Historical Evidence for the Early Lik Tai Scripts

David Wharton

Abstract

The Indic scripts of mainland Southeast Asia originated from the southern (Grantha) branch of Brahmi scripts, which appeared in the first century BCE and spread as part of broader Indian cultural influence in the region as a result of maritime trade routes between India and China. They were first used to write Indic languages, such as Sanskrit, and then later adapted for Southeast Asian languages such as Cham, Khmer and Mon. These scripts were then further modified for use by the Tai, rather than the Tai languages themselves being the main determining factors in the development of their writing systems. The Lik Tai orthography is therefore a secondary adaptation of an already indigenised Indic script but is unusual in comparison to other Southeast Asian scripts such as Burmese, Khmer, and Mon, and Tham, in being highly adapted for writing only vernacular Tai languages before the adoption of Buddhism.

The question of when the Lik Tai writing system first developed, and from which prototype, can only be approached through comparison with other historical Indic-based systems in Southeast Asia with which the Tai may have had contact. Given the ongoing reforms to the Tai writing systems which continue to this day, such an investigation must make use of their oldest available forms, which is limited by the scarcity of early manuscript or epigraphic sources. Since mulberry paper and other materials have relatively short lifespans, the earliest examples of the Lik Tai script are found outside of the extant Tai manuscript traditions. Fortunately, other primary sources have survived through historical interaction between the Tai and Chinese, and through Tai Ahom epigraphic and numismatic records.

The earliest dated reference to Lik Tai writing appears in the *Bai-yi Zhuan*, an account of the visit of two envoys of the Ming court to the polity of Lu-chuan, or Moeng Maw, in the year CE 1396, and the earliest known dated example of a Lik Tai script is from the same period, appearing in a fifty metre long Ming dynasty scroll dated equivalent to 1407 CE, now held in the Tibet Museum in Lhasa. Other early examples of this early 'Baiyi' Lik Tai script are also found in Chinese sources dating to the fifteenth and sixteenth centuries: the *Hua Yi yi yu* or 'Sino-Barbarian Dictionary' compiled by a bureau of translators established by the Ming emperor, and the *Xiyu tongwen biaowen* or 'Bilingual Memorials of Western Regions,' a collection of short memorials of tribute offerings to the Ming court by local rulers, first made in local languages and then translated into Chinese by the bureau of translators. For Tai sources, the earliest examples are found in Assam State, India, in the Tai Ahom script, dating from the early to mid-sixteenth century: the Sadiya Snake Pillar inscription and coins made during the reign of Suklengmuang. No earlier dated examples of Tai Ahom or other Lik Tai inscriptions or manuscripts have yet been discovered.

This paper examines these earliest sources for the Lik Tai scripts together with related linguistic and orthographic features which provide additional indications of the diachronic development of the Lik Tai writing system. Based on the data currently available and evidence of historical patterns of migration and interaction between users of related orthographies, it appears that the Lik Tai writing system was developed in Moeng Maw sometime between the twelfth and fourteenth centuries. The most likely prototype is a Burmese writing system used from the early twelfth century in Pagan, with which Moeng Maw had significant contact during this period. While the discussion does not attempt to provide a definitive answer to the origin of the Lik Tai writing system, the available data is presented as a contribution to the debate and to future work in this field. Being designed for vernacular use, the Lik Tai scripts deserve special attention for their potential contribution to the understanding of the Tai languages as well as to the broader understanding of Indic-based orthographies in Southeast Asia.

Historical Evidence for the Early Lik Tai Scripts

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David Wharton, National Library of Laos

INTRODUCTION

The Lik Tai orthography is one of a number of different Indic-based writing systems in Southeast Asia including Burmese, Cham, Khmer, Lao, Mon, Thai, Tham, White, Black and Red Tai, etc. Study of its early historical development is limited by the scarcity of early manuscript or epigraphic sources in comparison to many of these other systems. The earliest dated reference to Lik Tai writing appears in the *Bai-yi Zhuan*, an account of the visit of two envoys of the Ming court to the polity of Lu-chuan, or Moeng Maw, in the year CE 1396, and the earliest known dated example of a Lik Tai script is from the same period, appearing in a fifty metre long Ming dynasty scroll dated equivalent to 1407 CE, now held in the Tibet Museum in Lhasa. Other early examples of this early 'Baiyi' Lik Tai script are also found in Chinese sources dating to the fifteenth and sixteenth centuries: the *Hua Yi yi yu* or 'Sino-Barbarian Dictionary' compiled by a bureau of translators established by the Ming emperor, and the *Xiyu tongwen biaowen* or 'Bilingual Memorials of Western Regions,' a collection of short memorials of tribute offerings to the Ming court by local rulers, first made in local languages and then translated into Chinese by the bureau of translators. For Tai sources, the earliest examples are found in Assam State, India, in the Tai Ahom script, dating from the early to mid-sixteenth century: the Sadiya Snake Pillar inscription and coins made during the reign of Suklengmuang. No earlier dated examples of Tai Ahom or other Lik Tai inscriptions or manuscripts have yet been discovered.

This paper presents the earliest available sources for the Lik Tai scripts together with some related linguistic and orthographic features which may provide indications of the diachronic development of the Lik Tai writing system. Based on the data currently available and evidence of historical patterns of migration and interaction between users of related orthographies, it appears that the Lik Tai writing system was developed in Moeng Maw sometime between the twelfth and fourteenth centuries. The current paper does not attempt to provide a definitive answer to the origin of the Lik Tai writing system, for which additional research would including sources beyond the present scope such as local chronicles and historical accounts, and linguistic data. The data here is simply presented as a contribution to the debate and to future work in this field. The Lik Tai scripts deserve special attention for their contribution to the understanding of the Tai languages as well as to the broader understanding of Indic-based orthographies in Southeast Asia.

OVERVIEW OF THE LIK TAI SCRIPTS

The Indic scripts of mainland Southeast Asia originated from the southern (Grantha) branch of Brahmi scripts, which appeared in the first century BCE and spread as part of broader Indian cultural influence in the region as a result of maritime trade routes between India and China. They were first used to write Indic languages, such as Sanskrit, and then later adapted for Southeast Asian languages such as Cham, Khmer and Mon. The Southeast Asian Indic scripts spread by contact (generally together with cultural or religious influence) rather than based on genetic relationship between languages and were modified for use rather than the languages themselves being the main determining factors in the development of new writing systems. In this regard, the Lik Tai orthography is unusual in comparison to other Southeast Asian scripts such as Burmese, Khmer, and Mon, and Tham, in being highly adapted for writing vernacular Tai languages rather than Indic languages.

The Lik Tai writing systems such as Lik Tho Ngok or 'Bean Sprout' script are alphasyllabaries, but not fully abugidas, since occurrence of an inherent or implicit vowel is restricted to medial position,

where it may take either /-a-/ or /-aa-/ (also /-ɑ-/ and /-ɑɑ-/ in certain Burmese loanwords). In general, Tai understanding of the orthography is based on syllables, with vowels treated together with onset and rimes rather than in isolation. They typically have between sixteen and twenty-one consonant graphemes. This limited inventory of consonants (and vowels) and the lack of 'series' of historically voiced and voiceless initial consonants in the Lik scripts (i.e. initial consonants are not classified according to their influence on tones, such as the 'high, mid, low' series used in Thai and Lao) differs significantly from most other Southeast Asian Indic-based scripts. The origin of these related features can be traced to historical sound changes which took place in the Tai languages and to the degree of influence of Indic culture and language.[1]

Letter-phoneme correspondences in the traditional orthography are more complex than in other Southeast Asian scripts such as the Tham scripts or standard Thai and Lao, but they are still clearly prescribed and are much simpler than in English, for example. The nature of the complexity differs too, with the traditional Lik orthography being less specific as to the phonetic realisation of the written form due to under-differentiation (leading to a large number of homographs), whereas the Tham scripts (and standard Thai, Burmese, Khmer, etc.) are over-differentiated due to having distinct 'series' of consonants, the inclusion of graphemes required to write Indic loan words, and the retention of historical distinctions no longer found in the spoken language. In fact, only a prescribed number of vowel signs are ambiguous in the traditional Lik orthography, but its added ambiguity is mainly due to the lack of the 'series' of initials, which help indicate both tone class and meaning, and to the coalescences of consonant sounds and of vowel sounds. However, the ambiguity is to the extent that even experienced scribes must rely upon the context to discern between the possible meanings of words in a written text.

Other distinctive features include use of a 'devowelizer' symbol to indicate syllable final position and the vowel digraph <ui>, for example, which also found in the Burmese/Mon orthographies. The devowelizer has a similar function to the *virāma*, which Sawada (2013: 9-13) traces to late fourth to fifth century inscriptions in India, and is found in early Mon, Khmer and Cham scripts in Southeast Asia, and later in Javanese, Mon, Burmese, and Shan, etc., but not in other Indic-based Tai scripts in Southeast Asia. It is a feature of the Lik scripts from the earliest dated example in the 1407 scroll and the *Hua Yi yi yu* (see below). The <ui> digraph is read as /ɤ/ or /ɯ/ in traditional Lik orthography, which corresponds to Old/Middle Mon and to early Burmese inscriptions, but not to modern Burmese pronunciation (Dempsey 2001: 208-211), and its occurrence implies an early connection between these orthographies. Similar correspondences are found in Old Mon for the notation of long and short vowels (Sawada 2013: 16) and for ambiguity in the reading of the vowel graphemes <i/e> and <u/o> (Bauer 1987: 164). The Lik Tai grapheme <-aa>, however, differs from all other Indic-based scripts. The Lik Tai writing systems all share these features which together distinguish from other Indic-based writing systems in Southeast Asia.

THE LIK SCRIPTS TODAY

Traditional Lik scripts are used today for the copying of manuscripts by Tai communities in northeastern India, northern Myanmar, and southwestern China, and in related communities in northwestern Thailand and northwestern Laos. The long swathe of their geographical spread (see map below) illustrates the migrations of users from where the script is thought to have been first adopted in the area of the present-day China-Myanmar border. Expertise in the traditional writing systems remains limited to small numbers of scribes for the copying and recitation of manuscripts rather than in general use, and unlike the reformed Lik orthographies for Shan and Tai Dehong, literacy in the traditional script is not promoted among the general population. Significant reforms of the Shan and Tai Dehong/Tai Maw Lik writing systems in the second half of the twentieth century have promoted more widespread use outside of the manuscript traditions and enabled their use in modern printed media.

In China's Yunnan Province, Lik Tai orthographies are used by the Tai Dehong (Tai Le), Tai Maw, and Tai Nuea in the Dehong Dai and Jingpo Autonomous Prefecture, the Jinggu Dai and Yi Autonomous County (Pu'er Prefecture), the Menglian Dai, Lahu and Va Autonomous County (also Pu'er Prefecture), and the Gengma Dai and Va Autonomous County (Lincang Prefecture), in Yunnan. Other than these main areas, there may also be others such as the Jinping Miao, Yao and Dai Autonomous County

[1] See Wharton (2018: 165-167, 187-190, 223-225) for more on these and other historical features of Lik Tai writing systems.

(Honghe Hani and Yi Autonomous Prefecture) and the Yuanjiang Hani, Yi and Dai Autonomous County (Yuxi City), as well as more isolated Tai communities. Through interaction with the Tai, some other ethnic groups have also used the Lik scripts, such as the Ta'aang (Kojima and Badenoch 2013) and the Husa Achang or Tai Sar, both of which are located close to the China-Myanmar border. The oldest Tai manuscripts in China are mostly from the mid nineteenth century, some of which are also found in Tai communities which migrated from China since that time. In Laos, for example, Tai Nuea communities have a number of older manuscripts which were brought to Laos at the time of migration from the Jinggu Dai and Yi Autonomous County (Pu'er Prefecture, Yunnan) in the late nineteenth and early twentieth centuries.

In Shan State, Kachin State, and Sagaing Division of Myanmar, the Shan, Tai Khamti, Tai Leng / Tai Naing (Shan-ni), Tai Nuea, and Tai Maw all use Lik Tai orthographies, as do Shan communities in Northern Thailand. Sai Kam Mong (2004: 20-24) provides examples from a Shan Lik To Mon manuscript, now held by the National Archives Department of Myanmar, with title *Alaung Mawhai Ting* dated 1745 CE, which may be the oldest dated Shan manuscript,[2] and possibly the oldest dated Tai manuscript other than the *Xiyu tongwen biaowen* Baiyi memorials. As in China, the Ta'aang and the Husa Achang or Tai Sar may also be found near the China-Myanmar border, and some Palaung also use the Lik script.

In Northeast India, Lik orthographies are found in Assam State and Arunachal Pradesh, in the manuscripts of the Tai Ahom, Tai Aiton, Tai Khamti, and Tai Phake, Tai Khamyang, Turung and Nora. The date of copying for most manuscripts is in the late eighteenth or early nineteenth centuries (Morey 2015: 36). The following map (Figure 1) shows the overall geographical spread of the Lik Tai scripts.[3]

Figure 1: Map of Lik script locations



Map showing the overall geographical spread of Lik script use, and does not imply that they are in widespread use throughout all shaded areas. It also does not represent migration to major population centers outside of these traditional areas, for which data is unavailable. Map designed by David Wharton and produced in collaboration with Sylvain Dorey.

[2] There is evidence that the Shan poetic manuscript tradition is much older than this and was already flourishing by the sixteenth century (Khur-Yearn 2012: 29-30).

[3] See Wharton (2018:174-187) for examples of the Lik Tai scripts.

EVIDENCE FOR THE EARLY LIK TAI SCRIPTS

There is a striking absence of epigraphic evidence for the early Lik script when compared to other Southeast Asian scripts (the only exception being the Sadiya Snake Pillar in Assam mentioned below), with no known records from the historical polity of Moeng Maw and relatively few more recent examples in the Dehong Dai and Jingpo Autonomous Prefecture and the Jinggu Dai and Yi Autonomous County of Pu'er Prefecture in Yunnan. The earliest examples of the Lik script are in fact found outside of the extant Tai manuscript traditions, which mostly use mulberry paper and other materials with relatively short lifespans. Fortunately, the following primary sources have survived through historical interaction between the Tai and Chinese, and through Tai Ahom epigraphic and numismatic records.

Example 1: The *Gemaba wei Ming Taizu jianfu tu* scroll (the earliest dated example of Lik script)

The earliest known dated example of the Lik Tai script appears in a fifty-metre-long Ming dynasty scroll dated equivalent to 1407 CE, now held in the Tibet Museum in Lhasa. The scroll, which bears the title *Gemaba wei Ming Taizu jianfu tu* 噶瑪巴爲明太祖薦福圖長卷 ("A Painting of Prayers for the Blessing of the First Ming Emperor by Gemaba [De-bzin-gsegs-pa]") in a facsimile edition,[4] was produced on the occasion of the visit of the Tibetan Lama De-bzin-gsegs-pa (1348-1415) to Nanjing to perform services for the deceased parents of the Yongle emperor (1402-1424). It consists of paintings depicting the supernatural feats of the Lama, with related texts in five different scripts: Chinese, Chaghatai Mongolian, Lik Tai, Tibetan, and Uyghur Monglian (Daniels 2012).[5] Daniels was unable to reproduce the images from the facsimile and legible and reproducible images of this text are a desideratum for the study of early Lik Tai orthography. Further comparison of the orthography of this and other early Lik Tai texts with that of other pre-fifteenth century writing systems may provide evidence for the provenance of the script. Unfortunately, my own efforts to obtain images have so far been unsuccessful and I am also unable to reproduce them here.

A very similar example of the early script was posted on the Internet in the Omniglot forum[6] in November 2009, having been previously posted on a Manchurian forum. As in the 1407 scroll, the three images that can be viewed online contain samples of Lik Tai script written between Tibetan and Uyghur (unfortunately the images do not reveal if other scripts are also present as in the scroll), and the script appears to be very similar to that in the scroll. Otherwise, the manuscripts do not appear to be the same, with the 1407 scroll in much better condition than in the online images. However, this assessment is far from conclusive, given the limited number of images available for each manuscript, and when more images are examined, they may reveal them to be the same text, or perhaps a copy of the 1407 scroll. Whether this is a different example of early Lik Tai script or not, there remains the possibility that other examples of early Lik Tai script may yet be discovered in multi-lingual contexts in collections not normally associated with Tai manuscripts (most probably Chinese) which could be valuable resources for more thorough study of the early development of the Lik script and related languages.

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[4] The facsimile is part of a collection of historical materials on Tibetan Buddhism: Baozang: *Zhongguo Xizang lishi wenwu* 宝藏——中国西藏历史文物 ("A Collection of Treasures: Historical Cultural Artefacts of Tibet, China"), vol. 3. Beijing: Chaohua Chubanshe 朝华出版社, 2000 (Daniels 2012).

[5] Richardson (1959: 1-6) provides a full English translation of the Tibetan text, and (1958) contains three plates of the scroll, taken when it was previously stored at the mTshur-phu monastery. Several colour images of the scroll are also available online under 'Buddhist Ritual Assembly Performed by Karmapa to Glorify the First Ming Emperor Taizu' (http://the17thkarmapa.blogspot.com/2014/01/buddhist-ritual-assembly-performed-by.html, retrieved 05 April, 2017, but no longer available online).

[6] http://www.omniglot.com/forum/viewtopic.php?f=4&t=263 (retrieved 28 November, 2010), entitled 'A Mysterious Language and Script.'

Example 2: The 'Baiyi' Lik script of the *Hua Yi yi yu* and *Xiyu tongwen biaowen*

When the Chinese Yongle emperor ordered the foundation of the *Siyiguan* 四夷館 ('Bureau of Translators for the Barbarians of the Four Quarters') in 1407 CE, two of the eight colleges were for Southeast Asian scripts: *Baiyi* 百夷 (i.e. the Lik script used by the Tai of Moeng Maw and related polities) and *Miandian* 緬甸 (Burmese). Together with the scroll also dated 1407 CE, this demonstrates the importance of the Moeng Maw polity to the Ming court at that time. By comparison, colleges for the Fak Kham and Ayutthaya scripts were established in 1511 and 1579 respectively, making this the first Tai polity for which a college was created (Daniels 2012: 152-153). The work of the Bureau of Translators is recorded in the *Hua Yi yi yu* 华夷译语 ('Sino-Barbarian Dictionary'), copies of which are held by the British Library, the National Library of France, the Berlin State Library, the National Library of Russia in St. Petersburg, and the Tōyō Bunko in Tokyo.[7] Earlier copies held elsewhere do not include the Baiyi vocabulary.

The Baiyi sections of the British Library copy[8] and another PDF copy[9] examined comprise approximately 200 pages of vocabulary, with usually four entries per page, first in the Baiyi Lik script, then in Chinese translation, followed by the pronunciation of the Baiyi word written in Chinese characters. The vocabulary is arranged by subject, for which Igunma (2010: 12) gives 17 categories based on her study of the Fak Kham college, the structure of which is also followed in principle for the other colleges. In summary, these are: astronomy and astrology, geography, seasons and time, flora, fauna, human society, the body, dwellings, tools, garments, valuables, food, orientation, sounds and colours, numbers and trade, verbs and adjectives, and phrases in general use. The script appears to be very close in style to the 1407 scroll. Although a more detailed comparison is not possible due to the poor quality of the available reproductions, both texts with their Chinese translations provide an excellent opportunity for further study of the early Lik Tai script.[10] The pronunciation of the Baiyi Lik script provided in Chinese characters in the *Hua Yi yi yu* is also of assistance, although the Standard Mandarin reading cannot accurately reflect the Tai pronunciation.

Although the script in the 1407 scroll and the *Hua Yi yi yu* appear to be very similar, extant copies of the latter which contain the Baiyi vocabulary are thought to have been printed almost 200 years later. Daniels (2012: 152-153) observes that copies of the *Hua Yi yi yu* containing the Baiyi script also contain vocabulary for the Ayutthaya college, which was only established in 1579 CE, and Igunma (2010: 17) considers the copy held by the British Library to be most probably be a second edition copy dating to 1595 CE (or less likely to be a first edition copy from the early sixteenth century). While the printing could not pre-date the Ayutthaya vocabulary, the woodblocks used for printing the Baiyi section could in theory have been made much earlier.

The related *Xiyu tongwen biaowen* 西域同文表文 ('Bilingual Memorials of Western Regions') is a collection of short memorials of tribute offerings to the Ming court by local rulers, first made in local languages and then translated into Chinese by the *Siyiguan* 'Bureau of Translators.' As with the *Hua Yi yi yu*, there is a Baiyi collection (*Baiyi guan biaowen* 百 譯 (夷) 館 表 文), copies of which are held by the Tōyō Bunko and Naikaku Bunko in Tokyo[11] and by the Bibliothèque nationale de France in Paris (Lefèvre-Pontalis 1892: 60, Footnote 2). These mention a number of Tai polities, including Luchuan (Moeng Maw), Meng Yang (Moeng Ying), Meng Lian (Moeng Laem), etc., some of which Liew-Herres (personal communication) has dated to the late fifteenth century using the names of Caw Fa rulers of

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[7] For further details, see No. 7.1.1 in Franke and Liew-Herres 2011: 62-622.

[8] I am grateful to Jana Igunma for photographs of the British Library copy (catalogue number 15344.d.10, volume 5) and related information.

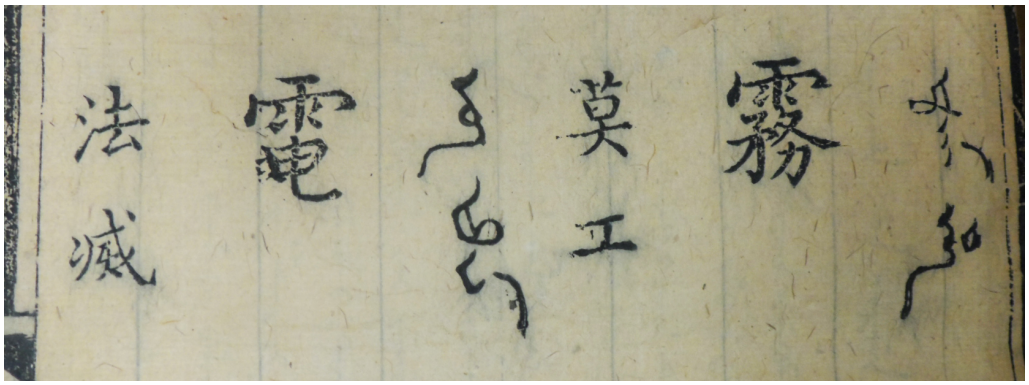
[9] I am grateful to Zhou Hanli for first introducing me to the Hua Yi yi yu and for her collaboration when examining an earlier PDF copy in Simao in 2012. A good quality PDF copy of the Baiyi section is available at http://guji2.guoxuedashi.com/7010/[国学大师 www.guoxuedashi.com]69602_三.pdf (retrieved 9 April, 2017).

[10] Daniels (2012: 153) mentions linguistic studies of the *Hua Yi yi yu* Baiyi text by Japanese scholars Izui Hisanosuke (1949) and Nishida Tatsuo (1960, 2001). Müller (1892) also discusses the language of the *Hua Yi yi yu* Baiyi text.

[11] For further details, see No. 7.1.14 in Franke and Liew-Herres 2011: 632-633. I am grateful to Foon Ming Liew-Herres for information regarding both the Hua Yi yi yu and *Xiyu tongwen biaowen*.

the Tai polities (the memorials themselves are not dated). The script and language of the Baiyi memorials are mentioned by Lefèvre-Pontalis (1892: 60-64) and 15 of the memorials are analysed by Izui (1949). Examples of the Baiyi script from the British Library copy of the *Hua Yi yi yu* and from Lefèvre-Pontalis' (1892: 61) example of the *Xiyu tongwen biaowen* and are provided below.

Figure 2: Baiyi script in the *Hua Yi yi yu*



Manuscript held at the British Library, 15344.d.10/5. Photograph courtesy of Jana Igunma. The Baiyi script is rotated 90 degrees clockwise in this image. In the middle, the Baiyi reads *fai*^{6} *mɛp*^{4} 'lightning' and on the right *mɔk*^{2} *kum*^{3} 'fog.' The Chinese (電 and 霧) confirms these meanings and also provides the pronunciation of the Baiyi as 法滅 'fa mie' and 莫工 'mo gong' respectively (in present day Mandarin). I am grateful to Foon Ming Liew-Herres for reading the Chinese.

Figure 3: Baiyi script in the *Xiyu tongwen biaowen*

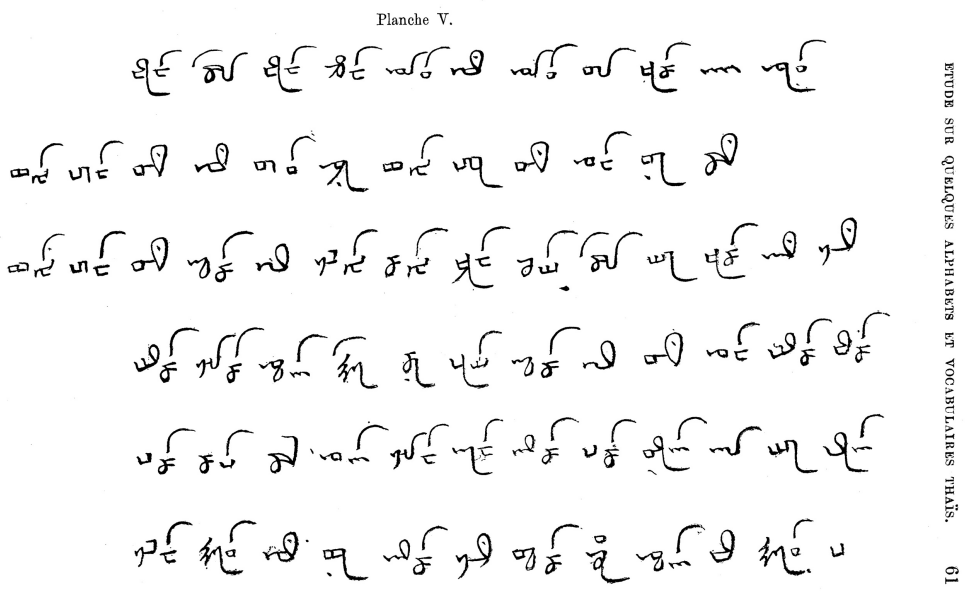


Plate V from Lefèvre-Pontalis (1892: 61)

Example 3: The Tai Ahom script

The earliest examples of Ahom script are from the sixteenth century: on the Sadiya Snake Pillar (at the Assam State Museum, Guwahati), a lithic inscription most probably made some time after 1524 CE when the area came under Ahom control (Terwiel and Khamdaengyodtai 2003: 13), and on coins made between 1539-1552 CE during the reign of Suklengmuang (Diller 1992: 7-11). As mentioned above, the date of copying for most Ahom manuscripts, is much later, in the late eighteenth or early nineteenth centuries (Morey 2015: 36).[12] Although no examples of earlier Tai Ahom inscriptions or manuscripts have been discovered, Terwiel and Wichasin (1992: 11-12) identify a large number of identical features shared by the early Ahom script and inscriptions from Pagan dated to the eleventh and twelfth centuries, suggesting that the Ahom characters are derived from Old Mon or Old Burmese as written in first centuries of the second millennium CE in what is now upper Myanmar. Wichasin's (1986) study of Tai Ahom palaeography provides the most detailed description of the script, and also includes images of the early inscriptions on the Snake Pillar and coins.

CONCLUSION

Evidence from these early examples of the Lik script indicates a common origin sometime prior to the fifteenth century, most probably in the historical polity of Moeng Maw (in the border area of present-day China and Myanmar). Several investigations of the provenance of the Lik orthography have used Tai Ahom as the earliest example (or even used much more recent manuscript examples). While the Tai Ahom script does provide very important evidence, there are also earlier dated examples such as those described in this paper. The oldest dated example, found in the Chinese scroll painting, is from the beginning of the fifteenth century, and the question of when the Lik orthography was first developed, and from which prototype, can only be approached through comparison with other historical Indic-based orthographies in Southeast Asia as well as other accounts from local chronicles and Chinese written sources. A more in-depth study, beyond the present scope, should also consider the functions of orthographic forms and additional historical linguistic and literary evidence, including patterns of migration and interaction between users of related orthographies and possible sources for their prototypes. Linguistic evidence such as the absence of separate graphemes for historically voiced and voiceless initials, as well as comparison of loanwords with evidence from the donor language, also indicates related stages of diachronic development for both language and orthography. Based on the data currently available, this paper does not attempt to answer the question of earlier stages in the development of the Lik Tai scripts, but presents these examples as a contribution towards to the further investigation of the origin of this wonderful writing system.

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[12] Images of a number of Tai Ahom manuscripts, digitised as part of the British Library Endangered Archives Programme (EAP373: Documenting, conserving and archiving the Tai Ahom manuscripts of Assam), are available on the British Library website at http://eap.bl.uk/database/results.a4d?projID=EAP373;r=41 (retrieved 22 December, 2016).

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