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Chapter 19

Tibeto-Burman Phylogeny and Prehistory:
Languages, Material Culture and Genes

George van Driem

As Auguste Comte once observed, 'on ne connaît pas complètement une science tant qu'on n'en sait pas l'histoire'¹ (1830, 82).

The return of the original Tibeto-Burman theory

The Tibeto-Burman theory dates back to the eighteenth century, when scholars observed that Tibetan was genetically related to Burmese. Later, in 1823, the contours of the Tibeto-Burman family were delineated by Julius Heinrich Klaproth, who showed on the basis of common roots that the language family comprised Chinese, Tibetan and Burmese and those languages which could be demonstrated to be genetically related to these three, whilst he explicitly excluded Thai and other Daic languages as well as Vietnamese, Mon and other Austroasiatic languages. The Tibeto-Burman theory has in principle always remained agnostic about subgrouping within the family, whilst it encompassed all those languages which could be shown to be related to the key defining member languages — Chinese, Tibetan and Burmese. Early proponents of the Tibeto-Burman theory, such as Carl Richard Lepsius and Wilhelm Grube, mooted reflexes of Tibeto-Burman historical morphology in Chinese. The Tibeto-Burman theory became widely accepted and was soon taken for granted. Tibeto-Burman even became an ingredient in grander theories of linguistic relationship, such as Turanian and Indo-Chinese (Fig. 19.1).

For most of the nineteenth century, Friedrich Max Müller championed the Turanian theory, which grouped together into a single large Turanian family all of the 'allophylian' languages of the world, i.e. languages which were neither Indo-European nor Afroasiatic. Yet Müller expressed uncertainty about how to group Sinitic, for he could not decide whether Sinitic belonged to the northern branch of Turanian,

together with the phyla which we know today as Uralic and Altaic, or to Southern Turanian, along with Tibetan and the languages of Southeast Asia. After enjoying much popularity, particularly in the British Isles, Turanian was discredited, and Müller himself abandoned the theory before he died in 1900. Scholars who propounded the Turanian theory, such as Hodgson (1849) and Müller (1855), removed Sinitic from the original Tibeto-Burman family and so created a new truncated 'Tibeto-Burman' at variance with the original Tibeto-Burman theory.

Another equally vague theory of linguistic relationship was Indo-Chinese, widely known today by the name 'Sino-Tibetan', which, according to John Casper Leyden who conceived it, encompassed most of the languages spoken by 'the inhabitants of the regions which lie between India and China, and the greater part of the islanders in the eastern sea' (1808, 158). The shape and girth of Indo-Chinese would wax and wane to accommodate the hunches and impressions of whichever scholar used the term. However, in the nineteenth century, adherents of the Indo-Chinese theory such as Ernst Kuhn (1889) and August Conrady (1896) not only adopted the Turanian approach toward Sinitic by treating it as a subgroup distinct from the rest of the Tibeto-Burman family, but went a step further and grouped Sinitic together with Daic. The 'Tibeto-Burman' subgroup which became an ingredient in the Indo-Chinese or Sino-Tibetan theory is therefore not equivalent to the original Tibeto-Burman language family, but represents a truncated construct from which Sinitic has been excised.

In the 1880s, German scholars such as Emile Forchhammer and Ernst Kuhn knew enough to be able to distinguish the Austroasiatic languages as representing a distinct phylum. When their insights gained widespread acceptance a few decades later, Indo-Chinese was reduced to 'Tibeto-Burman' and

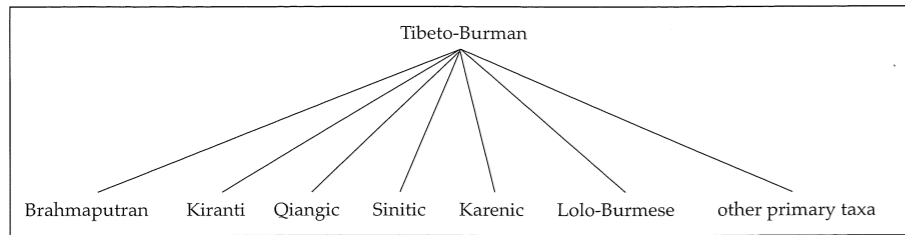


Figure 19.1. The Tibeto-Burman theory.

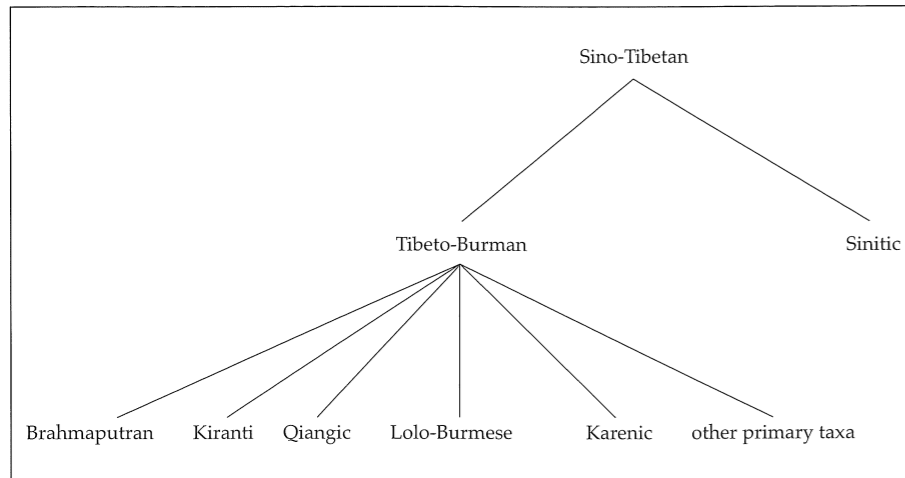


Figure 19.2. The Sino-Tibetan or rump Indo-Chinese theory, incorporating the truncated Tibeto-Burman hypothesis. The latter presumes that all of 'Tibeto-Burman' underwent defining shared unitary developments independently of Sinitic.

Sino-Daic. The separate treatment meted out to Sinitic by proponents of Indo-Chinese and the inclusion of the genetically distinct Daic languages can in retrospect be attributed to the misguided emphasis placed on typological features, the ignorance of Sinitic historical phonology, the inability at the time to distinguish between borrowed from inherited vocabulary in Thai, and the fact that the limited repertoire of reflexes of Tibeto-Burman morphological processes in Chinese had not yet been generally recognized. Indo-Chinese was renamed 'sino-tibétain' by Jean Przyluski in 1924, and the name entered the English language in 1931 as 'Sino-Tibetan' when Przyluski and the British scholar Gordon Hannington Luce wrote an etymological note on the 'Sino-Tibetan' root for the numeral 'hundred'. From the mid nineteenth century to the Second World War, an essential feature of the Indo-Chinese or Sino-Tibetan theory was that Daic was seen as the closest relative of Sinitic, very much at variance with Klaproth's original Tibeto-Burman theory, which saw Sinitic, but not Daic, as part of Tibeto-Burman.

In the United States, Alfred Kroeber and Robert

Sino-Tibetan. After this operation, the defining difference between the Sino-Tibetan or Indo-Chinese theory and the Tibeto-Burman theory was the heuristic artefact that proponents of Sino-Tibetan treated Sinitic as a separate trunk of the language family.

For a brief spate in the 1970s, proponents of Sino-Tibetan even propagated a phylogenetic model consisting of a Sinitic trunk and a Tibeto-Karen construct, which in turn was divided into a Karen branch and an even more mutilated 'Tibeto-Burman'. Great significance was ascribed to superficial criteria such as word order. Later, Karen was put back into 'Tibeto-Burman', but Sinitic has, for advocates of the Sino-Tibetan phylogenetic model, remained the primaeval 'other half' of the family to this day. Jim Matisoff adopted this model from his mentor Paul Benedict in 1968 and has been its most outspoken proponent ever since (Benedict 1972) (Fig. 19.2).

The last decade of the twentieth century saw a paradigm shift in scholarly thinking about Tibeto-Burman subgrouping, heralding a return to the original Tibeto-Burman theory and its ascendance above the Sino-Tibetan or Indo-Chinese phylogenetic

Shafer adopted the new term 'Sino-Tibetan' for Indo-Chinese. Shafer soon realized, however, that Daic did not belong in the Indo-Chinese or Sino-Tibetan family and in 1938 'prepared a list of words showing the lack of precise phonetic and semantic correspondence' between Daic and other Indo-Chinese languages. Armed with this list, Shafer travelled to France before the outbreak of the Second World War 'to convince Maspero that Daic was not Sino-Tibetan' (1955, 97–8). Instead, Henri Maspero managed in the end to convince Shafer to retain Daic within Sino-Tibetan. When Paul Benedict moved to Berkeley in 1938 to join Kroeber's Sino-Tibetan Philology project, he likewise abandoned the name Indo-Chinese for 'Sino-Tibetan'. Benedict (1942), however, was more resolute than Shafer in ousting Daic from the family. This operation resulted in rump

model. The explicit assumption built into the Sino-Tibetan theory, that all of truncated 'Tibeto-Burman' was a valid subgroup which collectively underwent shared unitary innovations independently of Sinitic, is now recognized to be false. The Sino-Tibetan or Indo-Chinese theory has now effectively been superseded by the original Tibeto-Burman theory because: 1) the Tibeto-Burman character of Sinitic has been amply demonstrated; 2) no uniquely shared innovations have been adduced which could define Proto-Tibeto-Burman as a separate coherent taxon that would exclude Chinese and be coordinated with Proto-Sinitic; 3) evidence has been adduced, suggesting that Sinitic is in fact more closely allied with certain Tibeto-Burman groups, e.g. Bodic or Kiranti, than with others; and 4) evidence in the form of isoglosses has been identified which may represent possible lexical innovations indicating that a more primary bifurcation in the language family is between certain other subgroups, e.g. Brahmaputran or 'Sal', and the rest of the Tibeto-Burman family including Sinitic. This fourth emerging insight has recently been bolstered by the identification of uniquely shared morphological innovations in Brahmaputran.

The Sino-Tibetan hypothesis, that the first split in the language family at its greatest time depth was between Sinitic and the rest of the family, remains unsupported. No evidence has ever been adduced to demonstrate the existence of shared innovations which define Tibeto-Burman excluding Sinitic as a unified group. Sinitic shows greater affinity with certain Tibeto-Burman subgroups such as Bodic, and it is amply evident today that certain Tibeto-Burman

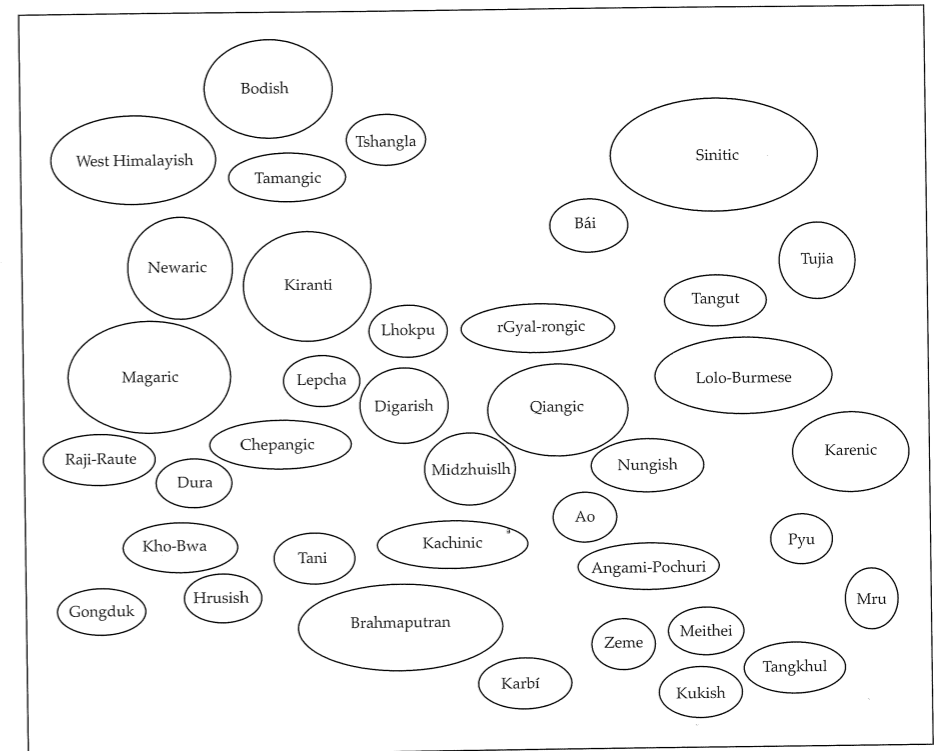


Figure 19.3. This patch of leaves on the forest floor has fallen from a single tree, which we know as Tibeto-Burman. We cannot see the branches of the tree, but we are beginning to see the shadows they cast between the leaves on the forest floor. This schematic geographical representation provides an informed but agnostic picture of Tibeto-Burman subgroups. The extended version of the Brahmaputran hypothesis includes Kachinic, but for the sake of argument this diagram depicts the short variant of Brahmaputran, viz. excluding Kachinic. Kachinic comprises the Sak languages and the Jinghpaw dialects. Likewise, Tangut is separately depicted, although Tangut is likely to be part of Qiangic. Digarish is Northern Mishmi, and Midzhuish is Southern Mishmi, i.e. the Kaman cluster, albeit one heavily influenced by Lolo-Burmese. Tujia is a heavily sinicized Tibeto-Burman language of indeterminate phylogenetic propinquity spoken by about three million people in an area which straddles the provinces of Sichuan, Hubei, Hunan and Guizhou. The Sino-Bodic hypothesis encompasses at least the groups called Sinitic, Kiranti, Bodish, West Himalayish, rGyal-rongic, Tamangic, Tshangla and Lhokpu and possibly Lepcha. Other hypotheses, such as the inclusion of Chepang and perhaps Dura and Raji-Raute within Magaric, are discussed in my handbook (van Driem 2001).

subgroups such as Gongduk show greater divergence from mainstream Tibeto-Burman features than Sinitic does. These insights have led to the abandonment of the Sino-Tibetan theory in favour of the older Tibeto-Burman theory.

Tibeto-Burman phylogeny

Indo-Chinese or Sino-Tibetan had always been a more pretentious conglomerate of subgrouping hypoth-

eses with a more chequered history than the more agnostic Tibeto-Burman theory. Since 1823, Chinese, Tibetan and Burmese have been the three defining members of the Tibeto-Burman family, but the Tibeto-Burman theory is still essentially as agnostic about subgrouping today as it was in the days of Julius Klaproth. The Tibeto-Burman phylogenetic model also provides the empirically best-supported and most neutral framework within which to test new higher-order subgrouping proposals within the language family. The Tibeto-Burman phylogenetic model can be represented as a bubble diagram (Fig. 19.3) rather than as an articulated family tree. This representation reflects our present ignorance about the relative chronology of branching within the language family. The various empirically-indefensible family trees have been replaced by a patch of leaves on the forest floor which have fallen from a single tree. Not only is the branching pattern of the tree not within view, the constituent language subgroups of the family were only finally exhaustively identified in the last decade of the twentieth century with the discovery in Bhutan of the last hitherto unreported Tibeto-Burman languages.

A number of the subgroups within Tibeto-Burman proposed by Sten Konow (Grierson 1909) and the prolific Robert Shafer (1953; 1955; 1966; 1967; 1968; 1974) are still recognized to be viable today. A differentiated view of Tibeto-Burman subgroups leaps from the pages of the many older British sources and recently a differentiated picture of Tibeto-Burman subgroups in northeastern India and the Indo-Burmese borderlands has been presented by Geoffrey Edward Marrison (1967; 1989), Walter French (1983), Robbins Burling (1983; forthcoming) and myself (van Driem 2001; 2002).

The added value of this new, more candid, but at the same time also more comprehensive view of the language family is that the emphasis will now shift from the periphery to the heartland of Tibeto-Burman linguistic diversity. Moreover, scholars will be confronted with the immediate need to search for and identify the evidence which could support empirically defensible higher-order subgroups within Tibeto-Burman, analogous to Italo-Celtic and Balto-Slavic in the Indo-European language family. The antiquated Indo-Chinese framework provided a far too polarized view which split the family up into a Sinocentric and an Indocentric cluster of subgroups. The empirically unsupported Sino-Tibetan model has not only put a generation of linguists on a wrong footing, this framework has even misled population geneticists in their attempt to conduct a balanced

and informed sampling of language communities for haplotype studies, as we shall see below. The model of fallen leaves exhaustively identifies the constituent subgroups of the family and draws the focus of attention back to the centre of Tibeto-Burman linguistic diversity, which lies in the Indo-Chinese borderlands.

The patch of fallen leaves on the forest floor provides a more informative framework than a false tree. The recognition of the primary branches of Tibeto-Burman makes it possible to target sample population groups for genetic assays in an ethnolinguistically informed manner. No shared innovations have been found which could support 'truncated Tibeto-Burman' (i.e. Tibeto-Burman minus Sinitic), 'Kamarupan', 'Jiburish', 'Rung' or similar obsolete constructs. Instead, grammatical and lexical studies have led to the identification of many language groups of the Himalayas and northeastern India as high-order branches of the language family. The Tibeto-Burman situation is precisely analogous to the Austronesian situation. Whilst most primary branches of Austronesian are confined to Formosa, the Malayo-Polynesian branch corresponds to the greatest geographical spread. Likewise, Sinitic, a single Tibeto-Burman subgroup, accounts for the greatest geographical spread outside of the region where all other primary taxa of Tibeto-Burman are concentrated. Geographically, only Tujia is tellingly intermediate between the historical locus of Sinitic and the Tibeto-Burman core area. The fallen leaves of Tibeto-Burman are analogous to the primary branches of Austronesian on Formosa, which are sometimes represented as branches emanating from a single node. We shall return to this comparison below.

Figure 19.4 illustrates the distribution not of Tibeto-Burman languages, but of the historical geographical centres of primary taxa or subgroups of languages of the Tibeto-Burman family. In order to present a fairer picture of the internal diversity of Brahmaputran, the Dhimalish, Bodo-Koch and Konyak subgroups have each been represented by a separate diamond. Likewise, two separate diamonds indicate Kiranti and Newaric, the two constituent subgroups within the internally highly diverse and hypothetical Mahakiranti subgroup. The extinct Tangut language, however, is treated as a member of Qiangic. When the linguist Bob Blust pointed out that nine primary branches of the Austronesian family were represented by Formosan language groups spoken on Taiwan and that a tenth branch is represented by all other Austronesian languages which

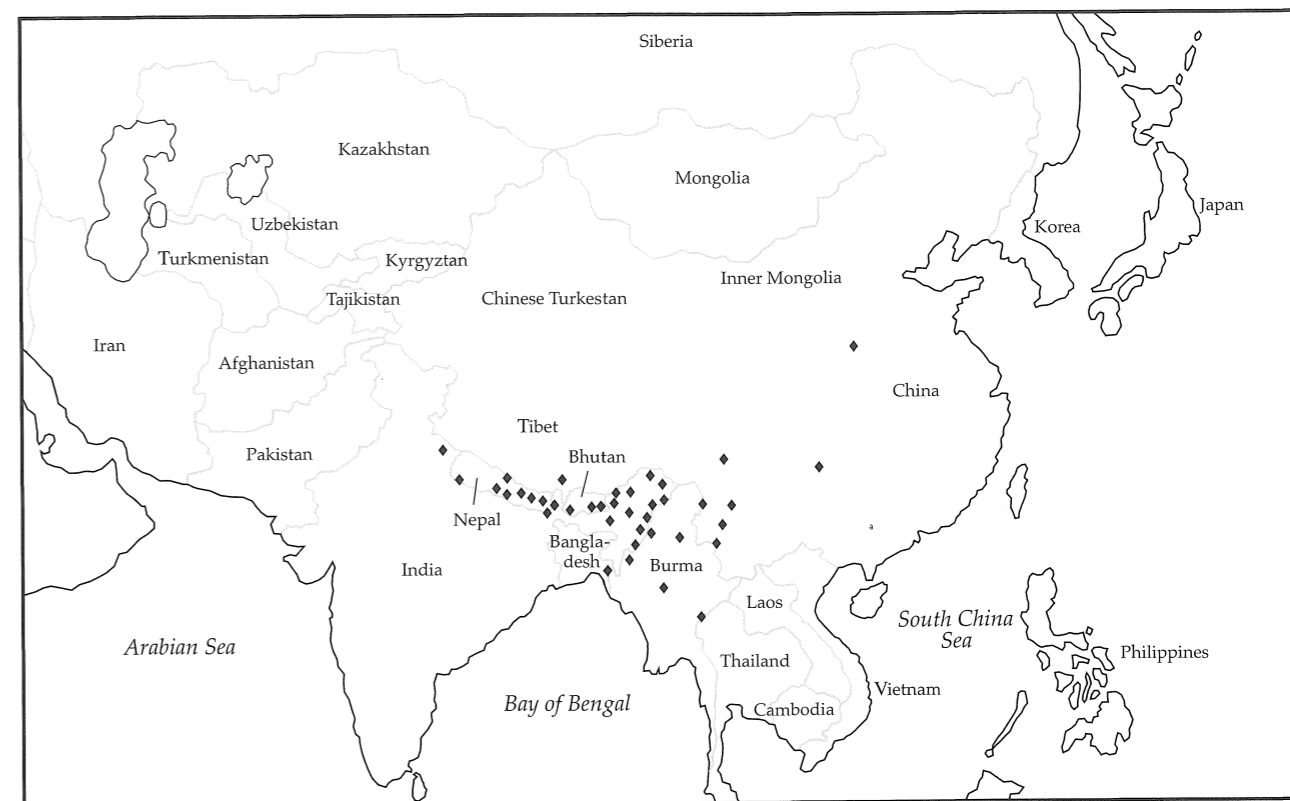


Figure 19.4. In this clutch of 39 diamonds, each diamond represents not a language, but the historical geographical centre of a primary taxon or subgroup of languages of the Tibeto-Burman family. In order to present a fair picture of the internal diversity of the Brahmaputran branch, the Dhimalish, Bodo-Koch and Konyak subgroups have each been represented by a diamond. Likewise, two separate diamonds indicate Kiranti and Newaric, the two constituent subgroups within the hypothetical and internally highly diverse Mahakiranti branch. The extinct Tangut language, however, is treated as a member of Qiangic.

have spread over a vast part of the globe, archaeologists drew their conclusions and quite logically proceeded to search for correlates for the spread of this one ubiquitous branch in the form of identifiable cultural assemblages. It is relevant to point out that this task was relatively easy in case of the dispersal of the Oceanic branch of Malayo-Polynesian, where the spread of language and culture coincided perfectly in many places because the linguistic ancestors of the modern language communities colonized hitherto uninhabited insular domains in the Pacific. Tibeto-Burman represents an analogous case in that the historical geographical centres of primary taxa are likewise concentrated in an easily circumscribed geographical region, i.e. the eastern Himalayas, northeastern India, the Indo-Burmese borderlands, Yunnan and Sichuan. Yet both the ethnolinguistic and archaeological picture of the East Asian heartland is far more complex than in the Austronesian case. Tibeto-Burman shares the East Eurasian heart-

land with many other linguistic stocks, such as Daic, Austroasiatic, Altaic, Indo-European, Dravidian, Hmong-Mien and a number of isolates. Sinitic, which is a lower-order subgroup within Tibeto-Burman, or at least not the first group to have split off from Tibeto-Burman, represents a secondary spread over a vast expanse of territory. The sinification of southern China during the second half of the first millennium BC is relatively recent, and the earlier spread of Sinitic as a whole may be one of the best candidates for a language spread associated with a farming dispersal (van Driem 2001). Moreover, both northeastern India as well as Yunnan and Sichuan are key regions in the understanding of Tibeto-Burman population prehistory, and both areas have been sorely neglected by archaeologists.

A number of Australian linguists have recently argued against the *Stammbaum* model as the only model of language relationship. Bob Dixon invokes the concept of a diffusion zone as well as the evolu-

tionary metaphor of punctuated equilibria (1997). According to Dixon, conventional family tree phylogenies work well under circumstances of linguistic evolution characterized by 'punctuation', i.e. by the expansion and branching of an original language community, but the language family model would purportedly not work during periods of equilibrium characterized by cultural and linguistic stasis. Structural and lexical features diffuse and the genetic affinities of languages blur when language communities coexist in a state of cultural and demographic stasis through a vast expanse of time. Dixon considers Australia to be the 'prototypical example of a long-term diffusion zone', in which egalitarian communities engaged in low-key interaction for tens of thousands of years, and he also considers such prolonged periods of stasis to have been the norm rather than the exception in the history of hominid prehistory. Pawley & Ross (1995) argued that it is easier to identify subgroups defined by shared innovation when the ancestral groups have travelled a long distance from their original habitat or when there has been intermediate language extinction, and that elsewhere a mesh of groups may result where innovations may have developed in overlapping sets. In this context, Pawley and Ross distinguish between innovation-linked and innovation-defined groups. If the initial spread was rapid and geographically extensive, Ross (1997) and Pawley (1999) argue that a chain of subgroups that exhibit a 'rake-like' phylogeny results. The notion of the diffusion or spread zone has also been applied to the Eurasian heartland by Johanna Nichols (1992; 1998), but Michael Fortescue (1998) has shown that such notions can only be meaningfully and productively implemented when the comparative method has first been rigorously applied.

This has certainly not been done in the case of Tibeto-Burman. Therefore, the use of a bubble diagram to schematically represent the language family should not be construed as indicating that a family tree is an inappropriate phylogenetic model for Tibeto-Burman. The reticulate structure of Tibeto-Burman language groups in northeastern India, the Indo-Burmese borderlands and the eastern Himalayas is most probably not the result of a single linguistic expansion. As recently as the early second millennium AD, the now extinct Tibeto-Burman group Pyu was supplanted by the Burmese. Moreover, the complex ethnolinguistic composition of northeastern India, the Indo-Burmese borderlands and the eastern Himalayas must be seen against the background of the complex topography and original ecol-

ogy of the region as well as the gradient of endemic disease barriers in the area, which were no doubt exacerbated by the gradual conversion of the dense jungles, which used to blanket areas like the Brahmaputran plain, into agricultural land.

Genes, material culture and linguistic dispersals

The Neolithic Revolution and the spread of agriculture are widely thought to have been important factors in the dispersal of ancient populations and the spread of language families. However, the Fertile Crescent itself attests to the fact that agriculture was adopted by ethnolinguistically unrelated populations and that agriculture spread effortlessly across ethnolinguistic boundaries without affecting them in any significant way. Sumerian, Elamite, Akkadian, Hurrian, Hattic and other languages of early agricultural civilizations which have left no surviving linguistic descendants bear witness to the permeability of linguistic boundaries for the dissemination of agriculture. Certainly, a Neolithic wave of advance cannot be a universal explanation for the dispersal of language families, and Indo-European is perhaps the best illustration. Not only is a hypothetical Indo-European homeland in Anatolia linguistically problematic (D'jakonov 1968; Zvelebil & Zvelebil 1988; Mallory 1989; 1997; Mallory & Adams 1997; van Driem 2001; *pace* Gamkrelidze & Ivanov 1995), but the model of an Indo-European demic wave of advance originating from Anatolia singularly neglects to account for the social conditions under which the dispersal of Indo-European is most likely to have taken place, based on what is known about Indo-European culture and linguistic palaeontology. Moreover, an Indo-European demic wave of advance emanating from Anatolia does not fit well with what is known about the complex ethnolinguistic composition of Anatolian populations at the time that such a homeland would have existed. Instead, the Neolithic and Bronze Age of Asia Minor and Mesopotamia is characterized by a very long period of incursive population movements into, rather than out of Anatolia and the Fertile Crescent, driven or lured, it seems, by the relative affluence of urban centres supported by agricultural surplus. Not just Indo-European population groups such as the Hittites and Mitanni were drawn in by the allure of the good life. Gutaeans, Amorites, Kassites and other peoples likewise came to settle in the Fertile Crescent and Anatolia. Toponymical evidence and details about the cults of certain deities have been used to argue that even the Sumerians originally migrated from an

earlier northern homeland to lower Mesopotamia, where they adopted agriculture from a resident population. This hypothesis is corroborated by the fact that the Sumerians appear to have borrowed agricultural terms such as *agar* 'field', *apin* 'seeder plough' and *apsin* 'furrow' from a substrate language.

Those who secondarily adopt a technique, tradition or cultural institution often improve upon it and excel in its exploitation beyond the attainments of its original innovators. In Dutch this is known as *de wet van de remmende voorsprong*, i.e. the 'law' that the very group which has managed to get ahead of other groups by virtue of an innovation is also more prone to get bogged down at a later stage by shortcomings inherent to the prototypical version of the technology which originally gave them the edge over other groups. Meanwhile, other groups who did not have to invest the resources and effort to develop and implement the technology in the first place forge ahead by introducing a more refined and streamlined version of the innovation and are unhampered by having to replace or revamp an obsolete infrastructure. O'Connor (1995) and Blench (2001) have argued that irrigated rice agriculture in the Southeast Asian lowlands does not correlate with a spread at the language family level, but with spreads at a lower phylogenetic level. Irrigated rice cultivation is what enabled a single group to seize control of the plains. The adoption of agriculture on flood plains by the Khmer, Pyu, Cham and Mon and, much later, by the intrusive Thai, Burmese and Vietnamese, accounts for the correlation between these expansive ethnic groups and historical polities and modern nation states. A high level of ethnic diversity is the regional norm, but the original ethnolinguistic diversity is maintained in upland areas that had hitherto been more favourable habitats until wet cultivation transformed the lowlands from epidemiologically undesirable places to live into bountiful habitats.

By contrast, perhaps what the incursive Indo-Europeans did may have been nothing other than land theft. Nevertheless, the spread of specific, well-defined Neolithic cultural assemblages remains a powerful tool in the reconstruction of ancient population movements and, more particularly, in the possible early dispersal of language families. The hypothesis that an agricultural dispersal may reflect the ancient spread of a language community underlies my reconstruction of the spread of the Sino-Bodic branch of Tibeto-Burman (van Driem 1998; 1999; 2001). The distribution of primary branches of Tibeto-Burman suggests that it may be that the urban affluence of pre-Tibeto-Burman agricultural

populations was what drew the linguistic ancestors of early Sinitic civilization to the Yellow River and North China Plain in the first place, just as Gutaeans, Kassites, Amorites and Indo-Europeans were drawn to the Fertile Crescent and Anatolia. Benedict once proposed that the Shang may not have been Sinitic at all and that the Zhou, who came from the west, may have been the bearers of the Proto-Sinitic language to the Yellow River basin, where they adopted the Shang ideograms devised by a pre-Tibeto-Burman population (1972, 197), though the prosperous agricultural civilization on the North China Plain may have lured the linguistic forebears of Sinitic, or perhaps Sino-Bodic, long before the Shang period. Quite often the archaeological record may not directly reflect such linguistic intrusions. Instead, archaeology shows the regional discrepancies in technical advancement which may have motivated foreign linguistic intrusions, both in the case of the early displacement of Sinitic outside of the Tibeto-Burman core area as well as in the case of the advent of Indo-European groups to the Near East, such as the Hittites in Anatolia and the Mitanni in the Jazirah. Not only did agriculture spread across linguistic boundaries from the very outset, the direction of linguistic intrusions in many episodes of prehistory may have been diametrically opposed to the direction of the spread of agriculture.

My reconstruction is based on a family tree model of Tibeto-Burman, which presumes a clustering of groups and suggests a relative chronology. Yet the model is not purely a *Stammbaum* as such. The problem with Tibeto-Burman family tree models proposed to date is that uniquely shared innovations are scarce, and higher-level subgroups are often defined by what later turn out to be shared retentions. Neither is the family tree in Figure 19.5 just a geographically-inspired schema, for it incorporates subgroups which were discerned by Shafer and are still recognized on the basis of phonological and morphological criteria and lexical isoglosses. The model also incorporates Sino-Bodic, a higher-level subgrouping hypothesis involving Sinitic and those languages within Tibeto-Burman which appear to be more immediately related to Sinitic than either are to, for example, Brahmaputran, Karbí, Gongduk and other genetically remote groups.

Although Sino-Bodic is associated with my name (van Driem 1995; 1997), earlier versions of the Sino-Bodic hypothesis had previously suggested themselves to Walter Simon (1929), Robert Shafer (1955; 1966; 1967; 1968; 1974) and Nicholas Bodman (1980), on the basis of uniquely-shared lexical items.

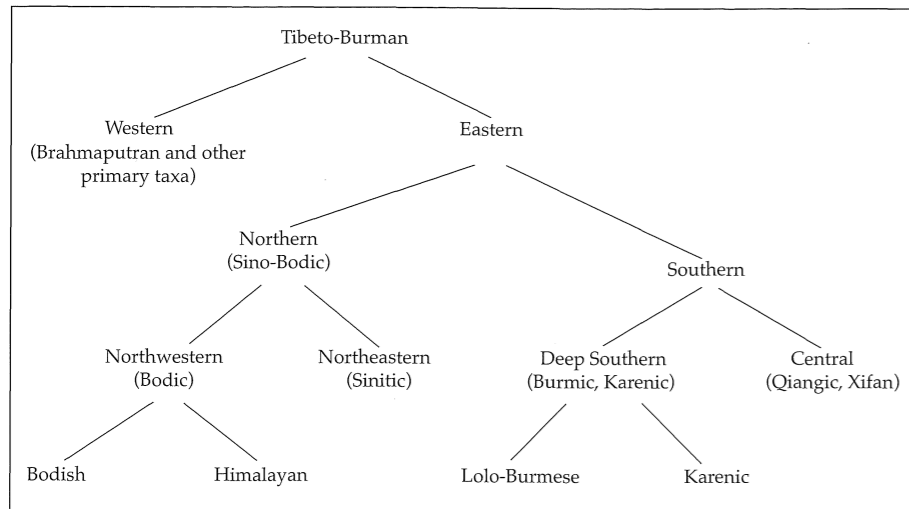


Figure 19.5. Linguistically-inspired archaeological interpretation of the geographical dispersal of Tibeto-Burman groups, incorporating the Sino-Bodic and Brahmaputran linguistic hypotheses.

In addition to the limited set of lexical isoglosses, I have described morphological features that appear to bolster the identification of Sino-Bodic as a subgroup (van Driem 1997). Recently, Laurent Sagart reconstructed an Old Chinese 'voicing prefix' *<N-> (1994, 279–81). This reconstruction was also adopted by William Baxter (Baxter & Sagart 1998, 45), thus replacing Baxter's earlier *<fi-> (1992). Starostin has told me on several occasions that this prefix is best reflected in Kiranti, Bodish, Sinitic and West Himalayish. If this is correct, this morphological element bolsters the case for Sino-Bodic. However, if the feature is a shared retention rather than a shared innovation, then the distribution of the phenomenon is merely suggestive.

By contrast, the constellation of subgroups which I collectively name Western Tibeto-Burman represents a number of primary branches which I assume had split off at an early stage and settled in northeastern India, originating from a Tibeto-Burman proto-homeland which I locate in Sichuan. British scholars in the nineteenth century had already located the Tibeto-Burman homeland in Sichuan, even though they could not yet have known the linguistic, archaeological and genetic evidence which today argues for a Tibeto-Burman homeland in Sichuan. Here I shall briefly outline the model again and adduce additional supporting arguments from recent research on haplotypes on the Y chromosome. I shall also point out linguistic and archaeological weaknesses in the model, which leave room for an alternative version of the reconstructed linguistic

dispersal.

Though primarily linguistically-inspired, my theory represents an interpretation of the archaeological record in light of Tibeto-Burman subgrouping hypotheses and the geographical distribution of modern and historically attested Tibeto-Burman language communities. The theory depicted schematically in Figure 19.5 is illustrated in Figures 19.6 to 19.9. The differences between Figures 19.3 and 19.5 illustrate the linguistic and the archaeological view between which some correlation is sought. Western Tibeto-Burman in particular is not just a linguistic hypothesis, but an

archaeological theory about the population history of the Tibeto-Burman area informed by linguistic insights about the primary nature of subgroups in the Himalayas and northeastern India. From a phylogenetic perspective, Western Tibeto-Burman is analogous to the Formosan language groups within Austronesian. Like Formosan, Western Tibeto-Burman is not a single taxon, but a collection of primary taxa within the family. Rather, it is the remaining branch, Eastern Tibeto-Burman, which may constitute a possible genetic unit, just as Malayo-Polynesian is a single primary branch within Austronesian. It is therefore more fitting to speak of an Eastern than of a Western Tibeto-Burman hypothesis, if there is such a thing.

The various ways of reconstructing prehistory, i.e. archaeology, linguistics and genetics, measure three independent quantities which are merely probabilistically correlated and which, moreover, may divide into taxa which may correspond to quite different time depths. Discrepancies between the chromosomal and the linguistic pictures of the past indicate that in some cases a larger incursive population may have adopted a language of a smaller population already resident in the area which they had settled, e.g. the case of Bulgarian, whereas some languages borne by ruling élites have been adopted by a larger dominated resident population, e.g. the case of Hungarian. The racial heterogeneity of Tibeto-Burman populations in northeastern India, particularly the phenotypic difference between Brahmaputran language communities and other Tibeto-Burman

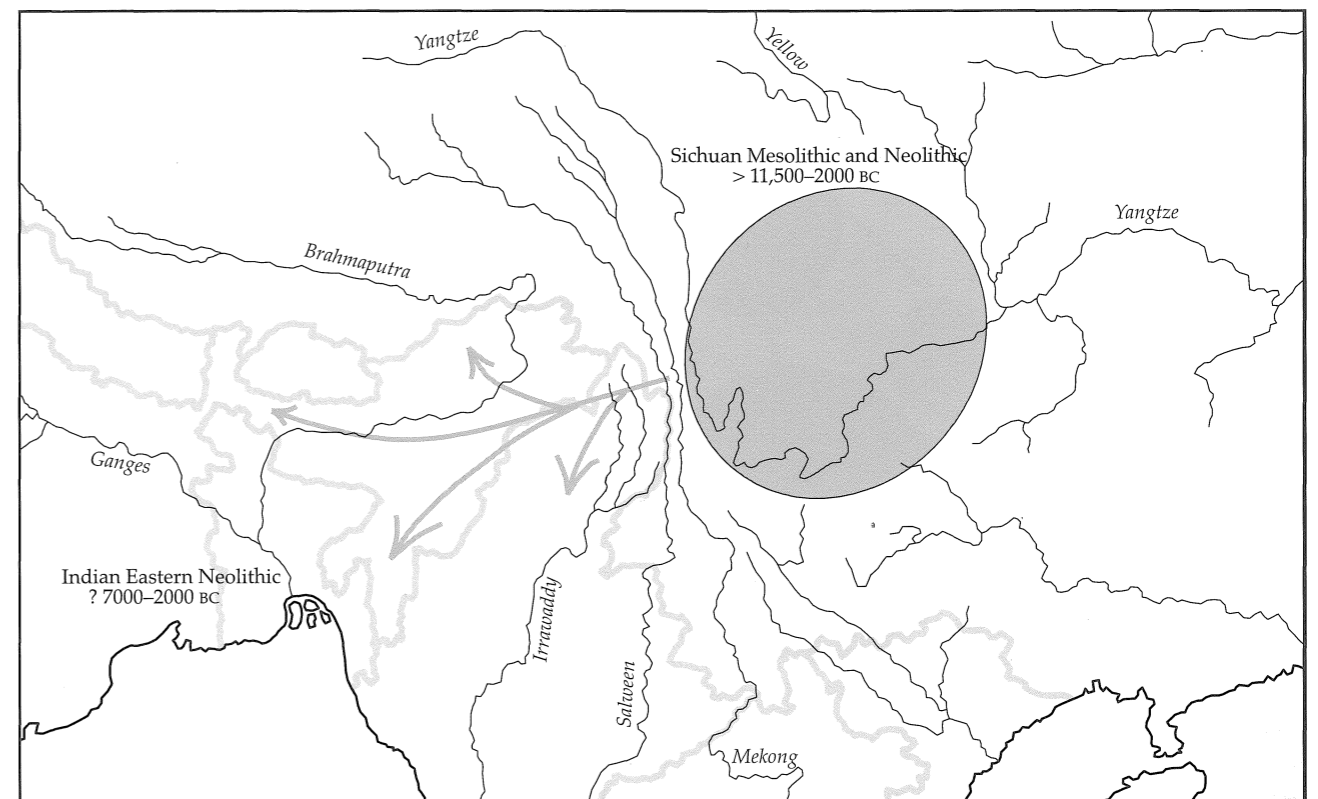


Figure 19.6. Lower Brahmaputra basin and surrounding hill tracts colonized by Western Tibeto-Burmans bearing the technologies from Sichuan which were to become known as the Indian Eastern Neolithic, an Auswanderung possibly set in motion before the seventh millennium BC.

groups in the northeast, has been noted ever since the earliest British accounts of the area.

In genetic terms, two apparently conflicting sets of findings have recently been obtained by teams of geneticists looking at Tibeto-Burman populations in China and the greater Himalayan region. Yet the discrepancy between these findings may be more apparent than real and may very well correspond to different realities situated at different time depths. The hypothesis of a Tibeto-Burman homeland in Sichuan has recently found unexpected corroboration in the findings of the Chinese Human Genome Diversity Project, whose ethnolinguistically informed assays of population groups in China have shown that the Chinese did not originate in the Yellow River basin but migrated to this area in a northeasterly direction from southwestern China (Chu *et al.* 1998). This information was still unavailable when I first proposed that the Tibeto-Burman homeland lay in Sichuan on linguistic grounds. Another team of geneticists has found a strong genetic affinity amongst population groups of the Tibeto-Burman language family in the form the prevalence of a T to C muta-

tion at Y-chromosome locus M122, whereas the extremely high frequency of H8, a haplotype derived from M122C, reflects the results of a genetic bottleneck effect that occurred during an ancient southwesterly migration (Su *et al.* 2000). The latter group of geneticists attempted to relate the geographical distribution of Tibeto-Burman populations with a migration from the middle Yellow River basin about 10,000 years ago, and to conjecture that the earliest Neolithic cultures of this area might have been associated with the putative Tibeto-Burman homeland. However, there are two flaws in this interpretation. First of all, the study by Su *et al.* (2000) sampled only six individuals from the pivotal, ethnolinguistically most heterogeneous Tibeto-Burman heartland in northeastern India. The samples from this area were limited to a 'Kachari' individual, a Rabha, a Naga, an Adi, a Nishi and an Apatani. Their study left most key Tibeto-Burman population groups untouched. Conjectures were advanced about prehistoric migrations to the Himalayas but, other than the three samples from Arunachal Pradesh, no Himalayan populations were tested. Fifteen samples, con-

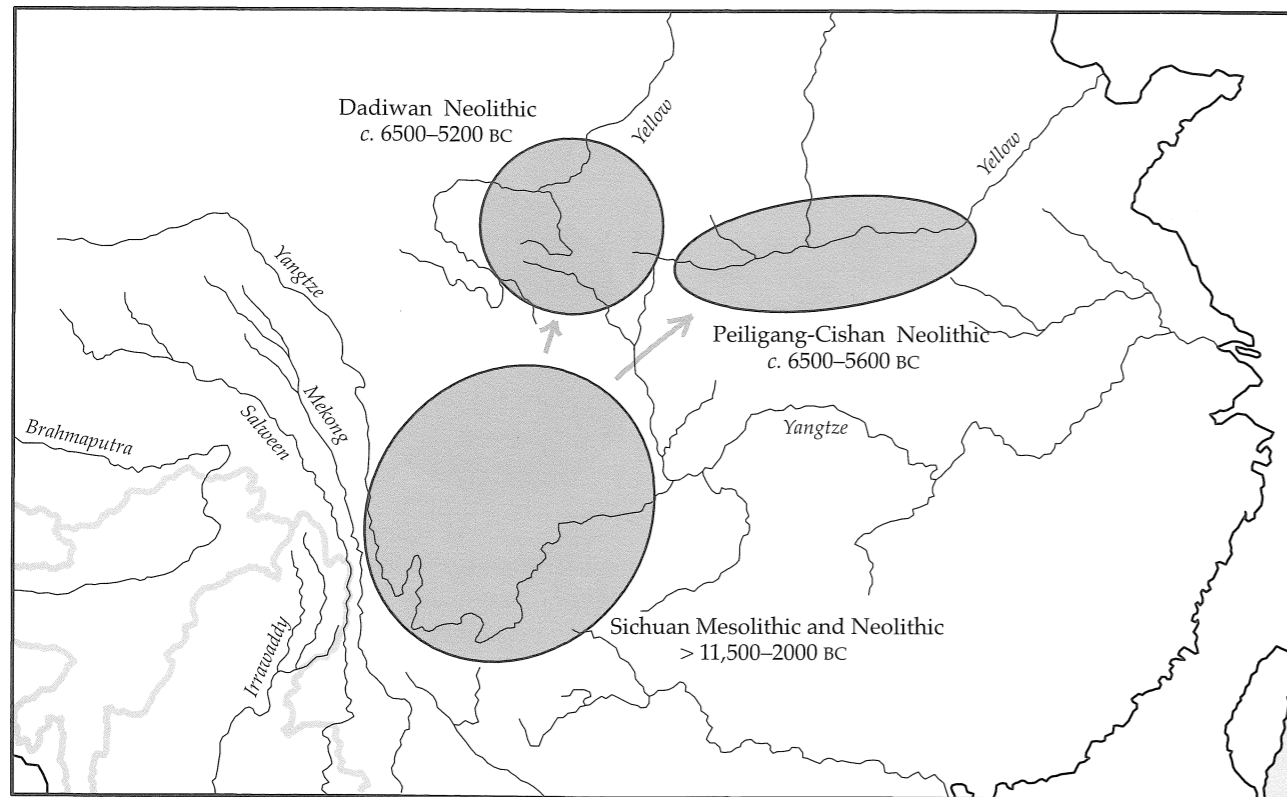


Figure 19.7. The establishment of the early Neolithic Peiligang-Cishan and Dadiwan civilizations in the Yellow River basin by Northern Tibeto-Burmans before the beginning of the sixth millennium BC.

stituting half of the test material, were obtained from individuals representing Hà Chinese populations settled in various provinces of China. The remaining samples were from several Tibeto-Burman populations resident in China, i.e. Nakhi, Bái, Yi, Jinuo, Jinghpaw, Yunnan Lahu and Tujia. Finally, there were two Tibetan samples, one from Lhasa and one from Yunnan, and a single Karen sample from Southeast Asia. The assay was therefore limited and did not sample most of the key Tibeto-Burman language communities in the Himalayas about whose ancestors inferences were made. The second problem is that the interpretative framework was based on the phylogenetic model presented by Matisoff (1991), in which an Indo-Chinese or 'Proto-Sino-Tibetan' *Ursprache* at its deepest time depth is presumed to have split east-west into 'Proto-Chinese' and 'Proto-Tibeto-Burman'. Problems with this model have been discussed above.

At a far greater time depth, ethnolinguistically informed assays of the population of eastern Asia on the basis of thirty microsatellites made by Chu *et al.* (1998) have shown that the ethnolinguistic composition of China is reflected in the genetic complexity,

and that the peopling of eastern Asia probably occurred in a northward movement from Southeast Asia. These results have been corroborated in a study of nineteen biallelic loci on the Y chromosome, which demonstrated that northern populations in eastern Asia only represent a subset of the haplotypes found in southern populations, which show greater polymorphism on the whole than northern populations (Su *et al.* 1999).

Craniometric and skeletal evidence is still routinely used by archaeologists and palaeontologists to reconstruct population history. For example, Brown (1998) and Demeter (2000) argue for major morphological changes in population in the Far East between various phases of the post-Pleistocene or between the Mesolithic and Neolithic periods. Hopefully, it will be possible in future to make such findings square with the new insights of genomic studies. Particularly in view of the phenotypic variation sometimes observed within single populations, it will hopefully be undertaken to extract DNA from such crania for study. Recent work by Ding *et al.* (2000) has also shown that northern and southern haplotype clusters blend across a cline without any abrupt

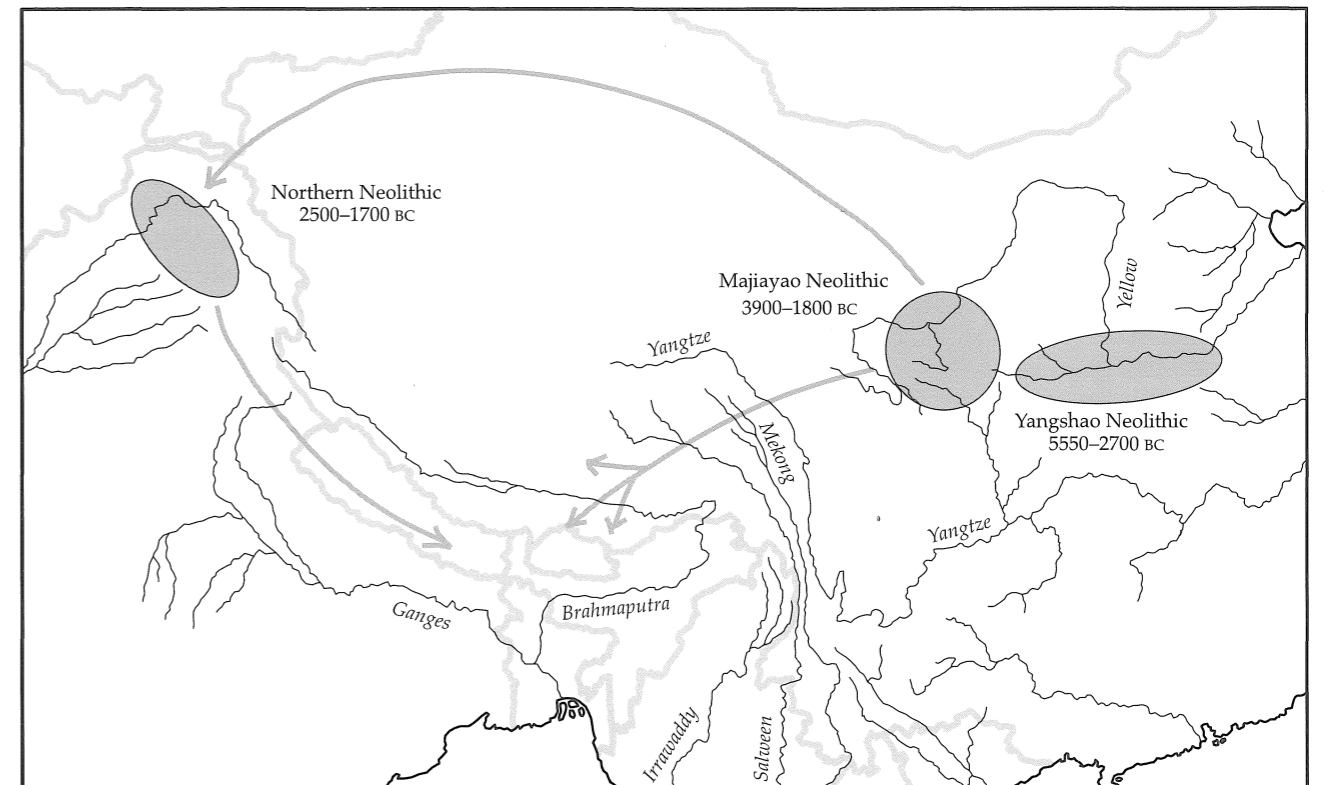


Figure 19.8. One offshoot of the late Neolithic Majiayao cultural complex migrates south through northern Sichuan and eastern Tibet into Sikkim, whereas another offshoot migrates to the southwest across the Himalayas to establish the Northern Neolithic civilization in Kashmir. Northwestern Tibeto-Burmans peopled the Himalayas, both from the northeast, colonizing Sikkim and Nepal, and from the west, colonizing the western Himalayas and the Tibetan plateau.

change, so that there is little genetic support in evidence for linguistic theories connecting Chinese to Caucasian, e.g. the Sino-Caucasian theory advocated by Starostin, or for connecting Chinese genetically with Indo-European, as Pulleyblank does. Yet all these investigations have merely scratched the surface of a vast terrain which lies to be charted and have begun to make possible an integrated vision of the genetic, linguistic, historical, archaeological and anthropological data.

Three arguments support the identification of Sichuan as the Tibeto-Burman homeland. The first is the centre of gravity argument based on the present and historically attested geographical distribution of Tibeto-Burman language communities. Sichuan encompasses the area where the upper courses of the Brahmaputra, Salween, Mekong and Yangtze run parallel to each other within a corridor just five hundred kilometres in breadth. The second argument is that archaeologists identify the Indian Eastern Neolithic, associated with the indigenous Tibeto-Burman populations of northeastern India and the

Indo-Burmese borderlands, as a Neolithic cultural complex which originated in Sichuan and spread into Assam and the surrounding hill tracts of Arunachal Pradesh, the Meghalaya, Tripura, the Chittagong, Mizoram, Manipur and Nagaland before the third millennium BC.

Archaeologists have estimated the Indian Eastern Neolithic to date from between 10,000 and 5000 BC (Thapar 1985; Sharma 1989). If these estimates are taken at face value, it would mean that northeastern India had shouldered adzes at least three millennia before they appeared in Southeast Asia. Whilst some archaeologists may give younger estimates for the Indian Eastern Neolithic, a solid stratigraphy and calibrated radiocarbon datings are still unavailable for this major South Asian cultural assemblage. The Indian Eastern Neolithic appears intrusively in the northeast of the Subcontinent and represents a tradition wholly distinct from the other Neolithic assemblages attested in India. Assuming that the Indian Eastern Neolithic was borne to the Subcontinent by ancient Tibeto-Burmans, then if the younger esti-

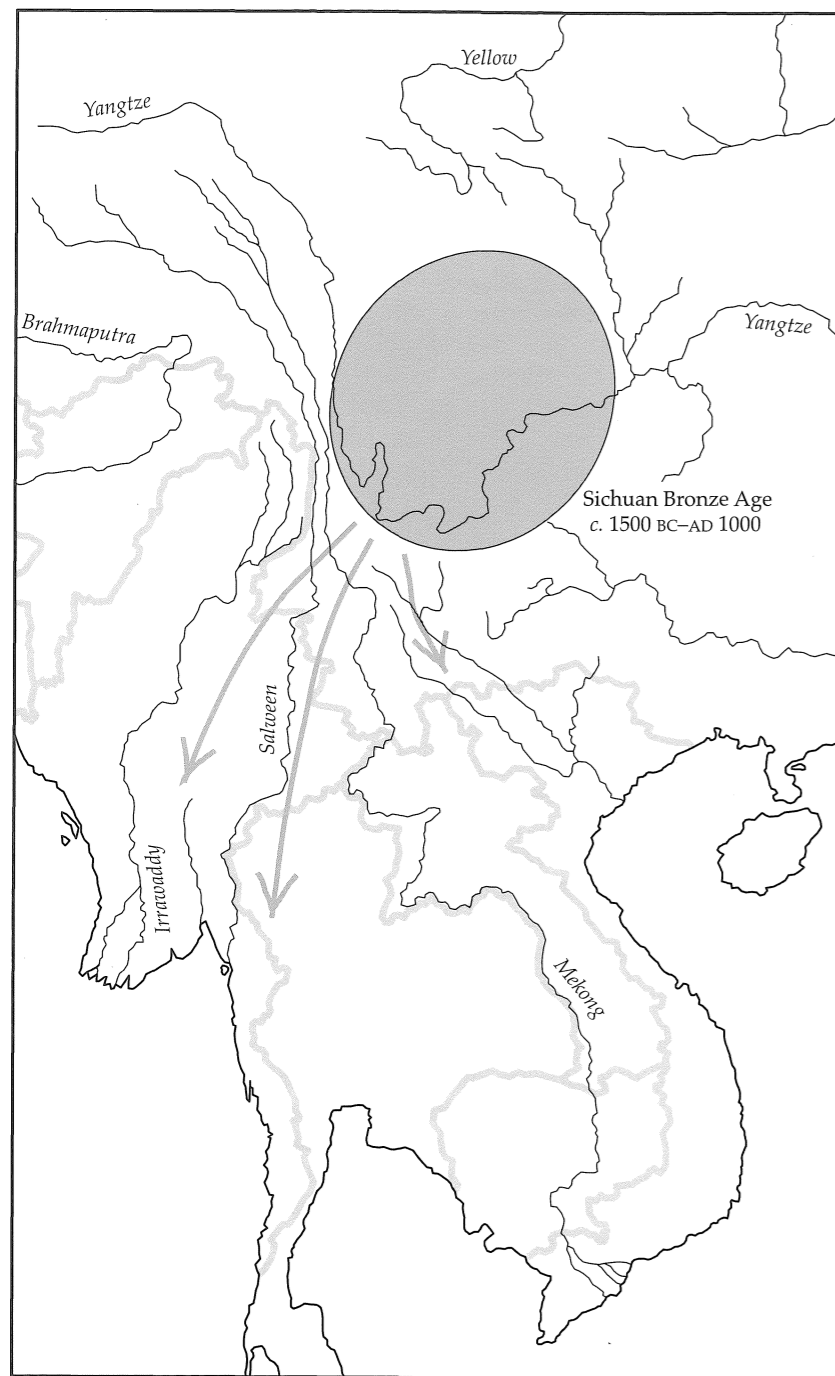


Figure 19.9. The exodus of Deep Southern Tibeto-Burmans into peninsular Southeast Asia had begun by the first millennium BC, and the process seems to have never completely come to a halt, as Lolo-Burmese groups have continued to trickle into Thailand from Yunnan in recent history.

mates for this cultural assemblage can be substantiated by solid dating, the linguistic fracturing of subgroups would have to have occurred earlier in Sichuan before the migrations, as I have suggested

before (van Driem 1998; 2001).

The third argument is that archaeologists have argued that southwestern China would be a potentially promising place to look for the precursors of the Neolithic civilizations which later took root in the Yellow River Valley (Chêng 1957; Chang 1965; 1977; 1986; 1992). The Dadiwan culture in Gansu and Shanxi and the contiguous and contemporaneous Peiligang-Cishan 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 semi-polished stone axes. The Dadiwan and Peiligang-Cishan assemblages, despite several points of divergence, were closely related cultural complexes, and the people behind these civilizations shared the same preference for settlements on plains along the river or on high terraces at confluences. Whereas the Sichuan Neolithic represented the continuation of local Mesolithic cultural traditions, the first Neolithic agriculturalists of the Dadiwan and Peiligang-Cishan cultures may be identified tentatively with innovators who migrated from Sichuan to the fertile loess plains of the Yellow River basin. The technological gap between the earlier local microlithic cultures and the highly advanced Neolithic civilizations which subsequently come into flower in the Yellow River basin remains striking. Yet a weakness in this third argument lies in the archaeological state of the art. Just as it is difficult to argue for a possible precursor in Sichuan in face of a lack of compelling archaeological

evidence, neither can the inadequate state of the art in Neolithic archaeology in southwestern China serve as an argument for the absence of such a precursor.

Moreover, agricultural dispersals and linguis-

tic intrusions may be distinct issues altogether. The concentration within a contiguous geographical region of all major high-order Tibeto-Burman subgroups other than Tujia and Sinitic constitutes a linguistic argument for an early Tibeto-Burman linguistic intrusion into the area that today is northern China. If the Dadiwan culture in Gansu and Shanxi and the contiguous Peiligang-Cishan assemblage along the middle course of the Yellow River are indeed primary Neolithic civilizations, then the eccentric location of Sinitic and Tujia may even trace the route of the early migration out of Tibeto-Burman homeland to the affluent and more technologically advanced agricultural societies in the Yellow River basin. In other words, since the linguistic evidence puts the Tibeto-Burman heartland in southwestern China and northeastern India, an archaeological precursor in Sichuan for the Dadiwan and Peiligang-Cishan cultures would fit the hypothesis that the displacement of Sinitic to northern China was the result of an early Tibeto-Burman archaeological dispersal. The absence of any such precursor in northern end of the ancient Tibeto-Burman dialect continuum to the affluent areas of pre-Tibeto-Burman agricultural civilizations along the Yellow River.

I collectively refer to the ancient Tibeto-Burman populations, who either bore with them from Sichuan to the loess plateau the technologies of polished stone tools and cord-marked pottery or were enticed to the loess plateau by the affluence of the technologically more advanced agricultural civilizations there, as 'Northern Tibeto-Burmans'. I identify these Northern Tibeto-Burmans as the likely linguistic ancestors of the Sino-Bodic groups. Subsequent technological developments were both innovated and introduced comparatively rapidly in the north, whereas relatively egalitarian small-scale agricultural societies persisted in southwestern China until the Bronze Age. This hypothesis places the split between Northern and Southern Tibeto-Burman in the seventh millennium BC, just before the dawn of the Dadiwan and Peiligang-Cishan civilizations.

I identify the spread of Bodic groups from Gansu with the dispersal of the Majiayao and Yangshao Neolithic cultures and the cultivars broom-corn millet *Panicum mileaceum* and foxtail millet *Setaria italica*, first domesticated on the North China Plain, into the Himalayan region in the third millennium BC. Sino-Bodic would have split up into Sinitic and Bodic before this date. This dispersal proceeded along two routes. The Majiayao Neolithic culture spread westward along the main ancient Inner Asian

trade route across the Himalayas to establish the genetically related Northern or Kashmir Neolithic in Kashmir and Swat. At the same time, the Majiayao cultural assemblage spread southward from Gansu through eastern Tibet into southeastern Tibet, Bhutan and Sikkim to establish the Neolithic cultures of Chab-mdo and northern Sikkim, both of which have been identified as colonial exponents of the Majiayao Neolithic. Moreover, these colonial exponents make their appearance in Kashmir, eastern Tibet and Sikkim in the second half of the third millennium BC, so that the final phase of these movements coincides precisely with the Banshan phase of the Majiayao cultural assemblage, which covers the period between 2200 and 1900 BC and is characterized by a marked geographical contraction of the original Majiayao core territory.

My reconstruction of Tibeto-Burman dispersals, presented in greater detail elsewhere (van Driem 1998; 1999; 2001), is outlined here in Figures 19.6 to 19.9. On the whole, this reconstruction still fits the known facts well. Yet the weaknesses in this model must be recognized. First of all, Sichuan and southwestern China in general remains archaeologically inadequately researched, despite the significance of the area's prehistory. A second problem is that the linguistic state of the art gives us no real relative chronology for the splitting off of the main taxa of the language family, as shown in Figure 19.3. Nevertheless, the sheer number of high-order subgroups in the Himalayan region and the northeast of the Subcontinent provides a good idea of where and when it would be most fruitful to look for likely archaeological correlates for the dispersal of ancient Tibeto-Burman populations. The lopsided geographical distribution of most major Tibeto-Burman groups in the Himalayas and northeastern India, the likely linguistic affinity of Sinitic with Bodic, and the possible affinity of 'Deep Southern' with 'Central' Tibeto-Burman groups have inspired the tree schema outlined in Figure 19.5.

An alternative proposal to a Tibeto-Burman homeland in Sichuan would be to identify the earliest Neolithic cultures along the Yellow River basin and on North China Plain with the Tibeto-Burman homeland. However, if the Tibeto-Burman homeland were to have lain in the Yellow River basin, then we would be hard pressed to find a plausible archaeological correlate for the spread of Brahmaputran language communities, which once extended beyond Assam and the Meghalaya and formerly covered much of the area that is now Bangladesh and West Bengal. It must be kept in mind that the early

Neolithic civilization on the Yellow River is distinct from the cultural assemblages of the middle Yangtze basin, the succeeding stages of which ultimately spread as far afield as Oceania in the course of the millennia. Both the Yellow River and the middle Yangtze civilizations represent ancient agricultural societies nearly as old as those of the Fertile Crescent.

Clearly, the first and foremost *desiderata* are that the archaeology of Sichuan and northeastern India be better understood, that a fine-grid and ethno-linguistically informed genome study of the greater Himalayan region be carried out, and that a new look be taken at subgroups within Tibeto-Burman, whereby the same methodological rigour of sound laws and shared innovation is applied which has characterized Indo-European studies. My reconstruction of Tibeto-Burman language dispersals, outlined synoptically here in Figures 19.6 to 19.6 and in much more detail elsewhere (van Driem 1998; 1999; 2001), will remain sensitive to revision and modification based on new data and new insights.

Finally, it is germane to this discussion to mention one interesting theory which has been proposed involving a remote linguistic relationship with Tibeto-Burman. The Sino-Austronesian theory proposed by Laurent Sagart (1990) connects Tibeto-Burman with Austronesian. The epistemological basis for this theory is still not very large, but the evidence is tantalizing. Of course, it is possible that the lexical correspondences between Austronesian and Tibeto-Burman adduced by Sagart (1994; 2001) could represent ancient loans exchanged during contact between early Sino-Bodic and early Austronesian peoples. However, the vocabulary items adduced by Sagart include over thirty very basic items which decidedly reflect core vocabulary, such as 'head', 'brain', 'body hair', 'earth', 'fire', 'belly', 'snake' and so forth. In favour of the evidence it must be noted that the sound correspondences between the Proto-Austronesian, Old Chinese and Proto-Tibeto-Burman forms appear to be regular, though the total number of roots which have thus far been adduced is limited. Sino-Austronesian has not been conclusively demonstrated, but neither can the theory be dismissed as fanciful or far-fetched.

Because Sagart initially recognized possible Sino-Austronesian correspondences in Chinese material more than in Tibeto-Burman, he was originally inclined to identify the Sino-Austronesian unity with the Longshan cultural horizon. In recent years, however, Sagart has recognized that the correspondences appear to obtain between Austronesian and Tibeto-Burman as a whole. Therefore he is now inclined to

assume a greater time depth for the Sino-Austronesian unity and currently holds that the most probable archaeological correlate for Sino-Austronesian are the earliest millet-cultivating cultures along the Yellow River, on the North China Plain and in Shandong. Sagart argues that the early Neolithic culture on Formosa would represent an early civilization of Sino-Austronesian millet cultivators who had settled the island from the mainland. In this context, Sagart argues that rice cultivation on Formosa is a late acquisition dating from the third millennium BC which came to the island from the middle Yangtze valley via a southerly route. In order to maintain this view, Sagart must assail the soundness of the historical linguistic evidence adduced by Robert Blust for rice as a cultivar known to the early Austronesians and also its presence on Formosa by at least 3000 BC (Tsang 2001).

However, there is an alternative way of viewing the Sino-Austronesian evidence and the archaeological record. The Longshan coastal interaction ensued upon a northward expansion of Proto-Austronesian or Austro-Tai culture from its ancient homeland in southern and southeastern China, and this northward expansion of early Austronesians would have brought them into contact with early Northern Tibeto-Burmans. The ensuing contact situations between Austronesian and the Sino-Bodic branch of Tibeto-Burman could have involved the ancient exchange of vocabulary between the two language families. The way to test this would be to determine whether items shared by Austronesian and Tibeto-Burman are indeed limited to the Sino-Bodic branch of Tibeto-Burman, including rice terms such as Malay *beras* and Tibetan *'bras*, a correspondence already pointed out by Hendrik Kern in 1889 (Kern 1889, 5). The Longshan interaction sphere is an obvious candidate in terms of time and place for early contacts between ancient Austronesians and ancient Tibeto-Burmans, particularly the Dawenkou Neolithic of Shandong with its well-established ties both with the other coastal cultures of the Longshan interaction sphere as well as with the ancient Northern Tibeto-Burman Yangshao Neolithic civilization.

However, the archaeological record presents earlier possible correlates for contact between ancient Daic or Austro-Tai and ancient Northern Tibeto-Burman culture. For one, impressions of rice contained within the walls of ceramic vessels from the sixth millennium BC indicate that the Yangshao Neolithic maintained some degree of interaction with the probably Daic rice-cultivating civilizations south of the Qinling mountains along the Yangtze. How-

ever, the first reported instance of recovery of actual rice remains in the Yellow River basin dates from the beginning of the second millennium BC, associated with the Longshan culture of Henan (Wu 1996). A much later candidate for an archaeological reflection of intense interaction between ancient Northern Tibeto-Burmans on the Yellow River and ancient Daic peoples on the middle Yangtze, some time after the Longshan horizon, is the Qujialing and Shijiahe culture, which expanded from the middle Yangtze into peripheral regions rapidly and on a grand scale, even replacing the Yangshao culture in southern and southeastern Henan in the middle of the third millennium BC (Zhang 1996).

Notes

1. The acute accent where there should now be a grave accent is an original feature of the orthography of the period. I thank William Hubbard Baxter for pointing out the appropriateness of this remark for the present juncture in the history of Tibeto-Burman linguistics.

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