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2 Neolithic correlates of ancient Tibeto-Burman migrations

GEORGE VAN DRIEM

THE TIBETO-BURMAN STAMMBAUM AND URHEIMAT

In terms of number of speakers, the Tibeto-Burman language family is the largest in the world after Indo-European. Yet by comparison little is known of its past. The family tree of Tibeto-Burman has undergone much revision (e.g. Shafer 1955, 1974; Benedict 1972, 1976; Burling 1983; Thurgood 1985; Bradley 1994a, 1994b). Particularly the position of Chinese has been a topic of great uncertainty. Because comparatively little was known of the historical phonology of Chinese, it was assigned to a superordinate node in the family. The language family was originally called 'Sino-Tibetan' and its main branches were Chinese, or Sinitic, and Tibeto-Karen. The Tibeto-Karen branch, in turn, consisted of Karen and the numerous Tibeto-Burman languages. The 'Tibeto-Karen' construct was the result of ascribing too much significance to the syntactic element order of Karen and to other Southeast Asian areal features in which Karen differs superficially from other Tibeto-Burman languages. Similarly, the prominence assigned to Chinese was the result of both a Sino-centric cultural bias and the pioneering state of the art in Old Chinese phonology and Tibeto-Burman historical comparison.

Karen is now generally accepted to be a sub-grouping within Tibeto-Burman. The unusual position of Chinese as one of the two main trunks in a bifurcated family tree also came under scrutiny as more became known about its historical phonology (Bodman 1980). Still little enough was known about Old Chinese and about Tibeto-Burman historical phonology in general that an eminent sinologist could propose the genetic relationship of Chinese to Austronesian rather than, or more closely than, to Tibeto-Burman (Sagart 1990, 1994). Since the late 1980s dramatic advances have been made in the study of Old Chinese historical phonology, most notably Baxter's (1992) methodical Old Chinese reconstruction. What Baxter (1994) modestly describes as 'improvements in Old Chinese reconstruction' also pointed towards a closer relationship between Chinese and Bodic, as suggested by Bodman (1980). Linguistic arguments, including compelling morphological

evidence, have been presented, demonstrating that Chinese and Bodic form a genetic grouping called 'Sino-Bodic', subordinate to Tibeto-Burman (Bodman 1980; van Driem 1995, 1997). In some ways Sino-Tibetan, as a hypothetical phylogenetic node of a family tree, is analogous to Indo-Hittite. A dwindling number of Indo-Europeanist scholars still regard the Anatolian languages as representing one of two main branches of an Indo-Hittite proto-language, with Proto-Anatolian coordinate with Proto-Indo-European. It can be predicted that in a similar fashion, even after a yet greater body of evidence is amassed demonstrating the subordinate status of Sino-Bodic within Tibeto-Burman, 'Sino-Tibetan' will persist for some time to come and, just as what Puhvel (1994: 315) calls 'the "Indo-Hittite" hydra', will continue to sprout new heads even after it has been decapitated and cauterized.

The fundamental regrouping of Sinitic, together with insights afforded by the recent advances in Tibeto-Burman historical comparison, has led to the new Tibeto-Burman family tree shown in Figure 2.1. Lexical isoglosses and comparative work, most recently Sun (1993), lend support to the current hypothesis that the first split in the family is between the Western Tibeto-Burman languages of northeastern India and Eastern Tibeto-Burman, the main trunk of the family.

This *Stammbaum* represents an explicit hypothesis about the chronology and tangled history of ancient Tibeto-Burman population movements. Names of branches of the family refer to the relative geographical position of the groups at the time of their branching and are based on the relative chronology of branching which I have outlined (van Driem 1995, 1997). Other than the well-established and comparatively recent expansion of Lolo-Burmese and Karenic speakers into Southeast Asia, set into motion in the first millennium BC, the pioneering condition of Tibeto-Burman historical phonology and the

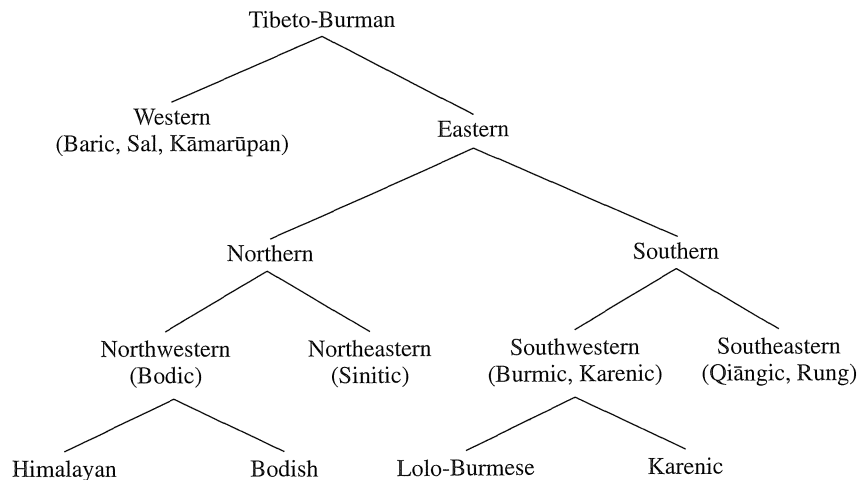


Figure 2.1 The Tibeto-Burman language family

inability to provide absolute dates for the few known sound shifts make it impossible to assign anything but putative dates to the major splits in the Tibeto-Burman family tree. Matisoff (1994: 55), for example, estimates the time-depth of the family as a whole to be six millennia, but this figure is based on no more, or less, than the intuitions of a historical linguist. Similarly, positing the geographical position of the Tibeto-Burman *Urheimat* in the area along the upper courses of the Brahmapūtra, Salween, Mekong and Yangtze is based solely on the geographical centre of gravity argument, a valid but insufficient criterion.

In order to date the population movements which have led to the modern distribution of Tibeto-Burman languages (Figure 2.2), in addition to sound laws, possible correlates in the archaeological record will have to be identified. Here all of the conventional caveats apply. Racial affinities may be an indicator of population movements, but languages can be lost, and a population group can adopt a new language unrelated to its original tongue. The spread of a material culture does not necessarily indicate the spread of populations or of language. Yet race, material culture and language are at least related in a more than just probabilistic way, and, as Mallory (1989: 152) points out, 'the dispersal of a language family is far more reliably measured in terms of languages than in kilometres, since it is the individual languages which form the constituent elements of the family'. Attempts to identify likely archaeological correlates for ancient Tibeto-Burman population movements are by nature speculative, and the following are my speculations on the matter.

WESTERN TIBETO-BURMANS AND THE INDIAN EASTERN NEOLITHIC

Speakers of Tibeto-Burman languages generally happen to be of what used to be unsatisfactorily described as the Mongoloid race in traditional somatology, which were basically crude descriptions of external phenotype. Yet even traditional phenotypic impressionism clearly reveals the greater Himalayan region to be especially complex in terms of prehistoric population movements. Tibeto-Burman speaking populations of predominantly non-Mongoloid racial type can be found in pockets of the western Himalayas, where these groups appear to be the result of a long-term and gradual racial Aryanization of older Tibeto-Burman resident populations. In the Terai belt along the sub-Himalayan foothills, Tibeto-Burman peoples such as the Thāru, Boḍo and Ṭoṭo give the appearance of representing an indigenous South Asian racial type with an admixture of Mongoloid racial stock, the latter presumably reflecting the ancient Tibeto-Burmans who, at any rate, are the linguistic forebears of these peoples.

Assuming that the Tibeto-Burman proto-homeland lay approximately in the language family's present geographical centre of gravity, i.e. in Sìchuān and Yúnnán, the first migration of Tibeto-Burmans out of this area would,

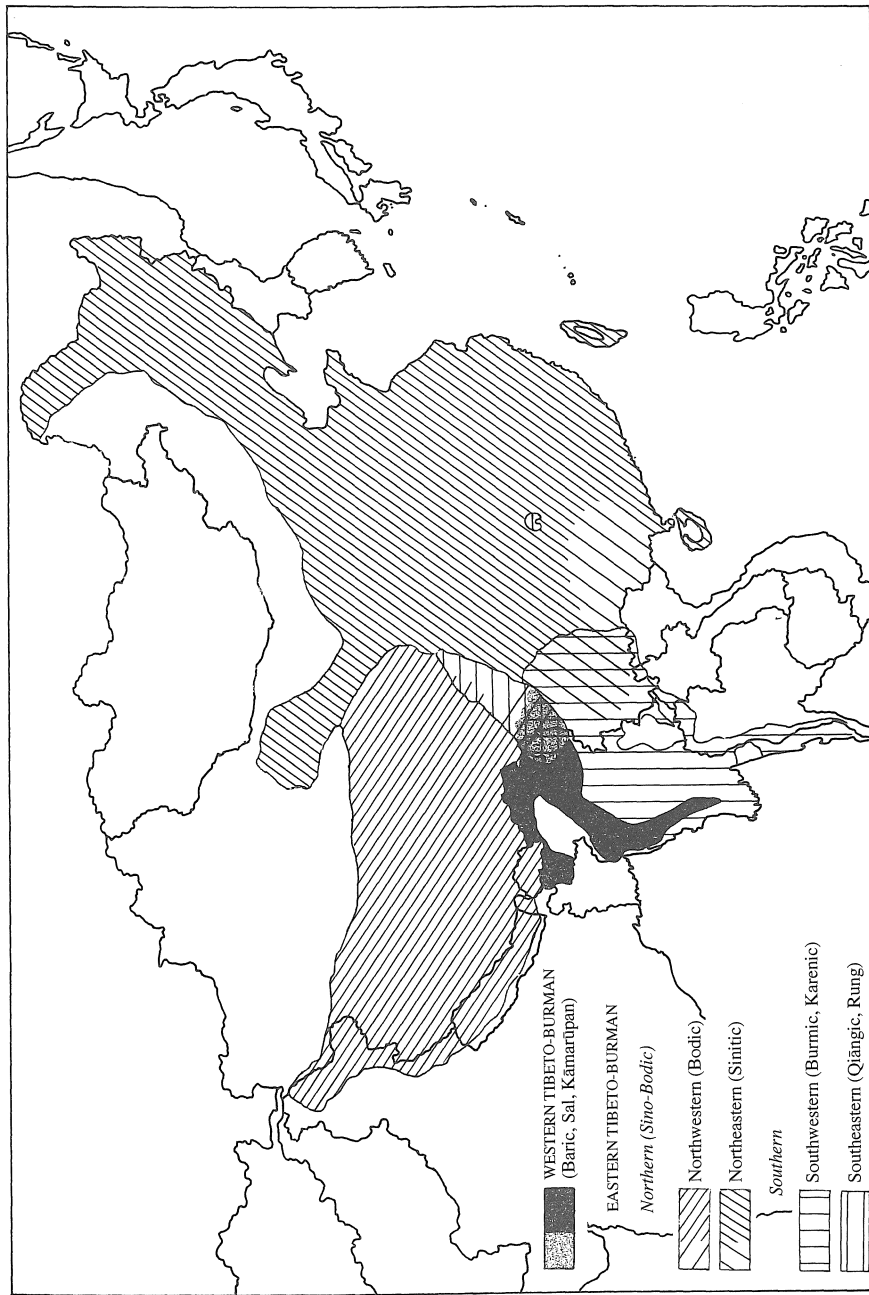


Figure 2.2 Modern distribution of Tibeto-Burman languages. Names of branches of the family refer to the relative geographical position of the groups at the time of their branching and assume the new relative chronology of branching

on historical linguistic grounds, have been the Western Tibeto-Burman migration to the fluvial plains of the lower Brahmapūtra and the surrounding hill tracts. Neolithic implements found in this area represent artefacts of the Indian Eastern Neolithic, for which neither calibrated radiocarbon nor stratigraphic datings exist at present. An early estimate put the Indian Eastern Neolithic at *c.* 2000–1200 BC (Dani 1960) because it was erroneously assumed that metal was required for the manufacture of shouldered axes, or shouldered celts as they are called in the older literature. Although even now ‘there is no chronological information’ on the Indian Eastern Neolithic (Possehl and Rissman 1992, I: 470), archaeologists judge the Indian Eastern Neolithic to be of great antiquity. Estimates put the earliest phases of this culture somewhere between 5000 and 10,000 BC (Thapar 1985; T.C. Sharma 1989).

Allchin and Allchin (1968: 328) observe that the distribution of Indian Eastern Neolithic tools ‘is approximately limited to the areas in which Tibeto-Burman or Muṇḍā languages are spoken’. Robert von Heine-Geldern (1932, 1945: 138) formulated an elaborate migration theory which associated certain styles of stone implements with prehistoric population movements. He identified the Indian Eastern Neolithic and the *Schulterbeilkultur* in particular with the ancient Austroasiatic forebears of the Muṇḍā, whereby he presumed that the Austroasiatics spread into India from Southeast Asia. Although Heine-Geldern’s theory is no longer accepted, this particular idea has continued to be influential. However, I believe that there are more plausible reasons to identify the Indian Eastern Neolithic with the spread of ancient Western Tibeto-Burmans. Indeed, the relationship of the neolithic culture of eastern India to those of Southeast Asia is neither as obvious nor as straightforward as it was thought to be when it was first proposed that heterogeneous prehistoric cultures of these regions reflected the distribution and spread of ancient Austroasiatics. Many of the relevant Southeast Asian finds have now become categorized as belonging to the wide-ranging and long-lived mesolithic miscellany collectively known as the ‘Hòa Bìnhan technocomplex’ (Matthews 1966; Glover 1973, 1977; Bellwood 1978; Pittioni 1978; Reynolds 1990), after the site at Hòa Bìn in Vietnam, the prototype of which was described by Colani (1930). Other early Southeast Asian cultures, such as the Bắc Sơn, are likewise not manifestly related in a direct way to the Indian Eastern Neolithic.

The shouldered celt and faceted ground stone axe are the characteristic tools of the Indian Eastern Neolithic, widely distributed in Bihar, Orissa, Assam and Bengal, and the predominant type of pottery is cord-marked grey ware. ‘It appears that the shouldered tool type came to Assam through the Cachar Hills Zone from Burma. In the interior it degenerated into the irregular variety as in the Khasi Hills, Brahmapūtra Valley and the Garo Hills Zones’, and their irregularity suggests ‘that these are rough copies of original specimens’ (Dani 1960: 76). This suggests a foreign technology introduced into an area where the indigenous population failed to fully master it. The source of this foreign technology has been identified as Sìchuān. The Indian Eastern Neolithic assemblage is specifically related to the Sìchuān Neolithic

culture, of which it appears to be a local exponent (T.C. Sharma 1967, 1981; Thapar 1985: 44). A cultural complex of great antiquity characterized by shouldered celts and cord-marked grey ware originated in Sìchuān. In fact, the distinctive and fully developed Sìchuān shouldered axe already appears in mesolithic times, and its more primitive mesolithic forerunners are also found in Sìchuān (Chêng 1959: 48). Cord-marked ware is already found in Sìchuān 'in sub-neolithic contexts in association with continuing Mesolithic stone implements' (Chang 1965: 518).

The ground faceted tools of the Indian Eastern Neolithic are unique in South Asia, but such tools are common in East Asia. Regular specimens of ground faceted tools are found predominantly in the eastern part of the Indian Eastern Neolithic, whereas irregular specimens increase in frequency as one approaches the Garo Hills in the west. Other distinctive Indian Eastern Neolithic implements, distinct both in form and in technique of manufacture from their counterparts in the Indian heartland, are the wedges and tanged axes produced by grinding with 'hardly any trace of flaking or battering' (Dani 1960: 76). Of Indian Eastern Neolithic tanged axes and shouldered celts, Wheeler (1959: 89) states that 'the evidence is ample enough to suggest . . . an eastern origin for the Indian series, with a bias in favour of central China'. Surface finds in northeastern India of neolithic axes made of jadeite, a locally unavailable material, evidently represent the importation of implements from neolithic cultures in China. Indian Eastern Neolithic wedges and tanged axes have clear parallels in Upper Burma, Yúnnán and Sìchuān.

These developments allow the hypothesis that manufacturing techniques characteristic of the Indian Eastern Neolithic were introduced into Eastern India by Western Tibeto-Burmans who, at least at the time that they embarked on their migration, were technologically superior to the presumably Austroasiatic populations whom they met up with and with whom they mingled. These neolithic technologies were adopted by the resident Austroasiatics who evidently came to master the techniques, albeit imperfectly. In fact, Austroasiatics would have to be held accountable for the distribution of Indian Eastern Neolithic technologies in regions as far southwest as Orissa, beyond the areas colonized by ancient Western Tibeto-Burmans.

The correctness of the old hypothesis that the ancient Austroasiatics might have expanded into India from Southeast Asia cannot be taken for granted. No decisive arguments have been advanced against the linguistically plausible idea that the Austroasiatic *Urheimat* lay in South Asia itself. The axes with a broad cutting edge found in the Indian Eastern Neolithic could, for example, quite conceivably present technologies which the indigenous Austroasiatic populations already possessed before the advent of the Western Tibeto-Burmans, for, unlike most of the Indian Eastern Neolithic cultural assemblage, these implements have many parallels in other parts of India. The Austroasiatic speaking populations pre-inhabiting this region were the racial stock which the linguistic forebears of the Thāru, Boḍo and Ṭoṭo encountered when they colonized their present habitats. Indeed, the idea that an Austroasiatic substrate

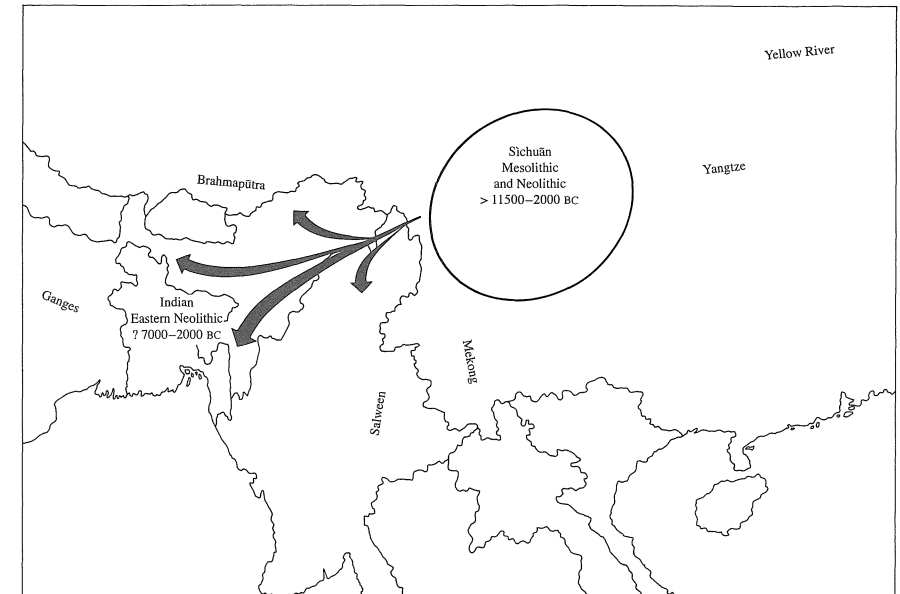


Figure 2.3 Lower Brahmapūtra basin and surrounding hill tracts colonized by Western Tibeto-Burmans bearing the technologies from Sìchuān which were to become known as the Indian Eastern Neolithic, an *Auswanderung* probably set in motion before the seventh millennium BC

may exist in the Tibeto-Burman languages of this region and, for that matter, in Vedic Sanskrit, is not a new one (e.g. Kuiper 1948, 1950, 1954, 1955, 1991). Tibeto-Burman comparative data increasingly appear to support Benedict's view that Western Tibeto-Burman was 'the earliest to split off of common Tibeto-Burman' (Benedict pers. comm., 7 June 1992), and the archaeological correlate for this early split is the Indian Eastern Neolithic (Figure 2.3).

However, neither the Sìchuān nor the Indian Eastern Neolithic have been soundly dated, and alternative hypotheses readily present themselves. If the Indian Eastern Neolithic can be dated to a more recent period, for instance *c.* 3000 BC, which is not all that likely because of its association with cord-marked pottery, then this need not exclude the hypothesis that the Western Tibeto-Burmans were the bearers of Indian Eastern Neolithic technologies into India from Sìchuān. This is because, even if it can be incontrovertibly established that the Western branch was the first to split off from common Tibeto-Burman, the linguistic split could have occurred before the population movement.

EASTERN TIBETO-BURMAN

The remaining main trunk of the family tree, Eastern Tibeto-Burman, split into a Northern and a Southern branch. The most likely archaeological correlate for the Eastern Tibeto-Burman split and the *Auswanderung* of Proto-Northern Tibeto-Burmans would be the abrupt replacement of microlithic technologies of mesolithic communities in the Yellow River basin by the neolithic agricultural Dàdìwān civilization in Gānsù (c. 6500-5200 BC) and the contemporaneous, related Péilígǎng and Císhān civilizations on the North China Plain (c. 6500-5800 BC and 6000-5600 BC, respectively). The diverse microlithic traditions of mesolithic hunter-gatherer communities in Manchuria, Mongolia, Chinese Turkestan and the North China Plain are unlikely candidates for forerunners to the neolithic agricultural revolution and the sudden flourishing of polished stone technologies and cord-marked pottery which characterize the Dàdìwān and Péilígǎng-Císhān civilizations (Wú 1964; Shào 1984a; Ān 1992).

Neither does southeastern China furnish any likely precursors for these northern civilizations. The Dàpènkēng Neolithic on Formosa (Táiwān) and the Fùguódūn Neolithic of Quemoy (Jīn mén), which Chang (1989: 544) sees as two sub-types of a single neolithic cultural assemblage, and the related neolithic cultures of the Fukian (Fújiàn) coast, such as the Tánshíshān and Xītóu, dated to c. 5000 BC (Chang 1989; Lien 1990), represent a cultural tradition quite distinct from the Early Neolithic of northern China (Meacham 1983) and in all likelihood attest to an ancient Austronesian civilization. Dyen (1965: 287) first proposed that the Austronesian homeland lay on Formosa on the basis of the 'high divergence of the Atayalic, Tsouic and East Formosan [i.e. Paiwanic]' branches of the family. Whereas Dyen soon abandoned the Formosan homeland hypothesis, Dahl (1973) recognized the archaic status of the Formosan language groups, and Blust has since become the principal champion of the hypothesis. The comparative linguistic evidence supports an Austronesian homeland on Formosa, which is home to the three main trunks of the Austronesian language family, whereas the fourth branch, traditionally called 'Malayo-Polynesian', comprises all Austronesian languages outside of Formosa, from Southeast Asia to Madagascar, Easter Island and Hawai'i (Blust 1976, 1977). Considerable linguistic and archaeological evidence in support of the Formosan homeland hypothesis has accrued ever since, and Pulleyblank (1983) is among those who interpret the archaeological record of southeastern China in this light. Indeed, the only likely forerunner for the earliest neolithic cultures of northern China lies in Sìchuān.

Southwestern China 'had a long and uninterrupted record of hominid occupation throughout the Pleistocene period, and its postglacial cultural history is above all characterized by the long persistence of native cultural tradition or a complex of native culture traditions that exhibited distinctive features and considerable resistance to rapid and facile assimilation' by the technologically more advanced civilizations which later developed in northern

China (Chang 1965: 517-18). The neolithic technologies of southwestern China represent a gradual, organic continuation of local mesolithic cultures, as in the case of the distinctive Sìchuān shouldered axe and its local mesolithic forerunners as well as the early Sìchuān tradition of polished stone celts (Chèng 1957). The distinctive cord-marked ware which first appears in Sìchuān later appears both in the Indian Eastern Neolithic as well as in the Neolithic Dàdìwān and Péilígǎng-Císhān civilizations of northern China, where it would seem to have been introduced by ancient Tibeto-Burmans. Evidence of early millet cultivation has been found in Sìchuān 'in fully agricultural assemblages' (Chang 1965), and *Panicum* and *Setaria* millets were the staple of Early Neolithic agriculture in the Yellow River basin. Unfortunately, Sìchuān, and for that matter southwestern China in general, 'is still at an early stage of archaeological development, but the area's prehistory is clearly of the utmost significance' (Chang 1992, I: 414).

The people who established the Dàdìwān and Péilígǎng-Císhān civilizations preferred settlements on the plains along the river or on high terraces at confluences. No Neolithic complexes older than these two civilizations have been found in northern China, and the Dàdìwān cultural assemblage, first discovered in 1978, is the westernmost Early Neolithic cultural complex to be found in northern China. The Dàdìwān cultural assemblage is represented by sites in Gānsù and Shǎnxī, particularly along the muddy Wèi and lucid Jīng river. The Dàdìwān culture and the contiguous and contemporaneous Péilígǎng-Císhān assemblage along the middle course of the Yellow River share common patterns of habitation and burial and employed common technologies, such as hand-formed tripod pottery with short firing times, highly worked chipped stone tools and non-perforated demi-polished stone axes. The Dàdìwān and Péilígǎng-Císhān assemblages, despite several points of divergence, were closely related cultural complexes.

The stone tool and pottery technologies of Neolithic Sìchuān typify the cultural background of the agricultural pioneers who established the Early Neolithic civilizations which suddenly emerged in the Yellow River basin, 'but there are many characteristics that indicate an early separation from neolithic North China in cultural style' (Chang 1977: 200). Later, Chang (1986: 95) pointed out that, in looking for sources of the Péilígǎng and related neolithic cultures of northern China, the 'crucial area to watch for new finds in contiguous space is the Szechwan hills and the middle Yangtze Valley of Hupei'. Indeed, the Péilígǎng-Císhān and Dàdìwān civilizations had swiftly begun to flourish in the new environment before 6000 BC, whereas the distinctive Sìchuān Neolithic represented the continuation of local mesolithic cultural traditions. The archaeological evidence for linking the Early neolithic of the North China Plain with an emigration of ancient colonists from Sìchuān, although not conclusive, is certainly more than circumstantial. The linguistic arguments provide the most compelling grounds for identifying the first neolithic agriculturalists of the Dàdìwān and Péilígǎng-Císhān cultures with innovators who migrated from Sìchuān to the fertile

loess plains of the Yellow River basin: first, the geographical centre of gravity of the language family and the most probable location for the Tibeto-Burman *Urheimat* based on the modern distribution of Tibeto-Burman languages would appear to lie in Sìchuān. Second, ancient Tibeto-Burmans are the most likely candidates for the people behind both the Sìchuān Neolithic and the cultural complex of the Dàdìwān, Péilǐgǎng and Císhān civilizations on the North China Plain. Third, the current distribution of Northern Tibeto-Burman languages can be explained by the archaeologically demonstrable dispersal of the Yǎngsháo-Mǎjiāyáo cultural complex, which succeeded the Dàdìwān, Péilǐgǎng and Císhān cultures (see next section).

Sìchuān is therefore the likely place of origin for the early groups of pioneers who broke away and moved north to settle the fertile fluvial plains of the Yellow River, where they established Early Neolithic agricultural settlements. Not only were these Northern Tibeto-Burman settlers to prove themselves to be technologically innovative in their new habitat, but also they bore with them from Sìchuān to the loess plateau the same technologies, such as polished stone tools and cord-marked pottery, which the Western Tibeto-Burmans had introduced from Sìchuān into northeastern India. After the Eastern split into Northern and Southern Tibeto-Burman, subsequent technological developments were both innovated and introduced comparatively rapidly in the north, whereas relatively egalitarian small-scale agricultural societies are held to have persisted in southwestern China well into the Christian era. This hypothesis places the split between Northern and Southern Tibeto-Burman in the seventh millennium BC, just before the dawn of the Dàdìwān and Péilǐgǎng-Císhān civilizations (Figure 2.4).

NORTHWESTERN TIBETO-BURMANS AND THE NORTHERN AND SIKKIM NEOLITHIC

The Yǎngsháo Neolithic (5500–2700 BC) succeeded the Péilǐgǎng-Císhān civilization on the North China Plain, and the Mǎjiāyáo Neolithic (3900–1700 BC) succeeded the Dàdìwān culture in eastern Gānsù and adjacent parts of Qīnghǎi and Níngxià. The period of transition is reflected by the initial stages of the Bànpō and Běishǒulíng Yǎngsháo sub-types, dated around the beginning of the fifth millennium BC (Ān 1979a; Yán 1981; Zhāng and Zhōu 1981; Shào 1984b). The Yǎngsháo and the Mǎjiāyáo cultures represent a distinctly more advanced stage of Neolithic civilization than the relatively smaller sites of the Péilǐgǎng-Císhān and Dàdìwān, but Chinese archaeological sources point out that a continuity of cultural tradition unites these two stages of development (Xià 1977; Ān 1979a; Zhāng *et al.* 1980).

The development and dispersal of the Yǎngsháo and Mǎjiāyáo Neolithic cultures represent plausible archaeological correlates for the modern distribution of Northern Tibeto-Burman languages, or Sino-Bodic. The Yǎngsháo Neolithic flourished on the fluvial central plains of the Yellow River, but

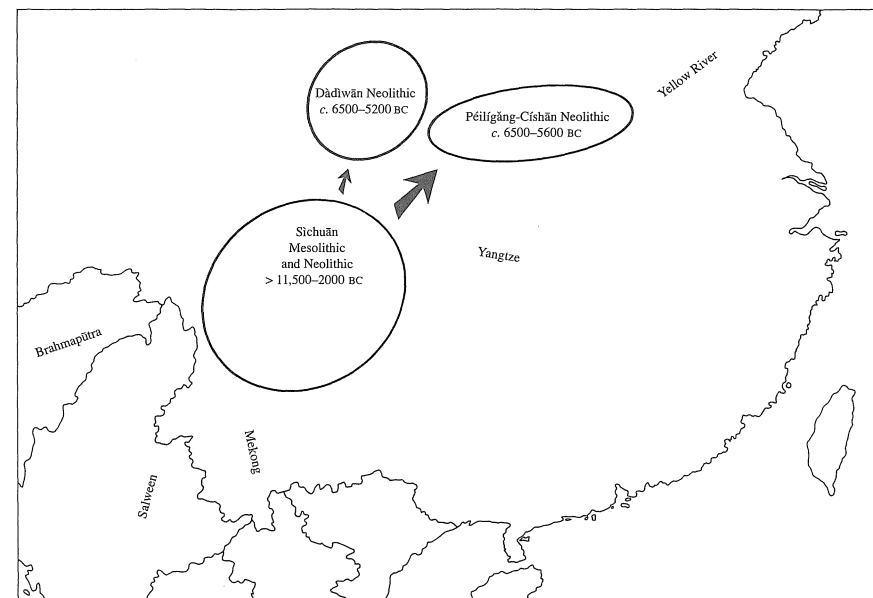


Figure 2.4 The establishment of the Early Neolithic Péilǐgǎng-Císhān and Dàdìwān civilizations in the Yellow River basin by Northern Tibeto-Burmans before the beginning of the sixth millennium BC

afterwards the centre of gravity of this cultural complex shifted westward to eastern Gānsù, the nuclear area of the more developed Mǎjiāyáo Neolithic, formerly known as the ‘Late’ or ‘Gānsù Yǎngsháo’ Neolithic. In addition to this westward shift, Mǎjiāyáo Neolithic culture spread even further westward along the main Inner Asian trade routes across the Himalayas to establish the genetically related Northern Neolithic culture in Kashmir and Swāt (2500–1700 BC), as well as southward through eastern Tibet into southeastern Tibet, Bhutan and Sikkim. Both the far-flung cultural complexes of the Northern Neolithic of Kashmir, or ‘Kashmir Neolithic’, and the Neolithic cultures of northern Sikkim and of Chab-mdo are colonial exponents of the Mǎjiāyáo Neolithic culture.

The Northern Tibeto-Burman split, i.e. the split of Sino-Bodic into a Sinitic (Northeastern) and a Bodic (Northwestern) branch, could correspond to the differentiation of the probably Proto-Sinitic Yǎngsháo culture on the North China Plain and the probably Proto-Bodic Mǎjiāyáo culture in Gānsù. The spread of Northwestern Tibeto-Burman, i.e. Bodic, languages corresponds to the split-up and dispersal of the Mǎjiāyáo culture outside of its nuclear area in Gānsù. Moreover, the two routes of dissemination of this late neolithic culture would appear to account for the modern distribution of two separate sub-sets of Northwestern Tibeto-Burman language groups, one route being the southward thrust from the nuclear area in Gānsù through northern

Sichuān into southeastern Tibet, Bhutan and Sikkim, and the other path leading from Gānsù westward through the Karakorum into Kashmir, and subsequently eastward across the southern flank of the Himalayas.

The neolithic culture of Kashmir

is distinct and stands aloof from that of the rest of India. The dwelling pits, certain tools, particularly the harpoon, the perforated stone harvester and dog burials are alien to Indian Neolithic tradition. The bone tool assemblage including the harpoon has been found at northern Chinese sites. Animal interments, particularly dog burials, recall those of the Ang-Ang-Hse Culture of Manchuria. The burial customs exhibit similarities with the northern and north-western Chinese and central Asian interments of comparable age. This culture appears to be an isolated development, particularly when we observe that the contemporary well-developed urban Harappa culture in the immediate neighbourhood has had little impact on this culture, although incipient but doubtful infiltration of this urban culture has been observed in the Neolithic ceramics in the form of a couple of pot forms.

(Ramachandran 1989: 52)

Parpola (1994) was the first to propose that the Northern Neolithic could be related to the presence of modern Tibeto-Burman populations in the Himalayas:

The Northern Neolithic of the third and second millennia BC is considered to be genetically related to the Yang Shao Neolithic cultures of northern China and Mongolia, with which it shares a number of traits. These shared traits include the burial of dogs with their masters, distinctive rectangular stone knives with two holes at one edge, and underground houses which provided shelter against the cold of the winter and the heat of the summer. . . .

The language (assuming there was only one) spoken by the people of the Northern Neolithic may have died out, but not without influencing the later languages of the regions. The many phonological and syntactic peculiarities of the Indo-Aryan Kashmiri, which set it apart from the rest of the Dardic group, point to an extinct substratum language. . . .

One possible candidate for the Northern Neolithic seems worth further consideration, however. The Tibeto-Burman languages belonging to the great Sino-Tibetan language family occupy the mountain ranges bordering the Indian subcontinent on the north and the east. . . . While Tibetan is thought to have come to Tibet from the northeast, the difference between Tibetan and Himalayan languages allows the assumption that the latter may have arrived by a different route, from the northwest, and thus the Northern

Neolithic may have been Proto-Himalayan-speaking. This is suggested also by the fact that a manuscript relating to the Bon religion of western Tibet has been discovered in Dun Huang, written in the extinct Zhang Zhung language, which appears to have been closely related to Kanauri.¹

(Parpola 1994: 142)

The apparently archaic nature of Kiranti, East Bodish and other Himalayan languages as well as their demonstrable affinity with Old Chinese are compatible with the suggestion put forth by Parpola. In fact, the cultural unity of the two geographically distant archaeological complexes, the Mǎjīyáo and Northern Neolithic, provides a precise archaeological correlate to what is suggested by the linguistic data:

Sino-Bodic appears to be more immediately inspired by common retention than by common innovation, and common retention is only a significant classificatory criterion if there is some other supporting feature, e.g. geographical contiguity. Some major sub-groupings are, in fact, largely based on shared retention and geographical proximity, e.g. Northern and Central Dravidian. On one hand, archaic traits shared between Sinitic and Bodic may just represent a case of Bàrtoli's *norma dell'area meno esposta*, whereby ancestral features are retained in more stable linguistic communities in the periphery without there necessarily being a special phylogenetic link between such peripheral groups, like Kentum Indo-European.

On the other hand, the hypothesis posits a Sino-Bodic unity at some point after the break-up of common Tibeto-Burman. Sino-Bodic would have had to have left some traces such as lexical isoglosses, and this is precisely what is suggested by the lexical data presented and by the possible vestiges of a pronominal agreement system in Chinese. In addition to Bodman's impressive list of specific Tibetan-Chinese cognates, more than a score of striking cognate pairs between Kiranti and Old Chinese have been adduced here which suggest that there may indeed exist a significant number of specific Sino-Bodic lexical isoglosses.

(van Driem 1995: 254)

In other words, both the archaeological record and historical linguistic comparison suggest a population movement by bearers of the Mǎjīyáo culture from Gānsù westward across the Karakorum into Swāt and Kashmir and southward through eastern Tibet into Sikkim and Bhutan. This provides an explanation both for the fact that Tibeto-Burmans inhabit both sides of the Himalayas, the greatest natural land barrier on the face of the earth, and for the close genetic relationship which exists between two geographically distant Tibeto-Burman groups, Sinitic and Bodic (Figure 2.5). It may not be a coincidence that the Mǎjīyáo and Yǎngsháo Neolithic represent a millet cultivating agricultural

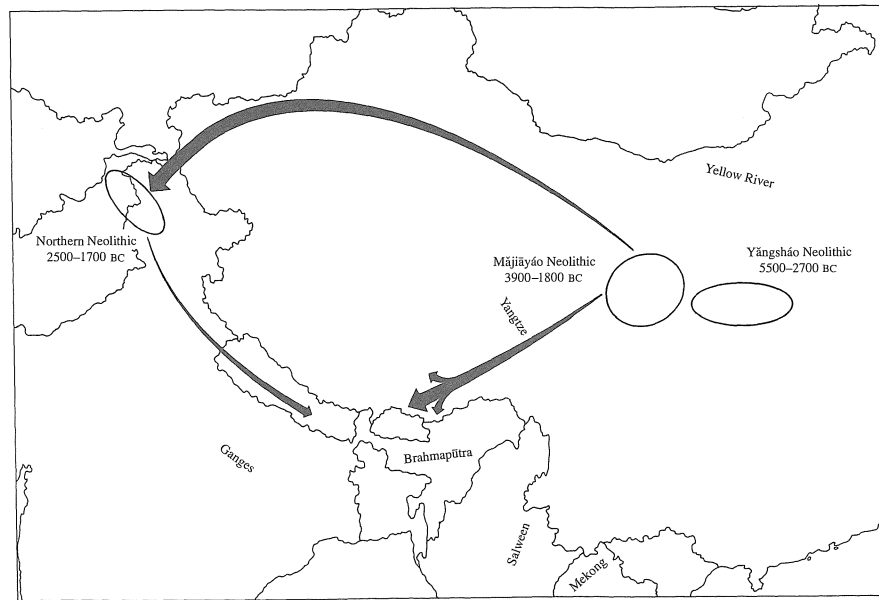


Figure 2.5 The centre of Yǎngsháo civilization moves west to manifest itself as the Late Neolithic Mǎjiāyáo culture. One offshoot of this cultural complex migrates south through northern Sīchuān and eastern Tibet into Bhutan, Sikkim and southeastern Tibet, whereas another offshoot migrates to the southwest across the Himalayas to establish the Northern Neolithic civilization. In this way, Northwestern Tibeto-Burmans people the Himalayas, both from the northeast, colonizing southeastern Tibet and Bhutan (Proto-Bodish, Proto-Gongduk) and establishing the Northern Sikkim Neolithic (Proto-Lepcha), as well as from the west, radiating through the mountains from the Northern Neolithic area eastward at least as far as Limbuwān

civilization and that the modern Tibeto-Burmans of the Himalayas are to this day traditionally millet cultivators as well.

It is quite possible that the factors known to precipitate or facilitate such a movement obtained in the Mǎjiāyáo Neolithic.

Population movements are determined by three factors. Firstly, there must be a reason to leave one's homeland. . . . periodic exposure to severe stress prompted expansion when the opportunity presented itself. Secondly, there must be a place where life seems to be better in order to make the journey worthwhile. This is the reason to expect migrations toward rather than away from more developed areas such as Assyria in the third and second millennia BC. Thirdly, the cost of the journey must not be prohibitive.

Kortlandt (1990: 134)

Not only in neolithic times has periodic exposure to severe stress been a fact of life in agricultural communities. The occasional occurrence of a severely

poor harvest or ecological calamity would have been highly likely in the area of the Mǎjiāyáo Neolithic, not only because it lies at the chiasma of several highly divergent modern climatic zones, but also because it is known that climatic changes in this region took place in Late Neolithic times. For example, the shores of the Sogō Nūr are strewn with neolithic sites, but its waters are now too saline for human consumption or for use in agriculture. Circumstantial evidence for an exodus from Gānsù is provided by the geographical extent of developmental phases of the Mǎjiāyáo culture. The geographical extent of the Bānshān sub-type (2200–1900 BC) of the Mǎjiāyáo culture is significantly smaller than that of the Mǎjiāyáo sub-type (2700–2300 BC), which preceded it, and represents a contraction of the nuclear area of the culture which roughly coincides with the conveyance of Mǎjiāyáo Neolithic culture to Kashmir.

It is also conceivable that the tidings of prosperity in the west offered prospects of a better life to Mǎjiāyáo Neolithic migrants, and it may be no coincidence that their westward migration coincided with the eastward expansion of Indo-Iranians into inner Asia. A parallel case of convergent population movements is 'the eastward expansion of the "vorarische oder frühurische" Yamnaya culture around 3000 BC and the simultaneous spread of the Finno-Ugric Ural-Kama Neolithic culture to the southwest' (Kortlandt 1989: 79). After the initial westward migration of the Mǎjiāyáo Neolithic culture bearers, their southward thrust into Swāt and Kashmir also makes sense in terms of Kortlandt's second factor, as does the much earlier migration of Northern Tibeto-Burmans from Sīchuān on to the fertile banks of the Yellow River at the beginning of the sixth millennium BC.

Just as the domestication of the horse and the development of the light chariot with spoked wheels reduced the cost of physical mobility to the ancient Indo-Europeans, the cost to Mǎjiāyáo Neolithic migrants of traversing the region which is now Chinese Turkestan was mitigated by the fact that the migration proceeded along an already established ancient trade route. The transmission of neolithic culture across the Himalayas into India from China via the northwestern route not only is an archaeologically attested phenomenon, but also happens to be the most likely route of transmission. When contacts developed between India and China in the first millennium AD, these too passed mainly through Afghanistan and Central Asia.

If the people of the Northern Neolithic were Tibeto-Burmans, as seems likely, then the Himalayas appear to have been colonized by ancient Bodic peoples moving eastward along the alpine tracts from Kashmir as far as eastern Nepal. Epidemiological factors are the probable reason why ancient Bodic groups remained mainly in the hills during their eastward expansion throughout the southern flank of the Himalayas. The malarious jungles on the plains which skirted the Himalayan foothills, rife with human and mammalian parasites and pestilential diseases, were a hostile environment to incursive populations. In fact, epidemiological factors are held to be one of the most significant factors impeding the later Indo-Aryan expansion eastward across the Gangetic Plain (McNeill 1976). There are likewise several epidemiological

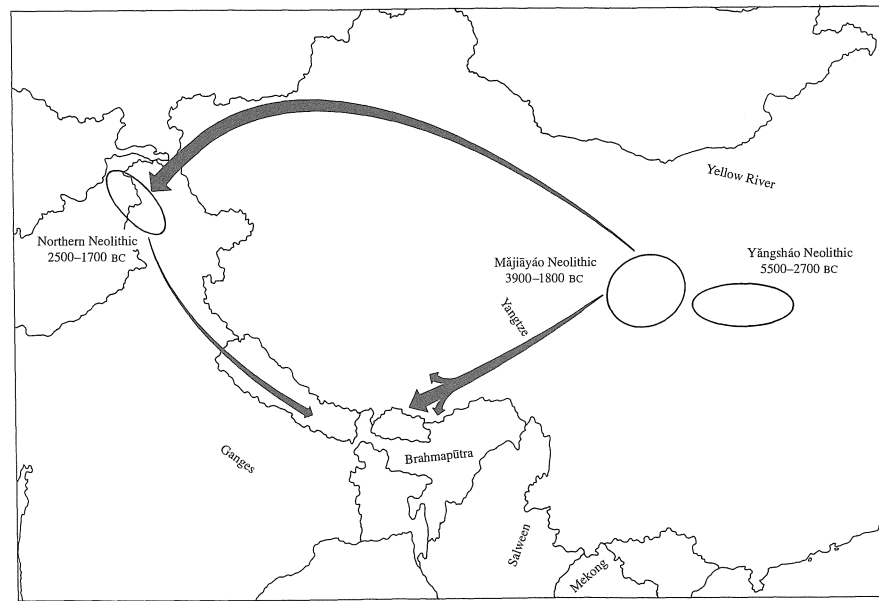


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reasons for assuming that the Tibeto-Burman *Urheimat* lay at the language family's current centre of gravity (van Driem 1993b: 53–4).

No chronological difficulties are posed by the identification of the Northern Neolithic with the dawn of a Tibeto-Burman colonization of the southern flank of the Himalayas from the west. The Northern Neolithic was contemporaneous with the possibly Dravidian Harappan civilization but remained largely outside of the latter's sphere of influence. The Northern Neolithic was anterior to the several waves of ancient Indo-Iranians migrating south from Central Asia into present-day Iran, Afghanistan, Pakistan and India. The Indo-Iranians are generally held to have been the bearers of the Bronze Age Andronovo culture, which flourished in Central Asia and southern Siberia between the seventeenth and fourteenth centuries BC. In terms of the relative chronology based on the Ghālīgai site in Swāt (Stacul 1969, 1987, 1992a, 1992b; Stacul and Tusa 1977), Stacul (1969: 83) and Parpola (1994: 142, 168) associate the Northern Neolithic with Ghālīgai III (2000–1700 BC), whereas Parpola (1994: 156, 168) relates Ghālīgai IV (c. 1700–1400 BC) and Ghālīgai V (1400–800 BC), respectively, to the early Indo-Aryan ('Proto-Dardic = Proto-Ṛgvedic') and late Indo-Aryan ('Late Ṛgvedic' and 'Proto-Nuristani') cultures. Stratigraphically, too, this puts the Northwestern Tibeto-Burman colonization of the southern flank of the Himalayas in advance of the advent of the Indo-Aryans in South Asia.

As for Burushaski, Parpola (1994) remarks:

Burushaski has strong areal ties with the neighbouring languages Shina and Khowar (belonging to the Dardic group of Indo-Aryan),² Wakhi (East Iranian) and Balti (Tibetan). Outside this rather small area its influence has been minimal or relatively recent. For instance in Kashmir there appears to be little trace of Burushaski. It is therefore difficult to link it with the Northern Neolithic found in Kashmir (Burzahom), the Potwar Plateau (Sarai Khola I) and in the valley of Swat (Ghalegay III).³ Rather, it seems likely that the earliest speakers of Burushaski entered their present homeland from the north after the inception of the Northern Neolithic, and have never gone much further.

(Parpola 1994: 142)

Indeed it appears that the eastward radiation of Northwestern Tibeto-Burman groups from the Northern Neolithic area through the Himalayas must have preceded the advent of the linguistic forebears of Burushaski speakers. It is hoped that comparative studies of the materials already amassed by Lorimer (1935, 1962), Berger (1974), Morin and Tiffou (1989) and Tiffou and Pesot (1989) will shed light on whether there is a genetic relationship between Burushaski and pre-Nostratic languages of Siberia, such as Ket, and to what extent the Burushaski lexicon contains an early Indo-Iranian loan layer.

A separate Tibeto-Burman *Völkerwanderung* by bearers of the Mǎjǐyáo Neolithic culture via the eastern route southward into the eastern Himalayas

has left unmistakable traces in the form of the Bodic population groups of Sikkim, Bhutan and Tibet who are their ethnolinguistic descendants. Bodic, the Northwestern Branch of Tibeto-Burman, is a large and heterogeneous group of languages, and the Bodish sub-group of Bodic (Tibetan, Bumthang, Black Mountain, Dzala, etc.) represents a distinct group whose forebears did not cross the Himalayas in the northwest. Both the archaeological and linguistic data attest to this movement from the Mǎjǐyáo nucleus via an easterly route through eastern Tibet into southeastern Tibet, Bhutan and Sikkim. Archaeological sites which bear testimony of this easterly migration are the findings in northern Sikkim of double-perforated rectangular harvesters and semi-lunar knives and other distinctive artefacts of the Mǎjǐyáo or 'Late Yǎngsháo' Neolithic type, as well as the Late Neolithic sites appertaining to the same cultural assemblage in eastern and southeastern Tibet, particularly around Lha-sa and in Nying-khri and Me-tog counties. Most famous of these is a site discovered in 1977, located some 12 km south of Chab-mdo in Khams in eastern Tibet. Chinese sources (e.g. Xīzàng etc. 1979; Ān 1992) give the name of this site in the sinicized forms 'Kǎruò' and 'Kǎnuò' and report that the toponym denotes 'fort' in Tibetan, possibly mKhar-ru. The site overlooks the rDza Chu, or Mekong, from a high terrace at the latter's confluence with a small lateral tributary, the name of which is also given as 'Kǎruò'.

A.K. Sharma (1981: 83) explicitly excluded the possibility that the Northern Sikkim Neolithic culture was introduced into Sikkim from the north because 'a vast expanse of greatly dessicated lands that separates Tibet from the tool bearing area of northern Sikkim was found totally barren in the Neolithic context'. Yet Sharif and Thapar (1992) do entertain this possibility. In fact sites of Late Neolithic agricultural settlements, notably featuring perforated, polished stone tools, have been found relatively nearby, in the river valleys of southern and eastern Tibet (Wáng 1975; Ān 1992), in areas surrounding the upper course of the Brahmapūtra from the Yar-klungs gTsang-po Valley on eastward to where the river bends to the south.⁴ The distinctive Late Neolithic site near Chab-mdo, with its long period of habitation (3300–1800 BC), appertains to the Mǎjǐyáo cultural assemblage (Xīzàng etc. 1979) and lies on the very route of dissemination suggested by the modern distribution of Northwestern Tibeto-Burman language subgroups in the region.

Parpola (1994: 142) observes that the difference between Tibetan and the Himalayan languages is considerable, but some of this distance is an apparent effect of historical changes in Central Bodish. Although Tibetan has a literary tradition of some antiquity, Central Bodish dialects like Tibetan are less conservative than, for example, the East Bodish languages spoken in Bhutan, e.g. Bumthang, Dzala, Black Mountain. East Bodish languages share a number of archaic traits with Kiranti languages of eastern Nepal, spoken by people whose ancestors might have settled the southern flank of the Himalayas from the west. None the less, the comparative linguistic evidence favours the idea that the linguistic forebears of Bodish languages came by a different route. For

example, East Bodish seems to have crossed the Himalayas and entered Bhutan from the north long before the beginning of the Christian era. The presence of Tibetan and other Central Bodish dialects south of the Himalayas is of recent date, for Central Bodish speakers did not begin to cross the passes and descend from the Tibetan Plateau until historical times. The Dzongkha-speaking 'Ngalongpa colonized western Bhutan in the ninth century AD, and the Dränjopa entered Sikkim at about the same time. The Sherpas of Nepal and related groups are even more recent immigrants.

The forebears of the Lepchas are another group which may have crossed the Himalayas from the north and entered Sikkim in neolithic times. This at least is suggested by, first, the discovery of the Northern Sikkim Neolithic cultural assemblage, which is manifestly related to both the Mǎjiāyáo and Northern Neolithic cultures; second, native Lepcha lore which hyperbolically stresses the antiquity of Lepcha habitation in the region; and third, the indeterminate and controversial position of Lepcha within Tibeto-Burman, although Lepcha has evident Bodic affinities, and its special affinities with Old Chinese have also been pointed out (Bodman 1988, 1989).

Xu (1991) makes no mention of the finds in Sikkim but relates the Mǎjiāyáo Neolithic site near Chab-mdo more immediately to the presence of the Northern Neolithic in Kashmir and advances the hypothesis that this cultural complex spread to Kashmir across the Tibetan Plateau. Although this scenario cannot be excluded – certainly the West Bodish groups would appear to have spread westward by way of the Tibetan Plateau, albeit perhaps more recently – the connection of the Mǎjiāyáo Neolithic site near Chab-mdo to the Northern Sikkim Neolithic is a far more obvious relationship geographically.

In short, the linguistic interpretation of the archaeological picture is that the forebears of the Lepcha, of Bodish-speaking peoples and of certain other linguistically divergent Tibeto-Burman groups, like the Gongduk of central Bhutan, settled southeastern Tibet, Bhutan and Sikkim via an easterly route. These Bodic-speaking populations appear to represent a sub-set of Northwestern Tibeto-Burman distinct from the sub-set of Bodic groups whose Neolithic ancestors peopled the southern flank of the Himalayas spreading eastward from Kashmir (Figure 2.5). Future linguistic research will shed more light on the patterns of affinity between Tibeto-Burman groups which make up the complex linguistic patchwork of the Himalayas and thereby enable us to have a more detailed picture of prehistoric population movements which have passed through and around the Himalayas.

SOUTHERN TIBETO-BURMANS, SUMMARY AND CONCLUDING REMARKS

The exodus of Southwestern Tibeto-Burmans into peninsular Southeast Asia must already have begun in the first millennium BC, and the process seems never to have completely come to a halt, as Lolo-Burmese groups have

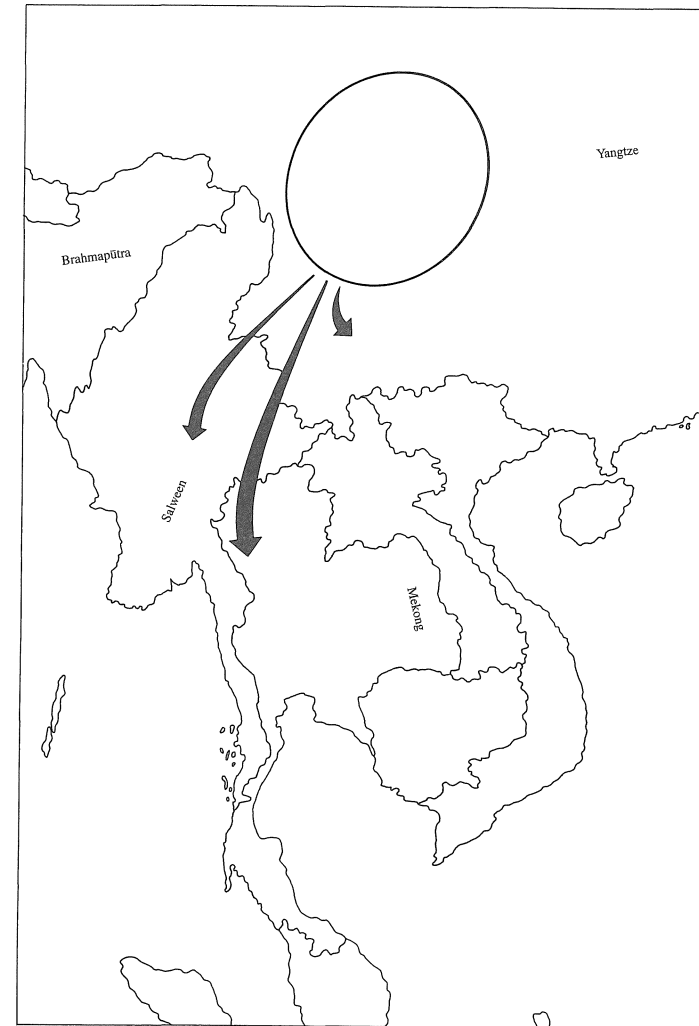


Figure 2.6 The exodus of Southwestern Tibeto-Burmans into peninsular Southeast Asia had begun by the first millennium BC and the process seems never to have been completely brought to a halt, as Lolo-Burmese groups have continued to trickle into Thailand from Yúnnán in recent history

continued to trickle into Thailand from Yúnnán in recent history (Figure 2.6). In the scenario outlined here, the Southeastern Tibeto-Burmans are the group left behind after all other groups have left.

First to emerge from the Tibeto-Burman heartland in Sìchuān were the Western Tibeto-Burman pioneers who introduced the technologies of the Indian Eastern Neolithic and themselves to the Austroasiatic populations of

northeastern India, probably by the seventh millennium BC. Subsequently, the Northern Tibeto-Burmans broke away in the seventh millennium BC and established Early Neolithic agricultural civilizations on the fertile loess plains of the Yellow River, where they introduced the same technologies from Sìchuān which the Western Tibeto-Burmans had previously introduced into northeastern India. The Northern Tibeto-Burman cultures developed into advanced civilizations, and by Late Neolithic times Northern Tibeto-Burman, or Sino-Bodic, had split into a Northeastern (Sinitic) and a Northwestern (Bodic) branch. The Northwestern Tibeto-Burmans spread from Gānsù, bearing the Late Neolithic Mǎjiāyáo culture, via two routes into the Himalayan region. One route took the Bodic bearers of the Mǎjiāyáo culture through northern Sìchuān and eastern Tibet into Bhutan and Sikkim and ultimately across the Tibetan Plateau in the late fourth and early third millennia BC. Another route took these ancient Bodic peoples across the Karakorum, where they established the colonial exponent of Mǎjiāyáo culture known as the Northern Neolithic of Kashmir in the middle of the third millennium BC.

Although Sìchuān yielded the pioneering groups who introduced relatively advanced technologies into northeastern India and established advanced Early Neolithic agricultural communities in the Yellow River basin, there appears not to have been as much innovative technological progress in Sìchuān itself after these emigrations. Instead, neolithic technologies persisted in this region for a long time, and Sìchuān and Yúnnán became culturally peripheral to surrounding areas which had become technologically superior, e.g. the Northern Tibeto-Burman or Sino-Bodic cultures in northern China and the late Neolithic, probably Kadai, cultures of southern China.⁵ With the exception of the more recent Southwestern Tibeto-Burman migrations, the geographical dispersal of the main branches of the Tibeto-Burman language family can be identified with neolithic correlates in the archaeological record.

The hypotheses proposed here are a linguist's interpretation of the archaeological record based on the present state of the art in Tibeto-Burman historical linguistics. Future research, both linguistic and archaeological, may necessitate the modification or abandonment of the speculations outlined here. As it stands, the non-random dispersal of unique neolithic cultural assemblages corresponds strikingly to the tortuous branching pattern of Tibeto-Burman phylogeny as suggested by modern comparative linguistic studies. Both the archaeological and linguistic evidence seem to be congruent with one another in suggesting the linguistic intrusions described here. Moreover, our outlook on East Asian archaeology should be devoid of cultural bias. For example, it is both logically true as well as a distortion by simplification to say that the neolithic tumuli of the early Indo-European Kurgan tradition in the Pontic-Caspian steppe are held to represent the linguistic ancestors of the modern Russians and Ukrainians. Similarly, it is probably at once logically true and a distortion of fact to identify the neolithic cultures along the Yellow River with the linguistic ancestors of the modern Chinese.

The Chinese archaeologist Chang (1986) stresses that

the English word *Chinese* has both a geographical-cultural sense and a linguistic sense. In the latter sense, Chinese means the language spoken by the Han Chinese only. In terms of that interpretation one may question the use of the word to describe the prehistoric interaction sphere, because the Han Chinese language and its speakers were in all likelihood a regional, not a spheric, phenomenon.

(Chang 1986: 242)

Chang proposes to use 'Chinese' exclusively as 'the geographical-cultural label' and 'Hàn Chinese' as 'the linguistic label'. The distinction made by Chang is an essential one, but the labels he proposes can only abet confusion. Just as archaeologists do not refer to the neolithic tumuli in southern Russia as 'Russian', so too should archaeologists avoid the pitfall of referring to neolithic assemblages such as the Dàdìwān, Péilígǎng, Císhān and Yǎngsháo as 'Chinese'. As a linguist, I propose that the term 'Chinese' be used straightforwardly in the meaning which it already has in English, i.e. to denote the Hàn Chinese languages, people and culture. Prehistoric cultural complexes should be referred to by their conventional archaeological designations, after principal sites, e.g. Dàdìwān, Péilígǎng, Císhān and Yǎngsháo. These neolithic cultural complexes in the region now known as China may, in fact, not be Chinese but may variously represent 'Northeastern Tibeto-Burman' (i.e. Sinitic), 'Northwestern Tibeto-Burman' (i.e. Bodic), 'Northern Tibeto-Burman' (i.e. Sino-Bodic), 'Eastern Tibeto-Burman' or just 'Tibeto-Burman' prehistoric civilizations.

THE WIDER ASIAN CONTEXT AROUND TIBETO-BURMAN

The question remains as to by whom shouldered celts and cord-marked grey ware were introduced into southern China and into Southeast Asia, where they occur subsequent to their appearance in Sìchuān, the corded ware horizon is conventionally thought of as passing first through northern Thailand and later to areas further removed from Sìchuān such as Peninsular Malaya and Formosa. In these areas there is no evidence that the spread of these technologies was associated with an early Tibeto-Burman linguistic intrusion or, for that matter, as part of the spread of an identifiable cultural complex. Chang (1986: 242) is loath to give this vast area of disseminating cultural influences a name and so calls it 'Interaction Sphere X'.

The Zèngpíyán and Xiānréndòng cultures of Guǎngxī, 'characterized by coarse cord-marked and incised pottery, associated with mollusk collecting and hunting-fishing' (Chang 1992, I: 413) would now appear to be the oldest representative in southern China of this ancient interaction sphere. The sites in a limestone cave in Guǐlín and shell middens in Nánning have been dated

to the tenth millennium BC (Běijīng etc. 1982), and Chang (1992, I: 413) identifies the Zèngpíyán and Xiānréndòng Neolithic, 'one of the earliest ceramic cultures in the world', as the predecessor of the Dàpènkēng and the Fùguódūn Neolithic.

Archaeologists and linguists have been highly successful in identifying congruent dispersal patterns documenting the prehistoric dispersion of Austronesian, but it is a far more precarious exercise to attribute prehistoric cultural complexes to the dispersal of language families or genetic constructs with a less well-established status than that of Tibeto-Burman. For example, Austric (i.e. Austroasiatic plus Austronesian), a proto-language conceived by Schmidt (1906), was pronounced 'extinct' by Benedict (1991) but has already been resurrected by Reid (1994), who musters persuasive morphological evidence. The rather limited lexical evidence for Austric is assessed by Diffloth (1994). However, the centre of gravity of Austroasiatic (i.e. Muṅḍā, Nicobarese and Mon-Khmer) lies somewhere around the Bay of Bengal, which happens to be significantly distant from the Austronesian *Urheimat* on Formosa. Yet if historical linguists as meticulous as Reid can conclusively demonstrate that Austroasiatic and Austronesian constitute two branches of a single language family and do not just share etyma exchanged during the early contact within Chang's 'Interaction Sphere X', then this will bear heavily upon the interpretation given to neolithic cultural assemblages and even to the mesolithic 'Hòabínhian technocomplex' in Southeast Asia.

The centre of gravity of the hypothetical Austric family would lie in Guǎngxī and Tonkin, and the Early Neolithic cultural assemblages as Zèngpíyán and Xiānréndòng readily present themselves as the obvious archaeological correlate of a primordial Austric people, midway between Assam and Formosa. Chang (1992, I: 413) has identified these assemblages in Guǎngxī as the archaeological predecessors of the Dàpènkēng and the Fùguódūn Neolithic, so that the archaeological record would already appear to furnish a ready correlate for a Proto-Austronesian migration from an earlier Austric *Urheimat* centred in Guǎngxī to the Austronesian *Urheimat* on Formosa. The archaeological chronology of this Austric scenario is furthermore compatible with the linguistic chronology for Tibeto-Burman, for it was in earliest neolithic times that the Austrics, to be identified with the neolithic 'Interaction Sphere X' and at least part of the Mesolithic 'Hòabínhian technocomplex', would have split into an eastbound Proto-Austronesian population and a westbound Proto-Austroasiatic population. This allows the Proto-Austroasiatics ample time to reach Assam before the Western Tibeto-Burman incursion and the spread of the Indian Eastern Neolithic. If the homeland of Austroasiatic were established in Assam at this time, then the ensuing Western Tibeto-Burman *Einwanderung* into the lower Brahmapūtra river basin could have been the impulse which led to the split-up of Austroasiatic, pushing the Proto-Muṅḍā into the South Asian heartland and driving the Proto-Mon-Khmer and the Proto-Nicobarese into the hill tracts, whence they ultimately spread into Southeast Asia and across the Andaman Sea.

Geographically closer to Formosa, however, lies the *Urheimat* of the Kadai language family in southern China, and Benedict (1975) has posited a phylogenetic super-family called Austro-Tai, consisting of Kadai, Austronesian and Hmong-Mien (Míáo-Yáo). Benedict's linguistic archaeological research suggests that the Proto-Austro-Tai lexicon was rich in terms associated with rice agriculture and that some Chinese terms for rice agriculture are loans from Austro-Tai. Evidence of early rice cultivation has been found in Sìchuān (Chang 1965: 518), but the earliest datable evidence of rice agriculture in China dates from the sixth and fifth millennia BC and is associated with the Péngtǒushān and Hémǔdù cultures, which could indicate that this staple was first domesticated in Húnán along the middle Yangtze (Yán 1989, 1990) and around the Yangtze delta (Ān 1979b). These locations fit in with the theory that the initial propagators, if not the first domesticators, of rice in East Asia were ancient Kadai, Austronesians or even Austro-Tai.

Yet Benedict's Austro-Tai and Schmidt's and Reid's Austric are not necessarily mutually exclusive hypotheses, for both might embody part of the truth. What I propose to call the 'Greater Austric' family, comprising Austroasiatic, Austronesian, Kadai and Hmong-Mien (Míáo-Yáo), would be one way of compatibly uniting both theories, but at the present comparative state of the art, this Greater Austric hypothesis lies wholly within the realm of conjecture. More compatible with the conventional Austric theory is Thurgood's (1994: 345) argument that the Austronesian etyma found in Kadai 'are neither inherited on the one hand nor mere look-alikes on the other', but result from ancient Kadai 'borrowing from an early (pre-)Austronesian source and that the contact occurred in southwestern China and predated the Austronesian movement out onto the islands'. In view of the lexical borrowing which appears to have taken place between these two ancient linguistic stocks in the neolithic interaction sphere of southwestern China, it is probable that crops and agricultural techniques were likewise exchanged across boundaries of linguistic affinity.

Yet conventional wisdom on rice is perhaps represented by the view that rice agriculture is of South Asian origin, with the oldest evidence of domesticated rice dating from the sixth millennium BC, and perhaps earlier, from the Middle Ganges basin (Glover 1985; G.R. Sharma 1985; Haudricourt and Hédin 1987: 159-61, 176), where one still finds the greatest natural diversity of *Oryza sativa* (Chang Te-tzu 1983). From the Ganges, the irrigation agriculture of rice spread northward to the Northern Neolithic cultures by the beginning of the second millennium BC and in the fifth to third centuries BC was carried by sea from Gujarat, where rice was already cultivated in Harappan times, to Ceylon and Tamil Nadu (Parpola 1994: 9, 172). However, if rice agriculture was known in northern India from such an early date and was introduced to the Dravidian south only in the Christian era, the possible significance of these circumstances must be carefully weighed by those who propose that the Harappan civilization was Dravidian and by proponents of the Elamo-Dravidian theory, which holds that Elamite and Dravidian are related.

Caldwell (1856) was the first to propose a relationship between the Dravidian languages and the language of the freshly deciphered Elamite inscription at Behistun, although this tongue was known to Caldwell as 'the language of the Scythians of the Medo-Persian empire'. The chief proponent of the Elamo-Dravidian theory is McAlpin (1974, 1975, 1981), who renamed the hypothetical language family Zagrosian after the Zagros mountains of southern Iran. Hunter (1934) already pointed out that the Indus script of the Harappan civilization 'bears a close resemblance' to the older Proto-Elamite pictographic script. Fairservis (1992) believes that the Harappan civilization was Dravidian and derives the Indus script from the Proto-Elamite pictographs (Fairservis 1976). Yet Proto-Elamite script fell into disuse after Gutaeen barbarian highlanders from beyond the Zagros overran Elam and conquered Sumer and Akkad in the twenty-third century BC, and this leaves us with a gap of centuries which Parpola (1994: 53) attempts to bridge by suggesting that 'the source of inspiration' for the Indus script could have been 'an as yet unknown variety of the Proto-Elamite script that may have been used somewhere within the Elamite realm'. Texts in Proto-Elamite script have been found as far east as Sistan near the Afghan border (Lamberg-Karlovsky 1972a, 1972b, 1978).

McAlpin (1981) believes that Zagrosian broke up into Proto-Elamite, Proto-Brahui and Proto-Dravidian in the fifth millennium BC, and the evidence which he adduces includes lexical correspondences, shared case endings in nouns, derivational suffixes and other reconstructible common morphological features. The pronominal systems appear related, although Dravidian pronouns would be partially innovative. More cogent evidence is the shared unique 'appellative' system, whereby personal endings are attached to parts of speech in the syntagma other than finite verbs. As one would expect, this agreement system turns out to be more conservative than the system of free pronouns. Although the Elamite and Dravidian verbal systems share morphological traits, the hypothetical Zagrosian conjugation has left only traces in the Dravidian verb. No consensus has been reached, but the exhaustive Elamite dictionary (Hinze and Koch 1987) provides a richer source for future lexical comparison than any which McAlpin had at his disposal.

An idiosyncratic version of the South Asian theory of rice is that rice agriculture began in the Northern Neolithic. This view is held by Nakamura (1993: 53), who contends that the 'remains of rice and . . . grain impressions and silicized remains of rice on potsherds' found by Stacul in Swāt periods II and III (2180–1950 BC) are the oldest incontrovertible evidence of rice cultivation, whereby Nakamura categorically dismisses earlier radiocarbon datings as unreliable and criticizes Chinese radiocarbon datings in particular. On the basis of this evidence and his interpretation of other facts, Nakamura contends that 'rice cultivation started from the northern subcontinent, combining the agricultural techniques of the ancient Middle East and the rice plants of the Sino-Japanese floral region' (1993: 53).

A fashionable school of archaeological thought both underrates linguistic palaeontology and somewhat naively interprets the dissemination of language

families across vast expanses as connected with the incremental wave-like advance of neolithic farming. However, languages are not typically spread by sedentary agriculturalist populations but by mobile groups, whether the immigrants form a dominant elite or a numerically strong underclass. Certainly, rice agriculture, whichever group innovated the practice, must have been adopted by different groups of unrelated ethnolinguistic affiliation in order to account for its spread throughout South and Southeast Asia and across southern China. Attempts to relate the spread of rice agriculture to the spread of an entire language family like Sino-Tibetan, as Pejros and Shnirelman have done (Ch. 16 in this volume), are unfruitful for this reason. It is an altogether different matter when the introduction of a specific agricultural technique or crop acts as a tracer for an incursive population group and can be shown to coincide with a prehistoric or recorded linguistic intrusion.

Rice agriculture is held to have been introduced into Japan by the bearers of the intrusive Yayoi culture before the first millennium BC, and possible evidence of rice agriculture is found dating from the second millennium BC during the final Jōmon period (Hudson 1990). The physical anthropological evidence is that a gracile immigrant population soon outnumbered the more robust and less populous indigenous early potters of the Jōmon culture. Benedict (1990) is a proponent of the idea that the advent of the earliest Yayoi culture bearers is to be identified with the influx of an ancient Austronesian population; this idea is one of the ingredients of his Austro-Japanese hypothesis, whereby Japanese and Austronesian form a genetic grouping known as Austro-Japanese, which in turn forms a genetic grouping with Kadai known as Austro-Kadai. Austro-Kadai and Hmong-Mien (Miáo-Yáo) together form Benedict's newly redesigned Austro-Tai superfamily. According to Benedict's hypothesis therefore, Proto-Japanese was first brought to Japan by the bearers of the Yayoi culture, who introduced not only rice agriculture but also themselves and their language, first in Kyūshū and gradually further northward.⁶

More linguistically defensible than the Austro-Japanese theory is the conventional idea that Japanese is genetically Altaic, a theory first defended on linguistic grounds by Philipp von Siebold, who wrote a Japanese grammar, compiled a bibliography of scholarship to date on the Japanese language (1826), and on the basis of comparative studies concluded that the Japanese linguistically derive from a 'zoogenaamden Tartaarschen volksstam', exhibiting the closest linguistic affinity with the 'Mantschoe-Tartaren' (von Siebold 1832). Boller was the first influential proponent of von Siebold's theory, and since Boller's (1857) *Nachweis* a considerable body of analysed evidence has been amassed in support of the Altaic affiliation of Japanese.

The Altaic population which brought the Proto-Japanese language to Japan arrived long after the ancient Austronesians of the early Yayoi intrusion. Miller (1980) associated the propagators of a characteristic type of Middle Yayoi comb-pattern pottery, which has earlier analogues on the Korean peninsula, with the arrival of the earliest speakers of Proto-Japanese in Japan just before

the beginning of the Christian era. By itself Middle Yayoi comb-pattern pottery might be as insufficient an indicator of prehistoric immigration as Heine-Geldern's *Schulterbeilkultur* was, but archaeological advances suggest that the comb-pattern pottery could be but one element of an intrusive cultural complex and have rendered the Middle Yayoi an attractive correlate for an Altaic linguistic intrusion. Sites increase dramatically both in number and in distribution in the Middle Yayoi period, and Middle Yayoi culture expanded rapidly and spread into eastern Honshū. An early Altaic population with Manchu-Tungusic affiliation may plausibly be identified with the people who made their appearance in Japan as the bronze and iron weaponsmiths and tumuli builders of the Middle Yayoi. The Proto-Japanese speakers of the Middle Yayoi interred their dead at mounded burial sites or *funkyūbo*, which were the predecessors of the mounded tombs of the Kofun period. To say that Japanese is what became of 'an Altaic language in the mouths of ancient Austronesians', as I have suggested (van Driem 1993a: 331), is to rephrase the old idea that the Austronesian lexical component in Japanese is a substrate influence dating from the time that the Altaic bearers of the Proto-Japanese language first settled in Japan.

There has been much speculation about the hunter-gatherer culture of the Jōmon period and the Ainu of northern Japan, and some associate the difference between the robust Jōmon and gracile Yayoi racial types described by physical anthropologists with the physical differences between the Ainu and the Japanese which have been abundantly reported both in scholarly and popular sources ever since Brouwer (1646: 98–99). Early toponymical studies by Chamberlain (1887a) and Batchelor (1925) established that the vast majority of place names on Hokkaidō and a large number of place names in northern Honshū are originally Ainu toponyms, of which those ending in *-betsu* or *-be* (< Ainu *pet* 'river') and in *-nai* (< Ainu *nai* 'stream') are but the more conspicuous. Yet it may be that the origins of the Ainu must be sought in the north, as first argued by von Siebold (1858).⁷ In fact, it is in the north that the possible linguistic relatives of Ainu are usually sought, for the most likely candidates are a problematic group of languages known collectively as Palaeosiberian or Palaeoasiatic, i.e. Gilyak (Nivkh) and the Luoravetlan languages Kamchadal, Koryak and Chukchee. Attempts to tie Ainu to Altaic (e.g. Patrie 1982) are not convincing, and one of the most viable hypotheses to date remains von Siebold's (1858) idea that Ainu is a language isolate, for which he advanced the argument, still valid today, that Ainu lexical roots appear to exhibit no demonstrable affinity with those of other languages.⁸

The prominence of the bear cult in Ainu culture marks its hyperborean propinquity. Vivid first-hand accounts of Ainu bear festivals provide details of the ritual culminating in the slaughter and consumption of the bear's fresh blood, liver, brains and eyeballs (Scheube 1880; Pilsudski 1909, 1914; Maraini 1991), and popular and second-hand accounts abound (e.g. Verneau 1894; Acherma 1906; Oka 1930). Ainu bear ritualism has been described in detail by early researchers (e.g. Chamberlain 1887b; Batchelor 1892, 1901, 1927;

Starr 1904), and the Ainu bear cult has been compared with the bear ritualism of Uralic, Altaic, Palaeosiberian and Amerindian peoples (e.g. Hollowell 1926; Paulson 1965). Yet it can be no coincidence that bear ceremonialism occurs in the northern parts of Eurasia and North America where bears happen to be most prevalent, nor is it surprising that the slaying of a large-bodied predator as awesome as a bear and yielding as copious a feast of meat as a bear would become ritualized in many arctic and subarctic hunter-gatherer societies. None the less, not only does the Ainu bear cult point to a northern provenance, but also the specific similarities between the elaborate Ainu and Gilyak bear cults are highly suggestive in light of the linguistic hypothesis that Ainu is a Palaeosiberian language. Whether northern origins, primordial residency on Hokkaidō and Sakhalin or even widespread distribution of prehistoric Ainu throughout Japan can ever be established, it might not ever be possible to ascertain the linguistic affinities of the hunter-gatherer peoples who bore the successive phases of Jōmon culture for over ten millennia.

Just as inconclusive as the attempts to classify Ainu are current linguistic attempts to classify certain language groups in East and Southeast Asia, such as Hmong-Mien (Miáo-Yáo) and even Austronesian. Most notably, Sagart champions the Sino-Austronesian hypothesis ('Chinese plus Austronesian', or 'Chinese plus Tibeto-Burman plus Austronesian'). The phylogenetic constructs Austric, Austro-Tai, Greater Austric and Sino-Austronesian are outdone in terms of intrepid speculation by Sagart's (1994: 303) 'expanded Austric', which consists of 'Sino-Austronesian' and Austroasiatic and also possibly includes Miáo-Yáo (Hmong-Mien) and Kadai. A number of 'direct Proto-Austronesian-Proto-Tibeto-Burman comparisons not involving Old Chinese, or with better semantic agreement between Proto-Austronesian and Proto-Tibeto-Burman' have led Sagart (1994: 303) to concede that certain facts now 'render less likely the possibility that the material shared by Old Chinese and Tibeto-Burman reflects a contact situation. They suggest that Tibeto-Burman languages may stand closer to Chinese (and to Proto-Austronesian) than I had originally assessed (Sagart 1990).'

From the vantage point of Tibeto-Burman scholars, of course, any genetic relationship between Austronesian and Chinese would have to be at the level of the two proto-languages, i.e. between Proto-Tibeto-Burman, as it has now been redefined, and Proto-Austronesian. On the other hand, if the lexical correspondences between Proto-Austronesian and Tibeto-Burman which Sagart (1994) adduces do indeed reflect cognate etyma, they might represent early loans and would constitute linguistic evidence of early contact between ancient Sino-Bodic and ancient Austronesian peoples. The obvious archaeological correlate for such prehistoric exchange is the Lóngshān cultural horizon, which Chang (1986) calls an 'interaction sphere', emerging in the fourth and third millennia BC and connecting coastal cultures from north to south, viz. the Dàwènkǒu cultural assemblage in Shāndōng, the Qīngliángǎng of northern Jiāngsū, and the Mǎjīābāng of the Yangtze delta.

Quite logically, Sagart looks to this Lóngshān interaction sphere for an archaeological correlate of his early 'Sino-Austronesian' people. However, the chronological predecessors of this elongated cultural interaction sphere along the Chinese coastline lay south of the Yangzi delta, i.e. the earlier Hémūdù culture on the Hángzhōu Bay in Zhèjiāng, the Dàpènkēng Neolithic of Formosa, the Fùguódūn Neolithic of Quemoy, and related neolithic cultures of Fukien of the fifth and early fourth millennia BC. The Lóngshān coastal interaction would therefore appear to have *ensued* upon a northward expansion of Proto-Austronesian culture from its ancient homeland in southeastern China, and this northward expansion of early Austronesians would have brought them into contact with early Northern Tibeto-Burmans. Linguistically too, early contact influence between the two language families, Austronesian and the redefined Tibeto-Burman, remains a more plausible idea than genetic unity, and the Lóngshān interaction sphere is the obvious candidate in terms of time and place for early contacts between ancient Austronesians and ancient Tibeto-Burmans, particularly the Dàwènkǒu Neolithic of Shāndōng with its well established ties both with the other coastal cultures of the Lóngshān interaction sphere as well as with the ancient Northern Tibeto-Burman Yǎngsháo Neolithic civilization.

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NOTES

- 1 Kinnaurī is a Tibeto-Burman group of languages of the Bodic or Northwestern branch, spoken in Kinnaur district of Himācal Pradeś in the Indian western Himalayas.
- 2 The term 'Dardic' is an old-fashioned term. The sub-grouping of Indo-Iranian languages in the northwest of the subcontinent is still poorly understood, and few modern linguists have undertaken to perpetuate the tradition of Morgenstierne (1973). Ethnological data and linguistic maps of the area are provided by Fussman (1972), Jettmar *et al.* (1975), Edelberg and Jones (1979) and Masica (1991); cf. also Allchin and Allchin (1982), Allchin and Hammond (1978).
- 3 'Ghalegay I' in Parpola (1994: 142) should read 'Ghalegay III' (Parpola pers. comm. 20 February 1995; cf. Parpola 1994: 168). I have corrected this misprint in the quoted passage.
- 4 Undated neolithic implements have been found in southern Tibet as far west as gNya'-lam, which lies approximately 100 km northeast of Kathmandu (Dài 1972).

- 5 The term 'Tai-Kadai' is used by some, although Benedict, who coined the term, tells me that he prefers the shorter 'Kadai'.
- 6 In Chapter 15 in this volume, Vovin, who has argued against Benedict's Austro-Japanese hypothesis (Vovin 1994), doubts the existence of any Austronesian substrate influence on the Japanese lexicon and instead advances the improbable hypothesis that the Yayoi civilization was Austroasiatic, an idea made even less plausible by Vovin's acceptance of a Southeast Chinese coastal origin for the Yayoi culture. The linguistic evidence for this hypothesis is three Japanese rice-related terms to which Vovin assigns unconvincing Austroasiatic etymologies.
- 7 Von Siebold (1858) concludes his deliberations on the provenance of the Ainu with the words: 'De slotsom van deze onze gissingen komt hierop neder: op gelijke wijze als in voorgeschiedkundigen tijd de *Itulmen*, de oudste bevolking van Kamtschatka, naar dit schiereiland gekomen zijn, en later door eenen anderen volksstam opgevolgd en tot aan het zuidoende voortgedreven is geworden, is het ook waarschijnlijk, dat in nog veel vroegeren tijd ook langs de *Amur*, de *Aino*-stam zich allengs over de zoo digt bij het vaste land gelegen eilanden (*Jezo*, de *Kurilen* en *Krafto*) uitgebreid heeft' (1858: 380). ('The conclusion of our conjectures can be summed up as follows: just as the earliest population group of Kamchatka, the Itelmen, arrived on this peninsula in prehistoric times and were subsequently followed up by another population group and driven to the southern tip, it is probable that the Ainu so too may have, in an even earlier period, gradually spread along the Amur to the islands which lay so near the mainland, Hokkaidō, the Kuril Islands and Sakhalin.')
- 8 Von Siebold's (1858) statement on the genetic position of Ainu as a language isolate reads: 'Ofschoon zich de *Aino*-taal door den gemeenzamen omgang met een beschaafd volk veredeld heeft, zoo bleef dezelve echter haar oorspronkelijk karakter behouden en kenmerkt zich als eene eigenaardige en zelfstandige taal, die met gene van de naburige landen eenige overeenkomst heeft voor zoo verre de wortelen der woorden betreft' (1858: 382-3). ('Although the Ainu language has refined itself through intimate contact with a civilized people, it has none the less retained its original character and distinguishes itself as a singular and independent language, which bears no similarity to any of the languages of neighbouring regions in terms of its lexical roots.')

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3 Archaeology, linguistics and the expansion of the East and Southeast Asian Neolithic

CHARLES F.W. HIGHAM

INTRODUCTION

The conjunction of archaeological and linguistic data has a long ancestry in Southeast Asia, where the first recorded instance of comparative linguistics in the region occurred in 1603. De Houtman, a Dutch sea captain, noted similarities between the Malay and Malagasy languages. De la Loubère (1693) made the first recorded comment on the origins of the Thai based on linguistic evidence when he wrote:

As for what concerns the origine of the Siameses, it would be difficult to judge whether they are a single people, directly descended from the first men that inhabited the contrey of Siam, or whether in the process of time some other nation has not also settled there, notwithstanding the first inhabitants. The principal reason of this doubt proceeds from the Siameses understanding of two languages, viz. the vulgar, which is a simple tongue consisting almost wholly of monosyllables, without conjugation or declension, and another language, which I have already spoken of, which to them is a dead tongue known only to the learned, which is called the Balie tongue, and which is enricht with the inflexions of words, like the languages we have in Europe.

(de la Loubère 1693: 14)

De la Loubère was referring to Thai, a member of the Tai-Kadai (or Daic) family, and to Pali, an Indo-European language. Had he travelled more widely outside Ayutthaya, he would also have encountered communities speaking Mon, an Austroasiatic language, Cham, an Austronesian language and Karen or Chinese, both of which are Sino-Tibetan. Clearly, the linguistic history of Southeast Asia is complex.

Since then, much research has been undertaken on the languages of Southeast Asia and information relevant to any consideration of the area's prehistory has been obtained. Yet, there is much still to be done. Some