

Language Policy and the Typology of Scripts

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1. Typology of Orthographies

The main orthographic alternatives used in South, Southeast and East Asia can be classified into three: the character-syllabic Chinese and other related Sinospheric systems, the segmental Indospheric systems which write a syllable in a unitary way (not necessarily in sequence, and with an unmarked, inherent vowel), and alphabetic systems (mainly romanisations and Arabic systems) which write segments more or less in sequence. A contrary example is a script invented for Hmong described in Smalley et al. (1990) in which the vowel and tone of each syllable is written first, before the initial consonant. Among the non-Chinese Sinospheric systems, there is a general tendency to move to syllabic systems derived from a character system; there are also some independently invented syllabic systems, such as one for Lisu invented by Wang Renpo in the 1920s.

Some scholars have suggested that the Chinese system is appropriate for a language with very limited morphology and mainly single-syllable words, and this may be true to some extent. However, recent reconstructions of Proto-Sinitic suggest a certain amount of early affixation, later lost or replaced by additional tones or different segmental developments; is this monosyllabisation also to be attributed to the writing system? Conversely, with phonetic erosion compounding has become extremely frequent, especially in Mandarin where the erosion is most extreme.

What is not in doubt is that the less phonetic nature of the character systems means that they are inherently more stable. Sound change does not make the writing system archaic, and people whose spoken varieties become very different can continue to write with the same characters and feel a cultural unity. Thus the Han Chinese, despite millenia of divergence and lack of mutual intelligibility, still form one cultural and linguistic group; it is only in this century that the widespread use of Mandarin has also provided a spoken link among them. This cultural unity, largely derived from the writing system and the nature and status of the texts written with it, also accounts for the much higher level of linguistic entities referred to by the Chinese terms *yuyan* (usually translated as 'language') and *fangyan* (usually translated as 'dialect'). This tendency to link related groups together under one linguistic, cultural and political category has also been extended to the minorities of China.

The Chinese writing system was adopted by speakers of various genetically unrelated languages with polysyllabic stems and extensive affixation morphology, such as Japanese and Korean, as well as for typologically more similar but also unrelated Vietnamese. It was initially used to write Chinese, but when it came to be used to represent Japanese and Korean the typological differences eventually forced the development of syllable-based phonetic systems as well.

The Indospheric writing system spread mainly through the effects of Indian cultural influence, direct or mediated through another Indian-influenced society.

Most scholars believe that all such modern systems ultimately derive from Brahmi, which itself is usually ascribed to a Semitic (usually Aramaic) origin. In mainland Southeast Asia, the Mon script was spread first to the Burmese and subsequently to the Shans and others. Similarly, the source of the Thai script appears to be Khmer. This shows again that scripts spread by contact, and not according to genetic relationships among languages. In some cases, more recently created scripts for minorities have used a local majority Indospheric system: Devanagari, Bengali, Burmese, Thai and so on.

The Arabic system spread with the advent of Islam; while the romanised and related systems came with the European colonialists and were usually created by Christian missionaries. Over the last couple of hundred years, such scripts have been created for many minority groups who would traditionally have used one of the dominant majority languages if they needed to write.

In quite a few cases a new script was created for a language already written with another. Sometimes, as in the case of Vietnamese, Javanese and Malay, an earlier Sinospheric, Indospheric or Arabic script for a majority language was replaced by a romanisation. An earlier script may be replaced rapidly or slowly, and be preserved or completely forgotten; or may persist in restricted domains, as with Jawi (Arabic script for Malay) in Malaysia. Where more than one new script was created, the eventual choice was usually determined by nonlinguistic factors. Alternatively, more than one script may coexist among different religious denominations, in different political entities or within other subgroups or domains.

Choice of script is often based on historical, political, religious and other nonlinguistic factors. This choice has various major consequences: the cognitive consequences of using any writing system, and in particular a segmental, segmental-syllabic or character-syllabic system; the sociolinguistic consequences in terms of group identity; the historical linguistic consequences of greater stability and possible eventual development of monolingual diglossia; and so on. Scripts may evolve, be substantially reformed or be completely replaced; speakers may react to such evolution, reform or shift in various ways depending on nonlinguistic as well as linguistic factors. In particular, political change often leads to orthographic change. An established script, no matter how archaic or inadequate, may be accepted as part of a group's identity; a new or reformed script which is phonologically much more adequate may be rejected. On the other hand, a script which is not well-established nor widely disseminated may more easily be replaced. Script selection and codification is usually the result of some kind of external influence, and usually has social consequences; script reform is more likely to be internally generated and related to political changes.

The level of linguistic unit for which a script is developed, and the taxonomy of linguistic relationship and intelligibility, also differs according to local situational factors. The level of classification of groups into linguistic entities may differ across borders. For example, in China there is a tendency to group distinct but related groups into larger nationalities, parallel to the situation of the Han Chinese; while in India the tendency is to local atomisation, parallel to the great diversity and localisation of castes. Often the same group may be classified as

distinct in one country, and have its own orthography and other trappings of a separate identity; but is included within a larger group in another country and thus lacks a separate political and orthographic identity there.

Apart from China, where romanisations became established as the official preference in the 1950s, governments prefer new scripts for minorities to use the same system as the national language, whether this is phonologically appropriate or not. This has the virtue that there can be some transfer of learning from one script to the other, and favours national unity. Christian missionaries, by contrast, have tended to prefer to use romanisations; these are easier for the missionaries, and easier to print; but do not assist in learning a national language not written in a romanisation. Minorities using romanised scripts may therefore feel more distinct, other things being equal.

In this paper, most of the examples will be drawn from Sino-Tibetan and especially Tibeto-Burman languages of East, Southeast and South Asia; of course parallel examples could also be chosen from other areas and other genetic groups.

2. Script Development Strategies

In most cases the early versions of a script contain various inadequacies; substantial revision may be desirable, but this may not take place if the script becomes well-established in an initial form. In many new segment-based Indic scripts, romanised or Arabic scripts some existing symbols are used with different values, and new combinations of existing symbols and/or some new diacritic symbols are used. In a few cases more substantial changes are made; some examples are discussed in 2.1 below. Some examples of the more extensive creativity required to devise a character-based orthography are discussed in 2.2 below.

Speakers can be very attached to an existing script for their language, and may react very negatively to attempts to reform or replace it. The introduction of a new script for a nonliterary language may also encounter problems if the speech community is not motivated to develop literacy in their own language.

Most Tibeto-Burman and other languages of the Southeast and East Asian linguistic areas are tonal, while no segmental script provides a convenient means to represent tones; the strategies for doing so are discussed in section 3 below.

2.1 Modified Romanisations

In some cases, missionary scripts have used fairly radical adaptations of a romanisation. One such was first developed for Lisu in China in the early 1920s and is usually known as the 'Fraser' script after James Outram Fraser, the missionary who led its development. In China this script is known as 'old Lisu' (in contrast to 'new Lisu', the 1950s romanisation). It uses roman capital letters, upright and inverted, often in radically different values from the usual ones; for details see Bradley (1979) and Bradley & Kane (1981). One interesting feature is that the vowel /a/ is inherent in any consonant or consonant cluster, unless some other vowel follows it; and that the letter A indicates an initial glottal stop with the inherent vowel /a/. A similar orthography was also developed for Naxi, but is not

now used. The Fraser Lisu script continues to be used widely by Christian Lisu in China, Burma, Thailand and India, and has official status in the one Lisu Autonomous Prefecture in China, Nujiang in northwestern Yunnan.

An even stranger-looking missionary attempt was first developed by Samuel Pollard and his Chinese associate Stephen Lee beginning in 1904 for Miao; it is usually known as the Pollard script. The development of this script and its extension to various varieties of Miao by Pollard and others is fully discussed in Enwall (1994). The basic principle is not unlike that of Korean Han'gul: a phonetic representation of the syllable composed of two parts, the initial consonant and the rhyme. In the Pollard script the initial consonant is large and central, and the rhyme is much smaller and peripheral; the position of the rhyme relative to the consonant indicates the tone of the syllable. Thus, the whole is designed to look like a character and represent an entire syllable. Related consonants (e.g. voiceless unaspirated, aspirated, prenasalised and voiced stops or affricates in the same place of articulation) are versions of the same basic consonant slightly modified in parallel fashion.¹ Versions of the Pollard script were developed for five Tibeto-Burman languages of Yunnan, four of which are now included in the Yi nationality and one in the Hani nationality. What the missionaries called Nosu, Laka and Köpu are now known as Hei Yi, Gan Yi and Gepo in Chinese, and are all classified as subvarieties of Eastern Yi spoken in northeastern Yunnan. What the missionaries called Eastern Lisu is now known as Lipo, and included by the Chinese within the Central Yi variety spoken in north central Yunnan.² Finally, Kadu of south central Yunnan (now known in the Chinese literature as Kaduo) is now classified as one of the subvarieties of Hani. In Yunnan, many Christian Miao and much smaller numbers of some of the groups in the Yi nationality still use the Pollard script, but in a modified form which writes the vowels (still in a smaller size) on the line after the consonant and then adds a further small letter to indicate the tone; in Guizhou some Christian Miao still use a form of the original Pollard script alongside 1950s romanisations.

2.2 From Character to Syllable

In Chinese, the character represents an entire syllable with its initial, rhyme and tone. Some characters are originally pictographic, but most characters consist of a 'radical' (semantic element) plus a 'phonetic'; the traditional Chinese classification has four other categories of characters. Homophones are usually written differently. Though the number of 'phonetics' is much greater than the number of syllables, and the 'phonetics' are no longer phonetically very accurate (if they ever were!), this principle of combination contains the seeds of a shift to a syllabic system.

Such a shift has of course taken place in a partial way in Japanese, while also retaining over 2,000 *kanji* with various Chinese and Japanese readings. The

¹ For example, the prenasalised consonants are all represented by adding a small prefixed C (which as a consonant represents /n/) before the main consonant; aspirated consonants are all represented by adding a small postscript ' after the main consonant.

² Linguistically this is more closely related to Lisu, as the missionary name suggests.

various *kana* syllables are each derived from an abbreviated version of a single traditional character. Progressively further abbreviated forms have developed over the last millenium; the *hiragana* syllabary is currently in use to represent Japanese morphemes, while the further abbreviated *katakana* syllabary is mainly used to represent loanwords.

For some Tibeto-Burman languages of southwestern China, traditional writing systems also developed using the character principle. Two such systems exist for extinct languages; one for Nam and another for Xixia (Tangut). The former appears to use Chinese characters in their then current phonetic value to represent another language; the latter is a very major reformulation, using the radical plus phonetic principle (but different, mainly original radicals and phonetics) to create an entirely different but superficially similar-looking system. The two major surviving examples, the Yi and Naxi scripts, started with some borrowed versions of Chinese characters and some independently devised pictographs, and developed from there.

The script of the Naxi of northwestern Yunnan is probably more recent, and contains many quite detailed pictographic characters, each representing one syllable. In the religious genre of texts, used as a mnemonic by a *tomba* (traditional Naxi religious practitioner), the main lexical material is represented by the characters, but many other syllables are omitted and must be supplied from memory or creatively; there are few *tomba* left who can read these traditional texts. Another genre of texts, sometimes also used for more mundane purposes, uses a selected subset of the characters as a syllabary in their phonetic value and represents every syllable in the text; it can thus be read without prior memorisation but not necessarily fully understood. As noted above, there is also a Fraser romanisation, no longer used; recently a new romanisation has been introduced and is taught in schools in some Naxi areas.

The Yi script is older, more diverse and much more widely used. Traditionally it was used mainly by the *bimox*, the traditional medico-religious practitioner of the Yi, among four subgroups of what is now the Yi nationality: the Nosu of Sichuan and parts of northwestern Yunnan, the Nasu of Guizhou and northeastern Yunnan, the Nisu of south central Yunnan, and the Sani of Lunan County and surrounding areas southeast of Kunming in central Yunnan; other subgroups of the Yi have no tradition of literacy. Each *bimox* had a slightly different version of the script represented in various manuscripts which he passed on to a chosen male descendant. The greatest difference is between the Sani and the other three. The Nosu version is read in a different orientation from the other three; but turning a Nosu text clockwise by a 90 degree angle makes the characters look much more similar to Nasu and Nisu. Numerous Yi inscriptions exist in central Yunnan, some of them many hundreds of years old, but it is difficult to give an exact date for the origin of this script.

The idea for the Yi script, and some of its characters, are clearly derived from Chinese; but most of the characters are original pictographs. The Sani script has fewer distinct characters, with most having a near-syllabic value representing all homophones with the same character; but for some homophones there are distinct characters. Whether the latter represent formerly non-homophonous

syllables which have subsequently merged or genuine semantically-differentiated characters requires further investigation. In the case of the Nasu/Nisu/Nosu scripts, the number of characters is very much greater than the number of syllables, and runs into many thousands; how many of these are variants of the same original character also requires further study, but in most cases the traditional characters are mainly used for the single lexical item they picture, and only sometimes with a phonetic syllabic value.

Unlike some other nationalities in China, after 1950 the Yi consistently rejected various proposed romanisations and insisted on the traditional characters. From 1975 onwards four distinct standard varieties of the traditional Yi script have been codified and recognised for official use. A version of the Sani script is used for some purposes in Lunan Yi Autonomous County, where nearly all the Yi are Sani; but it is not taught to children in schools. A standardised but otherwise relatively unmodified version of the Nasu script is used in Guizhou, where students are expected to use their local pronunciation in reading; the published teaching and other materials provide alternative pronunciations for from four to ten distinct areas. This is exactly parallel to the traditional situation for the Han Chinese, in which regional varieties of Chinese were used to pronounce texts.

Two major modifications of the local type of Yi orthography were also undertaken. In Yunnan a committee sat together for over five years in the mid-1980s, creating a new compromise orthography which includes elements of all four traditional systems, with about 2,000 characters in the orientation of Nasu and Nisu (i.e. not rotated like Nosu, even if the Nosu character was chosen). The intention is for speakers to use their local pronunciation as in Guizhou, and the educational and other materials which have come out in the years since the approval of this script have mostly not indicated any pronunciation; though a few have shown a Hei Yi (Nasu, Eastern Yi)³ pronunciation. This new *Ausbauschrift* (without an *Ausbausprache*!) is being used in some areas, including some where Yi script has never been used or is long out of use, and some where children no longer speak any kind of Yi. Not even those who were involved in devising the script can read it comfortably, and no one can read it aloud; some Yi intellectuals are opposed to it. The results of this curious experiment are uncertain; one must hope that questionable policy decisions will not be detrimental to the survival of the very rich linguistic diversity included within the Yi nationality in Yunnan!

For Nosu in Sichuan, a standard variety was selected and an 819-item syllabary was chosen from among the traditional characters; the script thus became syllabic and entirely phonetic. One sandhi tone, not shown in the traditional characters and not consistently used in the standard variety, is indicated by a tonal diacritic where it occurs. Speakers of other varieties of Nosu must simply learn the standard variety and its pronunciation in order to become literate; hence literacy rates in areas which speak dialects other than the standard are lower. There is also a romanisation, used mainly to assist outsiders to learn Nosu; it would also be useful in areas speaking other dialects of Nosu, but is not used for this purpose. Unlike

the Yunnan experiment, this script has been very successful; the variety chosen is geographically central, spoken by over half of the total Yi population of Sichuan, widely understood by others and has high prestige.

Thus, both Naxi and Nosu, at different times and under different circumstances, have followed the path of converting from characters to a syllabic phonetic system. In the Nosu syllbary a problematic sandhi tone is represented by a diacritic when it occurs, thus expanding the traditional system and making it phonetically accurate, which is essential as it is to be learned by people speaking other kinds of Nosu as well.

There is also a Lisu syllabic orthography, developed by Wang Renpo in Weixi County of northwestern Yunnan from the 1920s, which derives directly from and looks very much like Chinese characters. Each syllabic symbol represents all possible Lisu homophones; there are not quite enough symbols to represent all possible Lisu syllables. This system is hardly used and has not yet been fully described, though a manuscript dictionary and some text materials exist.

3. **Representations of Tone in Segment-based Scripts**

In almost all cases the early versions of a segmental script adapted to another language represent the tones inadequately if at all. For example, the earliest Burmese inscriptions of the twelfth century AD do not use either of the tonal diacritics now used. Indic long and short vowels, where available, were used somewhat inconsistently for one tone distinction; but the other two tones were not distinguished at all. It was only many hundred years later that the current system stabilised. For Shan in Burma, it was only in the early 1970s that an orthographic reform introduced the necessary additional tone marks and vowel contrasts missing from the Burmese-derived Lik Tai (Shan orthography).

In many cases the structure of the tones in a language can change radically after the formation of the orthography, as in the case of Tibetan where tonal distinctions have arisen from segmental characteristics such as prefix and initial characteristics, rhyme type and so on. This is also so for languages with tonal systems already indicated in an orthography, as for Thai where various tonal developments related to initial consonant and rhyme types have made the orthographic system with three tonal categories (unmarked, may ek and may tho) quite unlike the various modern systems.

Tonal marking, like other aspects of orthographic reform, can become a matter of controversy. One example is the Protestant Lahu orthography, where the original romanised system of the 1920s used six diacritics and left the low level tone unmarked; a revision in the early 1950s which deleted the diacritic for the mid level tone (thus making it the unmarked tone)⁴ and added a postscript lowered hyphen for the low level tone led to considerable unpleasantness between foreign missionaries and among the Lahu Protestants, and has made these Lahu most reluctant to consider further revisions to their script.

⁴ The latter is a better alternative, as the mid tone is much more frequent as well as being phonetically more unmarked.

A more recent example is among the Ngochang of Burma, where a draft script using postscript consonants to indicate tones and glottal stop (parallel to many 1950s orthographies in China) was prepared in Thailand in the late 1980s. An entire New Testament as well as primers were printed in the early 1990s but then rejected by the community; ongoing discussion and work continues.

In some communities whose scripts were originally developed without marking of tones, speakers have started to feel that some tonal marking ought to be added. For example, the Jinghpaw (Kachin) of Burma are currently discussing whether and how to reform their script to indicate the missing final glottal stop and tones. This may be under the influence of several recently-developed scripts for other languages within the Kachin culture complex, such as Tsaiwa (Atsi), Maru and Ngochang, which use various conventions to indicate these.

For some languages using scripts derived from those which do indicate tones, such as the various Karen and other languages of Burma which use extensively modified versions of the Burmese script, the tendency is to use existing tonal indications with similar or different values, and to create further tonal markings as required. The Karen scripts were developed in the mid-nineteenth century by native speakers literate in Burmese working with English-speaking missionaries, and use a range of additional symbols and combinations to represent the different consonants, consonant clusters and vowels as well as the tonal systems. A script derived from the Lao and Northern Thai orthography proposed for Lahu in 1925 also followed this pattern; but it is not now in use. The same procedures have been followed in developing various Thai-based orthographies for minority languages of Thailand; see Smalley (1976) for a number of proposals, most of which have not been put into use. I have also tried developing such Thai-based scripts for two languages in Thailand, Bisu and Gong, but speakers who are already literate in Thai find them difficult to use unless the orthographic conventions are exactly the same as in Thai.⁵

3.1 Tones in Indic scripts

In Bengali and Devanagari scripts adapted to use for Tibeto-Burman languages in South Asia, tones are usually not indicated. In the case of a nontonal language, as for the traditional Indic script (with an earliest dated inscription in 1113 AD) or more recent Devanagari script used for nontonal Newari, this of course causes no problems. However for those tonal languages such as Bodo with a Devanagari script or for Manipuri, Dimasha and so on with Bengali scripts, the problem is the same as for the various roman orthographies without indication of tones used for tonal languages. Speakers manage to cope, despite the ambiguity; sometimes vowel length or other available or new diacritics are pressed into service. For example, modern Burmese uses *visarga* for one tone and a subscript dot, Burmese *auk myit*, for another. In Pyu, an extinct Tibeto-Burman language formerly spoken in central Burma, a variety of diacritics and combinations of diacritics is used; the value of these is uncertain but probably relates to tones and if

⁵ This is of course not possible where the phonological systems differ, which is where the problems arise.

so is the earliest such adaptation, datable to the middle of the first millenium AD and thus considerably preceding the use of tonal diacritics in Thai scripts.⁶

For three varieties of Karen, as noted above, a very extensive modification based on the Burmese system has one unmarked tonal category and a number of mostly innovative postscript diacritics for the other tones. The first scriptures using these orthographies were published for Sgaw Karen in 1839, Pwo Karen in 1845 and Bwe Karen in 1857 (Nida 1972: 220-221). The diacritics used differ: Sgaw uses the Burmese *visarga* and four other symbols, three containing the Burmese version of *viram*. Pwo uses only one of the Sgaw symbols and four others for the tones of oral vowels, using the Burmese *visarga* instead as an indication of one of four tones with nasalised vowels; the other three nasalised vowel tones are indicated by adding the Burmese *auk myit* (subscript dot) tonal indication below the corresponding oral vowel tone symbols.

3.2 Tones in Roman scripts

In the majority of romanisations prepared by missionaries for Tibeto-Burman languages, tones are not represented at all. For example, 40 of 45 such orthographies used for Protestant scripture translations listed in Nida (1972) do not show any tonal marking. In a few of these languages, such as Garo, there are no tones; but most are tonal. In fact, a number of orthographies make use of diacritics above vowels to indicate additional vowels, but only five of those listed use any tonal marking.⁷ The first such to be developed was for Lahu, which uses postscript raised and lowered 'v' and inverted 'v' as well as postscript raised and lowered hyphen. This was first formulated in northeastern Burma in the 1920s, and accurately distinguishes all seven tones of Lahu. Participating in this development were some Karen Christians, whose Burmese-derived script indicated the tones with additional postscript symbols, as noted above. The Akha orthography, developed in the late 1930s in the same area, uses exactly the same conventions to represent a parallel five-tone system in a closely related language. Catholic romanisations for Lahu and Akha, developed in Burma after the Protestant scripts, adopt the same solution of postscript diacritics, but use some different diacritics. The Rawang orthography, developed in the early 1950s by a linguistically-sophisticated missionary family, uses superscript diacritics in values more familiar to linguists: acute for high, macron for mid and grave for low tones.

In the Fraser script for Lisu, the six tones are indicated by one of six combinations of punctuation marks (., ,, .. : ;) after each syllable; punctuation

⁶ Pyu has now been replaced by Burmese. Its script is datable to a 2nd century AD variety of Brahmi; the earliest inscriptions, in Sanskrit, date from the late 3rd or early 4th century AD (Stargardt 1990:192, 292). The earliest inscriptions in Pyu are undated; the last is a quadrilingual inscription of 1112 AD with Mon, Pali and Burmese; this is also the earliest dated Burmese inscription.

⁷ Of course a number of romanisations developed since 1972 do indicate tones in various ways.

must thus be indicated otherwise.⁸ The unused Fraser script for Naxi uses similar conventions.

Unlike these Christian orthographies, all of the numerous romanisations developed in China after 1950 consistently use postscript consonants to indicate tones. It is sometimes suggested that this convention was first developed in nineteenth century attempts by missionaries to represent non-Mandarin varieties of Chinese; but it was only systematised and widely applied by linguists with the approval and support of the Chinese government in the 1950s and afterwards. Where necessary, a final glottal stop or creaky voice is indicated by a final consonant; this is followed by the letter representing the tone, with one tone left unmarked. In compounds, where ambiguity would otherwise exist the break between a tone-marking consonant and a following syllable is indicated by an apostrophe. Digraphs are preferred to nonroman symbols for consonants and vowels. While syllables and words may thus look long and phonetically strange, such conventions have the major advantage that speakers with imperfect literacy skills do not tend to omit the tones; conversely, in those Christian scripts which use postscript or superscript diacritics (Lahu, Akha, Rawang and Lisu), I have observed that speakers often do omit them when writing.

Unfortunately, the values of the tones indicated by the same postscript consonant differ from orthography to orthography in China. Another problem is that the syllable-separating apostrophe is often omitted, as speakers can disambiguate from context. In a few cases, not all tones were indicated in the first versions of these orthographies; for example, two distinct tones (low level and low falling) were both indicated by a postscript *-l* in the first version of the Chinese Lahu orthography. This omission was eventually corrected with a script reform in 1989 which added *-f* for the low level tone (as well as distinct digraphs to distinguish high and mid central unrounded vowels); for full details, see Bradley (1994). Several other romanised scripts have undergone similar minor reform in the 1980s, and additional romanised scripts continue to be introduced in China.

3.3 Tones in Pollard scripts

The Pollard scripts, as noted above, indicate tones by the position of the vowel (or rhyme) relative to the initial consonant; up to five tones could be distinguished in this way, by putting the vowel above, at the top right, middle right or bottom right of the consonant, or underneath it;⁹ other possible positions were not used, thus in most cases failing to distinguish all the contrastive tones of the languages involved.

This convention obviously creates practical problems for typesetters, and in reformed versions of some of these scripts now used among Christian Miao and Yi groups in Yunnan, the vowel is written on the line after the consonant, with a

⁸ For example, a full stop is indicated by an equals sign. Proper names are written joined by internal hyphens.

⁹ In the version of the Miao script used after 1921, the position underneath was eliminated (Enwall 1994:182-3); it is also not used after the mid-1920s in the Nosu, Laka and Eastern Lisu scripts. Thus only four tones can be distinguished in the post-1920s versions of these scripts.

following small diacritic for the tone. These reformed Yunnan Pollard scripts will clearly suffer from the same tendency to omission of tones as in other scripts using diacritics.

4. Conclusion

The choice of an orthographic system seems to be largely determined by nonlinguistic factors. The conventions used and its phonological adequacy are affected by who is devising it and whether and how it is adjusted. Modifications to improve the representation within a segment-based script may never be undertaken, may be minor, or may be major and even inherent in the design of the script from the beginning, as in the case of the Fraser and Pollard scripts. Modifications to character-based systems seem generally to move in the direction of syllabic-phonetic systems, if there is any change.

This of course parallels the origin of the Middle Eastern alphabetic systems which were ultimately derived from a pictographic system, then went through an intermediate syllabic stage. The main inductive leaps, to represent segments rather than syllables and then to include vowels among these segments, not just consonants, seem to have taken place only once, in the Middle East, and then spread from there.

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