked societies, as indeed they have been in Laos, Thailand, Vietnam, and Yunnan (Sipsong Panna).¹²⁴

The Xi Ou

¹²⁰ Zhong Chong 鐘翀, 'Gumo kao' 姑末考, in Che Yueqiao 車越喬, ed-in-chief, *Yue wenhua shikan yanjiu lunwenji* 越文化實勘研究論文集, vol. 1 (Beijing: Zhonghua shuju, 2005).

¹²¹ Shiji, 'Zhang Yi liezhuan' 史記, 張儀列傳. The reference is to the boats of Qin in this passage, but the technology was borrowed from the Yue.

¹²² Meng Wenyong 孟文鏞, 'Yuyue de haishang yuanchang' 于越的海上遠航, in Che Yueqiao, *op.cit.*, 145–155.

¹²³ Kao Ya-ning, 'Crossing the Seas: Tai Shamanic Chanting and its Cosmology', *Shaman* 19:1–2 (2011), 31–53.

¹²⁴ Georges Condominas, 'Essay on the Evolution of Tai Political Systems', in Condominas, *op.cit.*, pp. 29–92.

We will end by considering one of the Yue groups that is directly pertinent to the Zhuang and the Zhuang script. The Xi Ou 西甌 inhabited an area to the west of the Nanyue that can be roughly described as present-day eastern Guangxi and western Guangdong along the Xijiang 西江 river basin.¹²⁵ Like other branches of the Hundred Yue (Bai Yue 百越), they are sometimes described as if they were ‘nationalities’, in other words coherent large populations speaking the same language and occupying a unified territory. Like the other Hundred Yue branches that appear in Chinese historical records, they are probably better understood as regional polities (*fang guo* 方國) or confederations of smaller polities, ruled over by rich and powerful chiefly families. The archaeological record suggests these groups had linkages with Yue subgroups further to the east, and that these linkages were largely maritime. In other words, they were linked by boat upstream and downstream along inland rivers, along the southeast coast at least as far north as Jiangnan and possibly Shandong, down the coast as far as central Vietnam if not further, and across the seas to the coasts of Hainan and Taiwan and other offshore islands.¹²⁶

There is evidence not just of contact, but also of migration. Beginning in the late Spring and Autumn period (circa 550–481 BCE), bronze cultures on sites in Guangdong and northeastern Guangxi show a marked increase in Wu and Yue cultural influences, and during the middle period of the Warring States (around 350 BCE) these influences became more pervasive and deep-seated. As Zheng Xiaolu comments, ‘Numerous tombs in these areas are possibly those of Wu and Yue, and this shows that behind the cultural influence was a migration of Yue people from Wu and Yue into Lingnan, and that the change was not merely due to cultural influence.’¹²⁷ That is, the number of Wu and Yue-style artefacts and their sudden appearance indicate that in-migration was the most likely cause. Zheng’s analysis is partly based on an earlier MA thesis from the same department in Jilin University by Liu Bo, who demonstrated that there had been a sudden shift from older assemblages of bronze weapons to assemblages of the Yue (Zhejiang) type, such as the sudden appearance of long swords. Other bronze items such as knife-shaped sickles and ring-handled knives ‘show a startling resemblance to Wu and Yue prototypes. This resemblance is hard to explain merely by reference to cultural diffusion and influence. Rather, these changes are related to a direct intrusion of a culture.’¹²⁸

The close connection between the Yue and the Xi Ou is demonstrated clearly by bronze utensils unearthed at sites in Lingnan. Yue-style tripods make their appearance in the late Spring and Autumn and early Warring States period, and have been found in Gongcheng 恭城 in Guangxi and Luoding 羅定, Deqing 德慶 and Jieyang 揭陽 in Guangdong. Halberds in the Wu-Yue style have been found in Gongcheng, Pingle 平樂, and in Deqing and Sihui 四會 in Guangdong. On bronze drums and other bronze utensils, the double-hulled boat motif (*yuren hua chuan* 羽人

¹²⁵ For a list of archaeological sites associated with the Xi Ou, see Meng Wenyong 孟文鏞, *Yueguo shigao* 越國史稿 (Beijing: Zhongguo shehui kexue chubanshe, 2010), pp. 333–334.

¹²⁶ See Meng Wenyong, ‘Yuyue de haishang yuanhang’.

¹²⁷ Zheng Xiaolu 鄭小燾, *Wu Yue he Baiyue diqu Zhou dai qingtongqi yanjiu* 吳越和百越地區周代青銅器研究 (Beijing: Kexue chubanshe, 2007), p. 236.

¹²⁸ Liu Bo 劉波, ‘Lingnan diqu Dong Zhou qingtongqi fenqun yanjiu’ 嶺南地區東周青銅器分群研究, MA thesis, Archaeology and Museology, Jilin University, 2000, pp. 20–21.

劃船 'feathered men rowing a boat') has been discovered not just in Yinxian 鄞縣 in coastal Zhejiang, but also in Luobowan 羅泊灣 in Guixian 貴縣, in Pingle, Xilin 西林 in northwestern Guangxi, Puning 普甯 in Yunnan, and in the royal tomb of Nanyue in Guangzhou. The example unearthed in Pingle closely resembles that found in Yinxian in Zhejiang, 'as if they came from the same mould'.¹²⁹ The Yinxian bronze is the earliest, and other finds are evidence of direct Yue influence.

Earlier, scholars had proposed that there was a close link between the Dong Ou 東甌 and Xi Ou, and that the Xi Ou were effectively a colony of the Dong Ou. The Dong Ou, also referred to as the Dong Yue 東越 (Eastern Yue), were a group based around the mouth of the Oujiang 甌江 River in southeastern Zhejiang, near present-day Wenzhou 温州.

In 1978, Liang Zhaotao proposed that the Xi Ou and Dong Ou were connected, and that there had been an exodus of Yue peoples from southeastern China up the mouth of the Zhujiang 珠江 to the middle reaches of the Xijiang 西江 river system dating from around the time of the defeat of the Yue at the hands of Chu in 355 BCE. The primary route taken was by ocean-going vessels such as double canoes (*fangzhou* 方舟), which Liang thought were similar to the boats he had seen in photographs of Polynesian vessels. The Yue had prior knowledge of the Zhujiang because the sea routes were already well-established, and they had good relations with the seafaring Wa 倭 people who lived in the area of what later became Yulin jun 鬱林郡.¹³⁰ Liang proposed that the resulting population was mixed, comprising a Xi Ou ruling elite living together with earlier inhabitants such as the Luoyue 駱越 and Wa, and incorporating migrants and refugees from Chu.¹³¹

The argument that the Xi Ou were a branch of the Dong Ou and came from the area of present-day Zhejiang has recently received support from another quarter. Li Hui and his colleagues at the Fudan University Centre for Human Genome Research have conducted Y-chromosome testing of the populations identified as descendants of the Hundred Yue and Austronesian peoples, both in the south of China, on Taiwan, and in mainland and maritime Southeast Asia. Their results were announced in a short article published in 2002.¹³² They analysed the results into three stages, based on the presence or absence of characteristic mutations (M119, M110, and M88). They found that the population identified as the Hundred Yue came from a single origin, and settled in Guangdong and the Red River Basin in Vietnam around 30-40,000 years BP. From there they gradually expanded towards the northeast and southwest. In the second stage there were two major foci of the descendant populations, genetically distinct, one in the Zhejiang-Jiangxi area, and the other, more dispersed, in a broad area across south and southwest China and

¹²⁹ Meng Wenyong, *op.cit.*, pp. 333–334.

¹³⁰ Liang Zhaotao 梁鈞韜, 'Xi Ou zuyuan chutan' 西甌族源初探, *Xueshu yanjiu* 學術研究 1978, no.1, 129–135. 'Wa' was an ethnonym which later came to be applied to island peoples like the Japanese. Yulin was a commandery on the middle reaches of the Xijiang.

¹³¹ *Ibid.* For amplification and further documentation see Shi Zhongjian 石鐘健, 'Lun Xi Ou he Dong Ou – jian lun Wa he Yi, Yue de zhongshu guanxi' 論西甌和東甌 – 兼論倭和夷、越種屬關係, *Minzu shi lunwen xuan 1951–1983 xiace* 民族史論文選 1951–1983 下冊 (Beijing: Zhongyang minzu xueyuan chubanshe, 1985), 13–34. According to Shi, this invasion of the Xi Ou was only one of a number of migrations to the Xijiang area. There were a number of clans from the same area who settled further upstream in Luoyue territory from the beginning of the Warring States period onward (p. 17).

¹³² Li Hui 李輝, 'Bai Yue yichuan jiegou de yi yuan er fen jixiang' 百越遺傳結構的一元二分跡象, *Guangxi minzu yanjiu* 廣西民族研究, 2002, 4, 26–31.

mainland Southeast Asia. The third stage in their data shows retreat from southeastern China, and expansion into southwest China and mainland Southeast Asia as far west as Assam. Although they did not specifically investigate the population of the Dong Ou area, they were able to demonstrate that the descendants of the Hundred Yue showed considerable uniformity in genetic structure, and were at considerable variance with other groups in East Asia such as the Han, Hmong-Mien, and Tibeto-Burmans.¹³³ This analysis lends considerable weight to arguments that the Yue were speakers of Tai-Kadai languages.

The critical question then arises, have signs of writing been found at any of these sites? Abundant inscriptions and a number of documents have been unearthed at the Luobowan site in Guixian in eastern Guangxi, but the tomb that was excavated there was of Han date. To my knowledge, nothing earlier has been found. It is nevertheless pertinent to observe that the archaeological evidence and historical records give ample evidence of very close cultural links between the Yue heartland in Zhejiang and the Yue polities in Lingnan, and a well-established sea route affording mobility up and down the coast. In all likelihood, the Lingnan area was one of the destinations for Yue royal clans as they fled southward by sea, out of reach of their powerful enemies to the north, at least for the time being. Once ensconced in their new territories, they would have sought to recreate the 'valley kingdoms' they left behind.¹³⁴ Whether or not they brought their scribes with them, employed refugees from Chu, or employed Chinese scribes from the Central Kingdoms, must for now remain an unanswered question.

Addendum: Ancient Scripts in the South

Archaeological discoveries in recent decades have made a substantial change in the general picture of script development in the south of what is now China. We leave aside discoveries of pottery marks, which have been found in great profusion pretty much everywhere. Symbols which pre-date the Qin conquest and are arguably writing in the full sense have been found in at least three areas. The first was the discovery of writing in Wucheng 吳城 in Jiangxi. Wucheng is located in Qingjiang 清江 county, Jiangxi, and was the first Shang-era site south of the Yangtze to be discovered (1973).¹³⁵ The site dates from 1789 ± 156 BCE to 1651 ± 105 BCE. Large numbers of characters were found on pottery, bronzes, and on stone moulds.¹³⁶ According to one writer, 'The frequent occurrence of these characters at the site suggests a well-developed language substantially independent of the cultures of the Central Plain.'¹³⁷ At least some of the characters, however, are Chinese graphs.

¹³³ Not much information about AA populations was presented in this article, and only summary data and conclusions overall. I have yet to locate the full analysis that would allow these statements to be fully scrutinised and assessed.

¹³⁴ On 'valley kingdoms', a concept which emerges quite clearly in mogong ritual texts, see Holm, *Recalling Lost Souls*, 2004, p. 6.

¹³⁵ Qingjiang (present-day Zhangshu shi 樟樹市) is just to the southwest of Fengcheng 豐城 county on the Gan 贛江 River.

¹³⁶ Tang Lan 唐蘭, 'Guanyu Jiangxi Wucheng wenhua yizhi yu wenzi de chubu tansuo' 關於江西吳城文化遺址與文字的初步探索, *Wenwu* 文物 1975, 7, 72–76. Tang's article gives a detailed report on the 66 graphs found at the site during the first stage of the excavations.

¹³⁷ Barlow, p. 36. Qingjiang is just to the southwest of Fengcheng county on the Gan River.

In 2004, inscriptions in an ancient script were discovered on a cliff on the side of an ancient track in Xianju 仙居 county, Zhejiang.¹³⁸ The site was investigated by Cao Jinyan 曹錦炎 and his colleagues from the Zhejiang sheng wenwu kaogu yanjiusuo 浙江省文物考古研究所, who identified it as an 'old Yue script' (古越族文字) of the Warring States period, dating from at least 2200 years BP. The inscriptions were found deeply incised on four separate rock faces, among which there were altogether four legible characters, which resembled the bronze characters of the early Zhou period but were evidently not based on Chinese. Typologically they were quite different from other Yue inscriptions.¹³⁹ In the same county in Danzhu 丹珠 parish there is the famous tadpole script (*kedouwen* 蝌蚪文) inscription, first mentioned in the *Xianju xianzhi* 仙居縣志 of Ming Wanli (萬曆, 1573–1620) date.

Another mysterious and apparently ancient inscription is the Red Cliff inscription (Hongyan tianshu 紅崖天書) in Guanling 關嶺 county in central-western Guizhou. Guanling is an area inhabited by Bouyei and Yi, among other groups. The inscription is apparently not Chinese, is highly iconic, and has not yet been deciphered. Various attributions have been put forward: either as an ancient Miao script or an ancient Yi script. The arrangement and number of the symbols, however, make it doubtful whether this inscription should be considered writing strictly speaking, rather than a religious inscription.¹⁴⁰

Most recently, in December 2011, inscribed stones have been unearthed in Gansang 甘桑 village in the western part of Pingguo 平果 county in Guangxi.¹⁴¹ The stones are flat but irregular in shape, and are covered with glyphs that are strongly reminiscent of Shuishu 水書, the script that is still used by the Sui 水 in Sandu 三都 county, Guizhou. Altogether over 20 stones have been recovered, with a total of over 1000 glyphs inscribed on them. In early 2012 the Guangxi wenwu kaogu yanjiusuo 廣西文物考古研究所, together with supporting regional and local institutions, dug two exploratory trenches at the site, to a depth of 2.2 metres. Based on C¹⁴ dating of relevant strata, the stone inscriptions are estimated to date from 3532 ± 100 BP. Scholars have been quick to infer that the inscriptions must have been written by the Luoyue 駱越, who were known to have ruled over a bronze age kingdom in this region.¹⁴² This ascription is simply a guess, and work on deciphering the inscriptions has only just begun.¹⁴³

None of these scripts has any direct relation to the Zhuang character script. The point is a more general one, that the peoples of the south had reached a level of organisation and sophistication conducive to inventing and using scripts quite some

¹³⁸ 仙居縣廣度鄉中央坑村。Guangdu xiang 廣度鄉 is in the northeast of the county, just north of the county seat. Xiandu is located in the Taizhou region, and is upstream of Taizhou on the Yong'an River 永安溪。Guangdu, on the Yu Xi 孟溪, is on the pass between Xianju and Tiantai 天台 to the northeast.

¹³⁹ *Guangming ribao* 光明日報, 25 May 2004. Doubts were raised about the identification of the inscriptions as belonging to the Yue, and also why the inscriptions were found in such a locality, remote from the capital of the kingdom. The small number of legible glyphs has also made it difficult to make further progress in analysis.

¹⁴⁰ On which see Wu Xuechou 吳雪儔, *Guizhou hongyan bei chukao* 貴州紅巖碑初考 (Guiyang: Guizhou minzu chubanshe, 1997).

¹⁴¹ Conference: Zhuangzu tusuzi yu Gansang shike zifu yanjiu gongzuo zuotanhui 壯族土俗字與甘桑石刻字元研究工作座談會, Pingguo, January 25–28, 2013.

¹⁴² Liang Tingwang 梁庭望, 'Gansang kehuawen – gu Luoyue wenzi guang zhao qian qiu' 甘桑刻劃文–古駱越文字光昭千秋, paper presented at the Pingguo conference, 25 January 2013, p. 9. Luoyue was one of the two regional kingdoms directly ancestral to the Zhuang.

¹⁴³ See Ban Chao 班昭, *Gansang shikewen mopian ji zifu ji* 甘桑石刻文摹片及字符集 (Guangzhou: Guangdong sheng chuban jituan, Guangzhou keji chubanshe, 2013).

time before the Chinese armies marched south. This in turn meant that, when presented with opportunities to learn the Chinese character script, they would have been quick to see the benefits of doing so.

Conclusion

The evidence presented here for an OC layer in the Zhuang script must be regarded as preliminary. Too few examples have been presented for systematic comparison, and quite a number of the readings that can plausibly be linked to OC reconstructions can equally well have come from MC or even later. Only in very few cases is there a stronger case for OC than for any more recent origin, and even here scholars will rightly wish to reserve judgment. Still, enough evidence has been presented to make the point that the matter is worth investigating further and more systematically. The survey of the Zhuang character script, together with annotated texts based on recitation by the traditional owner, photo-reproduction of original manuscripts, and thorough philological methods, will provide us with the means to do that.

On the question of where and when script transfer took place, I have discussed three scenarios. The first, following arguments put forward by Lu Xixing, is that script transfer took place in the kingdom of Nanyue during the Qin-Han transition, and was a direct result of positive government action in founding schools and promoting education. The second, following Zeng Xiaoyu and Lin Yi, is that it took place in Lingnan in the early centuries of Chinese rule, mainly during the Han dynasty. OC readings in this scenario came from an immigrant population – officials, soldiers, and merchants – who probably spoke various dialects of early Han Chinese, including dialects with archaic features. The third is that the script may have come down from the Wu and Yue heartland during the Warring States period, especially but not exclusively with the migration and invasion of the Dong Ou peoples into the Xijiang basin. The Ou peoples, being organised into mobile state formations, would have had the organisational capacity and motivation to maintain literacy among their attendant scribes, for both bureaucratic and ritual uses. All three of these scenarios are broadly plausible, but all of them require much further research before we can better assess their respective merits.

Abbreviations

| | |
|-------|--|
| AA | Austroasiatic |
| Ch. | Chinese |
| CT | Central Tai |
| EMC | Early Middle Chinese |
| HCT | Fang Kuei Li, <i>A Handbook of Comparative Tai</i> |
| LMC | Late Middle Chinese |
| MC | Middle Chinese |
| NT | Northern Tai |
| OC | Old Chinese |
| OZS | Old Zhuang Script |
| PKS | Proto-Kam-Sui |
| PKT | Proto-Kam-Tai |
| PT | Proto-Tai |
| Skrt. | Sanskrit |

| | |
|-----|-----------------------|
| SWM | Southwestern Mandarin |
| Th. | Thai |
| Zh. | Zhuang |

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