The Diversity of the Tibeto-Burman Language Family and the Linguistic Ancestry of Chinese

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1. Japhetic, Atactic, Turanian and Indo-Chinese

In mediaeval Europe, most scholars came to terms with the world's linguistic diversity within the framework of a Biblical belief system. Even at the end of the eighteenth century, pious scholars such as Sir William Jones believed that the myth of the Tower of Babel explained how 'the language of Noah' had been 'lost irretrievably' (1793: 489). Another Biblical view attempted to explain the world's linguistic stocks as deriving from Noah's three sons after the deluge had abated in the well-known Judæo-Christian myth of the ark. The descendants of Shem populated the earth with Semitic speaking peoples, whereas the descendants of Ham today spoke 'Scythian' languages, whilst all other languages derived from the progeny of Noah's eldest son Japhet.

The Semitic languages most notably include Hebrew, the language of the Old Testament. The Semitic language family is known today as Afroasiatic. Scythian or 'Scythisch' is a language family first identified in Leiden by Marcus van Boxhorn (1647), although van Boxhorn did not invoke Biblical mythology in any of his own writings. His theory of language relationship was renamed Indo-Germanic or Indo-European in the 19th century. In 1647, 'Scythisch' specifically included Sanskrit, known to van Boxhorn through the vocabulary recorded by Ctesias of Cnidos in the fifth century BC,[1] and all the then known branches of Indo-European, *viz.* Latin, Greek, Celtic, Germanic, Indo-Iranian, Baltic and Slavonic.

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[1] Ctesias was a Greek traveller, who had been captured at the battle of Cunaxa (*gerebatur* 401 BC) and then resided at Susa, where he served as a physician to the court of Artaxerxes Mnemon for twenty years.

To subsume all other languages of the world from Alaska to Papua New Guinea and from Tierra del Fuego to Japan within a grand Japhetic family provided scholars working within a Biblical framework with a comfortably tidy and undifferentiated view of global linguistic diversity. Ironically, even in the twentieth century under the ruthless iconoclast dictator Joseph Stalin, the dominant paradigm in linguistics, archaeology and ethnography in the Soviet Union for decades was Marrism. This school of thought entertained a latter-day version of the Japhetic Theory conceived by the Georgian scholar Nikolaj Jakovlevič Marr, who curried favour with Stalin and in 1921 founded the Japhetic Institute of the Soviet Academy of Sciences.

A more scholarly albeit equally murky view of Asian linguistic stocks was Turanian, a language family promulgated by Friedrich Max Müller, the famous German scholar of Sanskrit at Oxford. The Turanian idea can be traced back to Adelung's *Mithridates*, where specimens of the Lord's Prayer in five hundred languages were grouped in such a way as to suggest a division between Semitic tongues, languages known today as Indo-European, and all the rest. The geographical distribution of these major divisions suggested to the mind of Adelung that the Biblical paradise must have been located in Kashmir. In a review of *Mithridates*, Thomas Young suggested that all languages of Eurasia which were neither Indo-European nor Afroasiatic could be grouped together in a single 'Atactic' family (1813: 255-256). Such writings inspired Müller's Turanian theory, which united all 'allophylian' languages, i.e. all non-Indo-European and non-Afroasiatic languages, of Eurasia. Müller abandoned the Turanian theory before his death in 1900, but the theory outlived him and thrived in some quarters well into the twentieth century.

A third monophyletic view of Asian linguistics stocks is the most interesting because, though it has been whittled down in the course of time, this model still exists today and includes Chinese. The Indo-Chinese theory was invented by John Caspar Leyden, a Scottish physician and poet who died at the age of 35 in Batavia in the Dutch East Indies. He travelled widely in India and in mainland and insular Southeast Asia. His Indo-Chinese family encompassed all the languages 'of the regions which lie between India and China, and the greater part of the islanders in the eastern sea', which although 'dissimilar', according to Leyden, 'exhibit the same mixed origin' (1806: 1). Leyden did not live long enough to publicly disavow the theory, as Müller had done for Turanian, and Indo-Chinese was to doggedly lead a life of its own, even though it was constantly under assault by more knowledgeable scholars. Indo-Chinese is known today as 'Sino-Tibetan'.

2. Polyphyletic vs. monophyletic Asia

In the wake of European maritime expansion, Western scholars set upon documenting languages spoken in areas which they began to frequent. A Tamil grammar was written in 1549 by the Jesuit Henrique Henriques, entitled *Arte da lingua malabar em português*. The deteriorated original is archived at the Biblioteca National Lusa at Lisbon as manuscript No. 3141. The oldest grammar of Japanese is the *Arte da Lingoa de Iapam composta pelo Padre João Rodrigues da Companhia de Jesu*, published in three volumes at Nagasaki between 1604 and 1608 (Carvalhão Buescu 1998). A Vietnamese-Portuguese-Latin dictionary was published in 1651 by Alexander de Rhodes. The first Hindi grammar was written in Dutch in 1698 by Joan Josua Ketelaar for the Dutch East India Company (Vogel 1937, 1941). A Sinhalese grammar by Joannes Ruëll appeared in Amsterdam in 1708 entitled *Grammatica of Singaleesche Taal-kunst*. These and numerous other works on languages of the East began to be produced after Vasco da Gama first made landfall north of Calicut on the Malabar coast in 1497.

At the same time, European colonial expansion spread overland through Siberia. The first explicitly polyphyletic view of Asian linguistic stocks was first presented in 1692 by Nicolaes Witsen, former burgomaster of Amsterdam. Witsen provided numerous words lists and specimens of the languages of Siberia, eastern Europe, the Caucasus and Central Asia based on his travels through the Russian Empire. Witsen identified the languages known today as Altaic as being varieties of 'de Tartersche Spraek', and he carefully pointed out the linguistic distinctness of the family of languages today known as Uralic as well as the distinctness of languages of the Caucasus and of tongues spoken by Palaeosiberian groups. Yet Witsen believed that the peoples speaking most of these various languages were racially 'Tartaren' or had 'Tartersche' affinities.

The Swedish officer Phillip Johann von Strahlenberg spent time in eastern Russia as a prisoner of war after the battle of Poltava. Strahlenberg adopted Witsen's polyphyletic view of Asian linguistic stocks and in 1730 restricted the use of the term *Tatarische Sprachen* to Turkic, Mongolic and Tungusic, three major branches of the language family known today as Altaic. The Altaic affinity of Japanese was mooted by Engelbert Kæmpfer (1729) and later asserted pointedly by Philipp Franz Balthasar von Siebold (1832). Both men were attached to the Dutch mission at Edo. The special relationship between Korean and Japanese was asserted by George William Aston (1879), assistant secretary for Japanese of the British legation at Edo.

By the beginning of the nineteenth century, enough language documentation had accumulated in Europe that in 1823 a more rigorous polyphyletic exposition of Asian linguistic stocks could be presented in Paris by a knowledgeable and well-read German scholar. Julius Heinrich von Klaproth was born in 1783 in Berlin and died in 1835 in Paris. As a young man he travelled to China twice, in the years 1805-1806 and again in 1806-1807. He mastered the Western literature on Oriental tongues as none other. He edited the *Asiatisches Magazin* in Weimar and became foreign associate of the Société Asiatique after its founding in 1821 in Paris. His *Asia Polyglotta* presented a more comprehensive view than Witsen's hefty 1692 survey, for it extended beyond the confines of the Russian Empire and included major languages of East Asia, Southeast Asia and Polar America. Based on a systematic comparison of lexical roots, Klaproth identified and distinguished twenty-three Asian linguistic stocks, which he supposed did not yet represent an exhaustive inventory. At the same time, he argued for a smaller number of phyla because he recognised the genetic affinity between certain of these stocks and the distinct nature of others.

Klaproth treated the language stocks of northeastern Eurasia each as a distinct phylum, e.g. Yukaghir, Koryak, Kamchadal, and the languages of the 'Polar-Amerikaner in Asien'. Using data from Dutch colonial sources, Klaproth became the first to clearly identify the languages of Formosa as members of the Austronesian language family, genetically related to Malay and Malagasy (1822, 1823a, 1823b). Klaproth followed Witsen and von Strahlenberg in recognising Turkic, Mongolic and Tungusic languages as forming a family of related languages, but he still considered Korean and Japanese to be distinct Asian phyla. Klaproth's *Asia Polyglotta* also popularised the term *indo-germanisch* for the language family which had hitherto been known as 'Scythian' (1823a: 42). In Paris, the term had been coined thirteen years earlier as *indo-germanique* by the exiled Danish geographer Conrad Malte-Brun (1810, II: 577). Yet in the end, the English term 'Indoeuropean', first coined by Thomas Young (1813: 255), was to become more popular, chiefly because the term was later championed by Franz Bopp.

Tibeto-Burman 藏緬語系

Tibetan 藏語   Chinese 漢語   Burmese 緬語   ...and all languages which can be demonstrated to be genetically related to these three
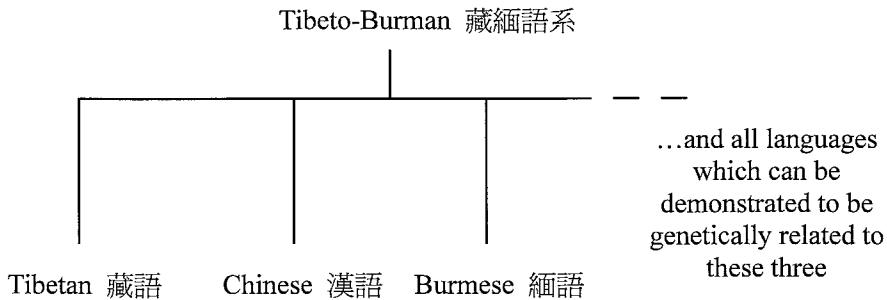
DIAGRAM 1: One of the language families identified by Julius Heinrich von Klaproth in his polyphyletic view of Asian linguistic stocks (1823a, 1823b). He explicitly excluded languages today known to be Kra-Dai or Daic (e.g. Thai, Lao, Shan) and known to be Austroasiatic (e.g. Mon, Vietnamese, Nicobarese, Khmer).

One of the major linguistic phyla identified by Klaproth was the language family which comprised Tibetan, Chinese and Burmese and all languages which could be demonstrated to be genetically related to these three. Klaproth explicitly excluded languages known today to be members of the Daic or Kra-Dai family, e.g. Thai, or members of the Austroasiatic family, e.g. Vietnamese and Mon (1823a: 363-365). Klaproth did not devise labels for each of the many distinct language phyla which he identified in Asia. From 1852 onwards, John Logan became one of the first to use the term 'Tibeto-Burman' in print for the language family identified by Klaproth, to which Logan added Karen and related languages. Soon 'Tibeto-Burman' became popular as the English term for the family, as noted by Charles Forbes (1878: 210). Robert Cust also treated 'Tibeto-Burman', including Karen, as a family distinct from the 'Tai' and the 'Mon-Anam' families (1878). Bernard Houghton, who worked on languages of Burma, likewise followed Klaproth in recognising Chinese to be a member of this Tibeto-Burman family (1896: 28).

3. The default hypothesis: Tibeto-Burman

Epistemologically, Klaproth's model makes the fewest assumptions and thus continues to represent the most agnostic theory about the genetic relationship of Chinese. The Tibeto-Burman theory asserts that Tibetan, Burmese and Chinese are genetically related. Furthermore, the theory assumes that there is a family of languages that can be demonstrated to be genetically related to these three languages, and that, at this reconstructible level of relationship, Tibeto-Burman excludes both the Daic or Kra-Dai languages and the Austroasiatic languages. I use the term Tibeto-Burman in its original English sense to denote the family tree recognised by Julius von Klaproth and accepted by British scholars such as Forbes, Houghton and Cust. The Tibeto-Burman theory makes no explicit assertions about the internal subgrouping of the family. So, what evidence is there for the Tibeto-Burman theory?
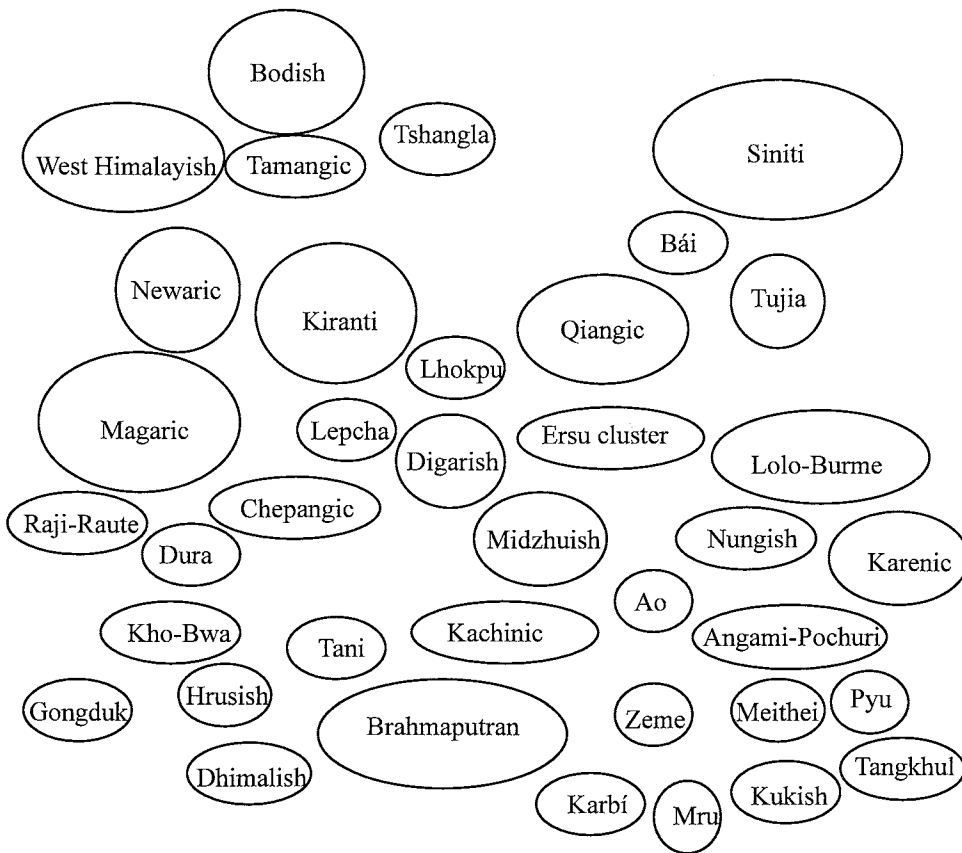
DIAGRAM 2: Tibeto-Burman subgroups identified since Julius von Klaproth. Brahmaputran may include Kachinic and Dhimalish. Other subgrouping proposals are discussed in the handbook (van Driem 2001).

A vast body of data and comparative work has come to fill the literature on Tibeto-Burman ever since Nicolaes Witsen published the first Tibetan word list and first specimens of Tibetan script in the West in 1692. Most of this literature is cited in the bibliography of my handbook (van Driem 2001), and a number of outstanding contributions have appeared since, e.g. Burling (2004), Coupe (2003), Genetti (2003), Haller (2004), Hari and Lama (2004), Hildebrandt (2003), Jacques (2004), Lahaussois (2002), Opgenort (2004, 2005), Plaisier (2005), Strahm and Maibaum (2005), Turin (2005), Wāng (2004), Watters (2002, 2004). All early and recent descriptions of Tibeto-Burman languages support the Tibeto-Burman theory about the existence of a language family consisting of Burmese, Chinese and Tibetan and other languages which

can be demonstrated to be genetically related to these three defining members. Comparative historical studies, reconstructions of Proto-Tibeto-Burman and Tibeto-Burman subgroups such as Old Chinese all bear out Klaproth's original model, even when some of the scholars who have marshalled this evidence entertained different, less agnostic theories of language relationship, e.g. Shafer (1963, 1966, 1967, 1968, 1974), Benedict (1972, 1976), Matisoff (2003).[2]

We know more now than Klaproth did in 1823, and many previously unknown Tibeto-Burman languages and subgroups have since been identified. In 2001 in Cambridge, I introduced the metaphor of fallen leaves illustrated in Diagram 2 (van Driem 2001, 2002). The model attempts to identify the constituent branches of the family and draw the focus of attention back to the centre of Tibeto-Burman linguistic diversity, which lies in the eastern Himalayas and the Indo-Burmese borderlands. The patch of fallen leaves on the forest floor provides a more informative framework than a false tree. The metaphor implies the existence of a tree, but we cannot lift our gaze from the forest floor to see the tree because we cannot look directly into the past. Instead, historical comparative work will hopefully enable us to see the shadows which the branches cast between the leaves on the forest floor. Whether a language family appears to be more rake-like or more tree-like is often a function of the state of the art in historical comparative linguistics rather than a statement about linguistic phylogeny. With the inexorable progress of Indo-European studies, even the twelve branches of this most well-studied language family, once depicted in the pleasing shape of branching oak, have gradually assumed a more rake-like appearance and so come closer to the fallen leaves model.

4. Language typology and the rise of 'scientific' racism

Race and language used to be confused by many laymen and even by some linguists. Much was made of the fact that the Chinese appeared to be racially different from the Burmese, for example, though linguists such as Klaproth and Müller stressed the absolute distinction in principle between race and language, many remained deaf to such explanations.[3] Racism is not the product of science, but is born of primitive

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[2] These first attempts at reconstruction inevitably suffered from major shortcomings and oversights and do not yet constitute reconstructions in the conventional historical linguistic sense, cf. Miller (1968, 1974), Sagart (2006). Bob Blust's term 'proto-form stuffing' has been used to characterise some of these Tibeto-Burman reconstructions.

[3] Müller's writings on the topic are copious. We shall draw just one example from Klaproth on the distinction between ethnic and linguistic relationship: 'Es ist richtig zu sagen, die deutsche Sprache stammt von denselben Wurzeln ab als das *Sanskrit*, aber unsinnig darum das *Deutsche*

tribalist pride rooted in our primate group instincts. Attempts to put racism on a scientific and intellectual footing in Europe in an attempt to impart some scholarly respectability to racist biases came to fruition in the nineteenth century, following the success of the Industrial Revolution and over three centuries of European colonial expansion across the globe.

However, the roots of 'scientific' racism can be traced to the second half of the eighteenth century. In his *Discours sur l'origine et les fondemens de l'inégalité parmi les hommes,* Jean Jacques Rousseau (1755) professed an intellectual belief in racial inequality and argued that linguistic diversity was tantamount to linguistic inequality between the races. Rousseau's musings were no isolated screed. Much early language typology was imbued with this same spirit. In 1782, Johann Rüdiger proposed that structural differences between languages were the result of differences in the stage of development attained by various language communities. Not all early language typology was riddled with racial value judgements, however. Various structural types were perhaps first distinguished by Friedrich von Schlegel, who divided language types into 'flexionslos, affigirend und flectirend' (1808), and August Friedrich Pott enhanced this typology and distinguished four types, i.e. 'isolirend, agglutinirend, flexivische, einverleibend' (1848).

However, Heymann Steinthal developed Rüdiger's line of thinking and propounded a chauvinist interpretation of linguistic typology. Steinthal believed that the language type was a measure of the 'instinktartige Selbstbewußtsein' of a speech community, and that 'die Sprachen sind so verschieden, wie das Bewußtsein der verschiedenen Völker' (1850: 59, 63). Steinthal converted the typological spectrum distinguished by Schlegel and Pott into a graded vertical hierarchy of language evolution based on what he called 'das physiologische Sprachprincip', i.e. grammatical typology, which was supposed to reflect successive stages of typological development (1850, 1860). This system first distinguished twelve and later eight levels of refinement from the most complex stage, represented by Sanskrit, to the most rudimentary stage of development, with 'einsylbige' languages such as Chinese and Thai occupying 'die unterste Stufe', the lowest rung on the ladder.

The first scholar to produce a grand synthesis and detailed rationalisation of racial biases and prejudices was Joseph Arthur de Gobineau in his *Essai sur l'inégalité des races humaines* (1854, 1855). The French count's racist theories were buttressed

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Volk von den Hindu abzuleiten.' (1823a: 43) Some scholars such as Huot agreed: 'L'opinion de M. Klaproth ne fait, selon nous, que confirmer notre opinion qui est celle de tous qui étudient la nature: que les langues ne peuvent que fournir des caractères incertains pour la classification des *espèces* ou des *races* d'hommes,' (Malte-Brun 1832, I: 521) but this essential distinction was to be lost on many people.

principally by arguments based on language typology. He contended that the human races were unequal in physical and intellectual prowess, and that this inequality between the races was mirrored perfectly by their languages. The count grappled with the question of how it could be that a language as typologically inferior as Chinese could have given rise to a technologically advanced civilisation. To account for this apparent contradiction, the count devised a distinction between male and female races, whereby 'les races mâles' predictably possessed 'un langage plus précis, plus abondant, plus riche que les races femelles' (1854, I: 190). Male languages were exact, whereas languages spoken by female races indulged in aestheticism and were replete with imprecise and emotive notions. Although the Chinese had the misfortune of being racially and linguistically inferior, the count reasoned, the Chinese language was male and so replete with an adequate supply of utilitarian terms.

Such silliness may strike some of us today as amusing, but scientific racism ultimately fostered theories of eugenics and white supremacist movements throughout the Anglo-Saxon world, and Arthur de Gobineau's writings were 'rediscovered' in Germany after the First World War by Ludwig Schemann and Franz Hahne, after which the Nazi party came to venerate the French count as a seminal ideologue. It is noteworthy that these racist linguistic typological views about the Chinese language and people were being innovated in Europe precisely during the interbellum between the First and Second Opium Wars (*gerebantur* 1840-1842, 1856-1860). By contrast, earlier Western writings from Marco Polo and Luís Frois onward had typically been imbued with a sense of wonder and admiration for the grandeur and cultural refinement of the East.

Ernest Renan adopted Steinthal's view of a typological hierarchy and shared the racist philosophy of the Comte de Gobineau. In his *De l'origine du langage*, Renan took a dim view of Chinese, musing that 'la langue chinoise, avec sa structure inorganique et incomplète, n'est-elle pas l'image de la sècheresse d'esprit et de cœur qui caractérise la race chinoise?' The Chinese language was 'suffisante pour les besoins de la vie, pour la technique des arts manuels, pour une littérature légère de petit aloi, pour une philosophie qui n'est que l'expression souvent fine, mais jamais élevée, du bon sens pratique, la langue chinoise excluait toute philosophie, toute science, toute religion, dans le sens où nous entendons ces mots.' (1859: 195-196) Renan even attributed Láo Zǐ's philosophy to foreign sources.

With the hindsight that our present vantage point in time offers us, we can see irony in the fact that the strongest intellectual reaction against racist linguistic typology at the time came from Germany. This phenomenon can be explained by the fact that another mode of thinking about linguistic typological diversity had already developed earlier in German, and this thinking can largely be attributed to the influence of

Wilhelm von Humboldt. Chinese astonished von Humboldt with its 'scheinbare Abwesenheit aller Grammatik' in the sense that grammatical relations are primarily expressed 'durch Stellung' (1836). Strongly influenced by the language philosophies of Gottfried Wilhelm Leibniz, Étienne de Condillac and Pierre de Maupertuis, Humboldt argued that each language must be recognised as the individual expression of a certain national character (1812: 2). Humboldt went beyond the distinction made by Johann Christoph Adelung between the 'innere' vs. 'äussere Bau der Sprache' (1806) and propounded the theory that the structural and lexical particulars of any language influenced and shaped an individual's conceptualisation and therefore perception of reality (1822: 252-253). The theory that our individual realities were moulded by the notions and structural categories specific to the languages that we happen to speak was widely influential in Europe, and a century later this thinking was also popularised in America by Edward Sapir and Benjamin Whorf.

Yet Humboldt's language typology differed fundamentally in spirit from that of the racist language typologists. Humboldt stressed that every attested language, even those spoken in speech communities in a rudimentary stage of technological development, showed all the complexity required to articulate a plethora of ideas. Each language exhibited a different type of refinement, and in some respects the languages of foraging savages showed greater sophistication than certain languages spoken in technologically advanced societies. Typological evolution affected all languages and had no inherent direction and was often cyclical in nature (1825: 401, 418-419). Humboldt's sophisticated reflections on linguistic typology and the ways in which language categories and structure influenced our *Ideenentwicklung* was devoid of racist bias. Humboldt espoused egalitarian ideas because he found great morphological complexity in languages spoken in societies which many of his less enlightened contemporaries viewed as primitive.

The structural type of the Chinese language most pointedly provided the counter-evidence which led Humboldt to adopt a nuanced language typology. It became clear that languages with simpler grammars, i.e. those characterised by a lesser degree of morphosyntactic complexity, could express sophisticated and refined thinking. The *Inhalt* or sea of meanings of a particular language had to be understood before it could be appreciated what kind of world view that language mediated. Different language types mediated different types of world view. Moreover, each individual language mediated a distinct world view. Humboldt's egalitarian language typology is epitomised by the reflections contained in his grammar of Kawi, and for Humboldt the Chinese language in particular served as the case in point illustrating the very opposite of what racist linguistic typologists claimed about that language. There was no vertical

ladder-shaped 'physiological hierarchy' of language types, but a horizontal or circular spectrum of possibile structural types.

So later, since some quarters of the German scholarly community had become imbued with such thinking, a strong reaction against the racist linguistic typology came in the form of Pott's *Die Ungleichheit menschlicher Rassen hauptsächlich vom sprachwissenschaftlichen Standpunkte* (1856), the alarming title of which had been taken directly from the French title of de Gobineau's *Essai*. The famous German linguist, however, vigorously challenged the linguistic assumptions misused by Arthur de Gobineau to support racism, though even some of Pott's presumptions might be disagreable to us today. Yet de Gobineau's ideas enjoyed popularity in France and England. When John Beames (1868) popularised Pott's typology for the Anglo-Saxon world, he, unlike Pott but like Steinthal and Renan, adopted a chauvinist attitude based on a vertical hierarchy of language types. Pott's four types were transformed by Beames into 'four stages of development in language'.

In tweaking Pott's original distinctions, Beames' categories also came out somewhat different, i.e. (1) 'the collocational or syntactical stage, as seen in Chinese', (2) 'the agglutinated stage, as seen in Turkish and Telugu', (3) 'the inflectional stage, as seen in Sanskrit, Greek and Latin', and (4) 'the analytical stage, as exemplified in modern French and English' (1868: 33-34). For Beames, Chinese was still ranked as the most primitive stage of language development, although he had few good words even for the more developped 'Turanian' tongues of the Himalayas, and he was particularly derisive about Magar (1870). Yet a telling innovation in Beames' hierarchy was that now French and English had surpassed Sanskrit, for the highest, 'analytical' stage of linguistic development was epitomised by English and French. In fact, both languages had respectively lost most of their original Germanic and Latin morphological complexity, but Beames rationalised that in so doing they had evolved one step beyond the flexional stage and had attained an even higher degree of sophistication. By this time, China had suffered the Western assault of the Second Opium War.

5. Indo-Chinese vs. the Klaproth tradition

A lingering legacy of racist language typology is the 'Sino-Tibetan' view that Chinese is something other than a Tibeto-Burman language. It would be anachronistic, unfair and inaccurate to impute to Sino-Tibetanists since the Second World War those sinister prejudices which shaped the Sino-Tibetan paradigm from the early nineteenth to the mid-twentieth century. Yet the Indo-Chinese legacy of this period still defines Sino-Tibetan phylogeny.

The purported typological and structural inferiority of languages such as Thai and Chinese put them in a separate class for scholars who adhered to either the Turanian or Indo-Chinese paradigm. General typological features were given undue prominence as a genetic classificatory criterion. So, it seemed logical to oust the typologically inferior Sinitic languages from the family of morphologically often more complex 'Tibeto-Burman' languages and to group Chinese together with the typologically equally inferior Siamese dialects. This left historical grammarians free to argue over why Chinese and Thai exhibited such a lamentable state. The debate on historical grammar was neutral from the racist typological perspective because sinophobes could get as much mileage out of treating Chinese as degenerated from a once more complex state as they could by treating it as a primitive tongue which had not yet evolved beyond a rudimentary structural stage.

In contrast to scholars of the Indo-Chinese paradigm, scholars working in the tradition of Klaproth had sound intuitions about Chinese historical phonology and lucid insights into its implications for historical grammar. Carl Richard Lepsius insisted that Chinese tones were phonological and could not be equated with either musical tones or intonation. In comparing Tibetan and Southern Chinese dialects with Mandarin, Lepsius recognised that 'die Chinesischen Tonaccente' had arisen from the loss of syllable finals and the loss of distinctions between older syllable initials. Therefore, Lepsius argued both against the diachronic implication of the vertical ladder-like hierarchy of language evolution invented by the racist variety of language typologists and likewise against the independent genetic status accorded to Chinese by the monophyleticists. In terms of their historical phonology, Chinese dialects did not represent 'embryonische unentwickelte Ursprachen'. Rather, Chinese dialects were much evolved languages whose apparent 'Einsilbigkeit' was the result of sound changes which had obscured their genetic proximity to their closest cousins.

These diachronic developments had reduced phonological distinctions in the roots and had in the process also partially or wholly obliterated smaller flexional elements that differentiated words which had at one time been morphologically articulate (Lepsius 1861: 472, 492-496). Wilhelm Grube arrived at the same conclusion based on lexical comparison of Chinese with other Tibeto-Burman languages such as Lepcha, Kuki-Chin and Tibetan, (1881: 19-20). A century later, Søren Egerod eloquently reiterated this Sinological view:

> Quand le chinois apparassait comme une langue écrite sur les bronzes ou dans de vieilles œuvres comme le *Shū Jīng*, nous n'avions plus de doute que nous ayons devant nous une langue dont la morphologie était développée, mais dont l'écriture était de telle nature que cette morphologie se cachait assez largement. On a

continué d'écrire pendant très longtemps des expressions morphologiques différentes d'une racine avec un caractère unique. Ainsi, quand on lisait un texte, on suppléait la lecture par une interprétation de la langue écrite. (1972 [1967]: 101) [4]

Throughout the nineteenth century, there was a large difference between scholars hampered by the Indo-Chinese paradigm and those unfettered by this model. In 1832, von Siebold identified the Altaic affinity of Japanese, which he classified as 'Tataars', so adding it to the family of 'Tatarische Sprachen' identified by von Strahlenberg in 1730, which comprised Turkic, Mongolic and Tungusic. In 1854, the American Baptist missionary Francis Mason recognised the Mon-Khmer-Kolarian family when he established the genetic relationship between the Munda languages of the Indian subcontinent and the Mon-Khmer languages of Southeast Asia (1854, 1860). This language family would later be renamed Austroasiatic by the Austrian Jesuit scholar Wilhelm Schmidt in 1901. By contrast, struggling within the monophyletic Indo-Chinese paradigm, Ernst Kuhn had to extricate Austroasiatic from Indo-Chinese to get 'zwei Hauptgruppen von Sprachen', one of which encompassed 'die Sprachen von Annam, Kambodscha und Pegu', whereas the other group lumped together 'die Sprachen von Tibet, Barma, Siam und China' (1883, 1889), the latter including Karen and the languages of the Himalayas.

Wilhelm Schott, a prominent adherent of Klaproth's polyphyletic model, argued against both Turanian and Indo-Chinese. In a wonderfully worded letter now kept at the Royal Asiatic Society in London, Schott tried to persuade Brian Houghton Hodgson to abandon Müller's Turanian theory. Likewise, in the proceedings of the Royal Academy in Berlin, Schott complained that the term *indo-chinesisch* was 'eine unpassende benennung', as the three best known Southeast Asian languages, Burmese, Thai and Vietnamese, were known to belong to three separate language families (1856: 161-162). Schott used the term 'Siam-sprachen' for the Daic or Kra-Dai languages, but he invented no term for the other two language families identified by Klaproth. Rather, somewhat diffidently, Schott resigned himself to the fact that people might go on using the term *indo-chinesisch*, but cautioned that those using the label ought not to adopt the uninformed monophyletic model that it represented.

History teaches us important lessons. The English term 'Indo-Chinese', adopted in German as *indochinesisch*, with or without a hyphen, remained popular, and inexorably

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[4] In stark contrast to these insights of Sinologists stands what Matisoff calls his 'view from the Sinosphere', his self-confessed predilection to envisage a proto-language outfitted with Benedict's two proto-tones and structurally similar to Lahu, a language for which he professes great fondness (2000: 367).

along with the catchy name came the model of genetic relationship that it denoted. As a consequence, much subsequent scholarship either uncritically accepted the family tree or would attack the language family from within, only to end up belatedly with the same set of language families at the end of the twentieth century that Klaproth had identified for this part of the world at the beginning of the nineteenth century.

Meanwhile, two tendencies conspired in the minds of scholars working within the Indo-Chinese paradigm which led them to take Chinese out of Tibeto-Burman. One tendency was the misuse of the typological criterion along woth the associated preconceptions about race, which led scholars like the American philologist John Avery[5] to treat Chinese as something outside of Tibeto-Burman (1885). The other tendency was a lack of familiarity with all the language data available at the time as well as ignorance about the historical grammar and phonology of Chinese. Unlike scholars of the Klaproth tradition, scholars of the Indo-Chinese and Turanian paradigms consequently proved unable to distinguish between inherited and borrowed vocabulary in Thai. Exponents of both of the latter schools removed Sinitic from Tibeto-Burman 藏緬語系, thus creating a novel and essentially different construct which can best be termed truncated or pinioned 'Tibeto-Burman' 截肢的藏緬.
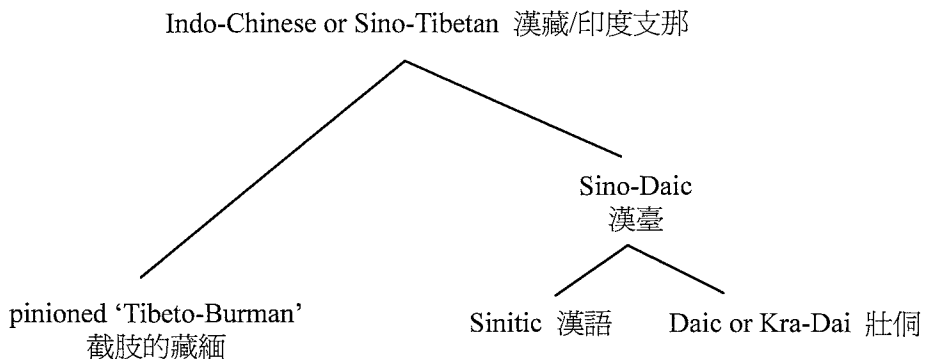
Indo-Chinese or Sino-Tibetan 漢藏/印度支那

Sino-Daic
漢臺

pinioned 'Tibeto-Burman'
截肢的藏緬

Sinitic 漢語   Daic or Kra-Dai 壯侗

DIAGRAM 3: The Indo-Chinese or Sino-Tibetan theory: Daic or Kra-Dai has been excluded since the Second World War.

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[5] Benedict's unusual treatment of Karen between 1972 and 1976, based mainly just on word order typology, may also have been influenced by the view propounded by Avery at New Haven, Connecticut, that 'the position of the Karen dialects of British Burma is not yet settled, since they present features of both the isolating and agglutinating languages.' (1885: xviii)

Konow and Grierson criticised the Indo-Chinese and Turanian schools of thought. Yet they adopted their phylogenetic presumptions, and in the *Linguistic Survey of India* they went even further by treating 'Siamese-Chinese' and 'Tibeto-Burman' as two entirely distinct families (1904, 1909). Scholars working within the Indo-Chinese model, however, following Kuhn, contented themselves with a bifurcation of Indo-Chinese 印 度 支 那 into a western and eastern branch, i.e. 'das Tibeto-Barmanische' 截肢的藏緬 and 'das Siamesisch-Chinesische' 漢臺, e.g. Kurt Wulff (1934). Wherever the name Indo-Chinese remained in use, those who employed the term adopted the model that it designated. This came to include prominent German scholars who were the contemporaries of Ernst Kuhn, e.g. Georg von der Gabelentz (1881), Emile Forchhammer (1882), August Conrady (1896) and Berthold Laufer (1916).

Meanwhile, France had colonised Laos, Vietnam and Cambodia, and the term *indochinois* became awkward in linguistic parlance for two reasons. The term had come to denote matters relating to French Indochina, and on French linguistic maps of Southeast Asia, the term had come to feature as the label for Austroasiatic language communities. The use of 'Indo-Chinese' to specifically and exclusively denote Austroasiatic was not unknown in the Anglo-Saxon world, e.g. Sir Richard Temple (1903, III: 284). This led to an awkward discrepancy in nomenclature between France and the Teutonic world. In Paris, Jean Przyluski resolved the problem by giving Indo-Chinese the new French name 'sino-tibétain' in 1924. The new label entered the English language in 1931, when it was introduced by Gordon Hannington Luce in an article written jointly by him and Przyluski. The new name did not catch on at once. For example, Benedict was still exclusively using the term 'Indo-Chinese' in 1939. Alfred Kroeber's 'Sino-Tibetan' project at Berkeley and his prolific employee Robert Shafer popularised the French name, and the new label for Indo-Chinese 印度支那 later found its way into Chinese as 漢藏 Hànzàng.

Despite the name change, Sino-Tibetan was essentially Indo-Chinese. Its racist inspiration had vanished from view, but the typological prejudices remained. More fundamentally, the Sino-Tibetan model consisted of two false taxa, truncated 'Tibeto-Burman' and Sino-Daic. In the 1930s, Robert Shafer decided to take Daic out of Indo-Chinese, but on a pilgrimage to Paris he was convinced by Maspero to leave Daic inside Sino-Tibetan (Shafer 1955: 97-98). Shafer recorded his misgivings in his copious writings for those who read his work closely. Aside from Daic, which Shafer retained against his better intuitions, his Sino-Tibetan consisted of five divisions, i.e. Sinitic, Bodic, Burmic, Baric and Karenic. When Paul Benedict came to Berkeley to join Kroeber's project, he was less timid about kicking out Kra-Dai or Daic out of the family together (1942). This intervention nearly succeeded in getting Sino-Tibetan back

to the original Tibeto-Burman language family recognised of 1823, except for truncated 'Tibeto-Burman'.

The diminished Sino-Tibetan still consisted of Sinitic and the western branch of Indo-Chinese, i.e. truncated 'Tibeto-Burman' from which Sinitic had been ousted because of its purported typological inferiority. Matisoff inherited this Indo-Chinese phylogeny from his mentor Paul Benedict in the 1960s and came to accept this model as an article of faith. Epistemologically, the problem was that no bundle of isoglosses or set of shared innovations could be identified defining truncated 'Tibeto-Burman' as a valid taxon as opposed to Sinitic. As more unknown Tibeto-Burman languages were discovered and the language family as a whole became better understood, the centre of diversity was seen to lie elsewhere than suggested by the Sino-Tibetan model. Challenged to defend the 'Tibeto-Burman' subgroup, Matisoff (2000, 2003) has failed to adduce any shared innovation or lexical evidence for pinioned 'Tibeto-Burman', leaving the Sino-Tibetan model empirically unsupported. A reduced 'Tibeto-Burman' subgroup from which Sinitic has been excised and which is coordinate with Sinitic under the top node remains the sole defining trait of the Sino-Tibetan model.[6]

6. Tibeto-Burman and the linguistic ancestry of the Chinese

As the most agnostic and best supported theory about the genetic affinity of Chinese, Klaproth's 1823 Tibeto-Burman theory constitutes the default hypothesis. The Tibeto-Burman supposes that there exists a language family consisting of Burmese, Chinese and Tibetan as its three defining members and also encompassing all languages which can be demonstrated to be genetically related to these three. All accumulated evidence bolsters the case of Tibeto-Burman. The burden of proof now lies on proponents of theories that make a greater number of assertions about the genetic position of Chinese or the identity of subgroups.[7]

Some subgrouping proposals are ambivalent with regard to a choice between Tibeto-Burman and Sino-Tibetan, e.g. Shafer's Bodic or Burmic or Hé's Tǔjiā-Qiāng (2003), in that these proposals could be subgroups within either model. This cannot be

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[6] Well into the 1970s, Sino-Tibetanists still classified Daic or Kra-Dai as part of the Sino-Daic branch of Sino-Tibetan, e.g. Milner and Henderson (1965). General linguists still often continue to present Sino-Tibetan as a family comprising 'le chinois, le thaï, le tibétain et le birman', e.g. Malherbe (2001: 35).

[7] By analogy to names such as Afroasiatic, Indo-European and Austroasiatic, I had to come up with the geographical language family name 'trans-Himalayan' in 2004 for the purposes of a Sino-European database project, in which some contributing scholars were calling the language family Tibeto-Burman and others were calling it Sino-Tibetan.

said for either the Sino-Bodic hypothesis or the pinioned 'Tibeto-Burman' of the Sino-Tibetanists. Sino-Bodic essentially dates back to Klaproth's own observation that Tibetan appeared to be genetically closer to Chinese than either was to Burmese (1823: 346, 356, 365). Additional evidence in support of Sino-Bodic was presented by Simon (1929), Shafer (1955, 1966, 1967, 1968, 1974), Bodman (1980) and myself (van Driem 1997). My coinage 'Sino-Bodic' reflects Shafer's view that the alleged affinity is between Sinitic and the nebulously delineated Bodic, not just between Sinitic and Bodish.[8] Moreover, a complex relationship of borrowing may have existed between Chinese and languages such as Tibetan at various stages of their history, and this process may have been further complicated by a contact phenomenon described by Ferlus as 'hypercorrection by affected imitation', masking a layer of borrowings which has hitherto not been clearly identified in historical comparative studies (2003: 274).

Matisoff was able to eliminate 12 of the 39 specific Sino-Bodic correspondences, *viz.* Nos. 40, 48, 49, 56, 58, 60, 61, 64, 66, 69, 74 and 77 in Matisoff's numbering. A few more correspondences were unconvincingly challenged. For example, the alternative cognate set proposed for correspondence No. 75 is contestable, and Matisoff's alternative explanation for corespondence No. 46 makes less semantic sense. Relevant evidence adduced by Shafer and Bodman was not addressed. So, in contrast to Sino-Tibetan, which remains empirically unsupported, some lexical and morphological evidence warrants entertaining Sino-Bodic as a viable working hypothesis about the closest relatives of Sinitic within Tibeto-Burman. Yet the veracity of Sino-Bodic is hardly the most pressing question, for Sino-Bodic is but one of many possible subgrouping proposals within Tibeto-Burman. As a hypothesis, Sino-Bodic is intrinsically no more and no less interesting than the Sino-Tibetan hypothesis about truncated 'Tibeto-Burman'.

In search of support for the latter hypothesis, it has been suggested to me by Laurent Sagart in recent years that perhaps the distinction between what is reconstructed as *a vs. *ə (or *ā vs. *a) in Proto-Sinitic could represent an ancient distinction lost in a merger which affected all other languages, but this idea has not been pursued. Not all branches of Tibeto-Burman have been scrutinised in this regard, and ultimately such a conjecture cannot be sustained on the basis of an unwarranted limitation of the available evidence. A tentative cursory study by Jean Robert Opgenort has shown that whereas Old Chinese *a (or *ā) appears most often to correspond to an /a/ in modern Kiranti languages, the Tibeto-Burman vowel reflected by Old Chinese *ə

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[8] Shafer pointed out: 'Bodish is genetically closer to Chinese than it is to Burmese. To anyone not led by the exotic appearance of Chinese characters to regard the language as a thing apart, this conclusion should not come as a surprise in view of geography and history.' (1955: 97) His later discussion of the divisions extended the observation to Bodic as a whole.

(or *a) appears to have engendered a more complex pattern of vocalism in Kiranti (pers. comm., 5 VII 2005).

More importantly, even if the Old Chinese distinction were shown not to be reflected outside of Sinitic, there is yet no way of knowing, given the present state of the art, whether the Sinitic distinction does not represent one of many innovations which define Sinitic as a branch of Tibeto-Burman. In light of correspondences between Kulung and Old Chinese long vowels, Tolsma previously raised the question whether Old Chinese long vowels are a Tibeto-Burman retention 'or that a sound change which yielded long vowels took place as early as the Old Chinese period.' (1999: 497) Persistent misunderstandings about diachronic developments in Slavic accentuation are especially instructive in this regard (Kortlandt 2003). Czech vowels show a phonological length contrast, but the ontogeny of the distinction is complex. At the present state of our knowledge, even if the distinction were not to be shared with Kiranti, the most parsimonious explanation would be that the Old Chinese distinction between *a vs. *ə represents a split in Sinitic rather than a merger shared by all other Tibeto-Burman languages.

The challenge to comparativists today is to identify the family tree structure of Tibeto-Burman and to adduce proof for higher-order subgrouping proposals which might connect a number of the fallen leaves of Diagram 2. It has long been thought that the diversity in vocabulary and grammar in Tibeto-Burman was not as great as in Indo-European or Afroasiatic. Yet work on newly identified groups has shown that Tibeto-Burman is not at all as cohesive a group as was once assumed. Improvements in Old Chinese, an older reconstructed stage of the phonologically innovative Sinitic branch, have made Old Chinese look like a run-of-the-mill Tibeto-Burman language from the Himalayan perspective. The Sino-Tibetan view of Chinese as the odd man out is nourished by a lack of familiarity with languages of other branches of the family such as Gongduk, Hrusish or the Kho-Bwa cluster, all spoken in the Tibeto-Burman heartland closer to the language family's centre of gravity. To the present state of our knowledge, these languages all appear just as divergent from 'mainstream' Tibeto-Burman, whatever that might be, as are the modern Sinitic languages.[9]

The geographical distribution of the branches of the Tibeto-Burman language family reveals an intriguing pattern which raises questions and permits us to formulate hypotheses about the provenance of the linguistic ancestors of the Chinese and the location of the Tibeto-Burman homeland. Future research will show the number of

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[9] A proper appraisal of Tibeto-Burman linguistic diversity is not facilitated by the misleading distinction made by some scholars between dialects which by historical circumstance happen to have a writing system and be spoken by groups with political clout, termed 語言 *yǔyán* 'languages', and languages without the same prestige, termed 方言 *fāngyán* 'dialects'.

diamonds representing branches of the family to be more or less as shown in Diagram 4. Some groups may coalesce, and others may be split up. For example, the Dura language may one day be demonstrated to be a member of another known Tibeto-Burman subgroup, whereas 'Qiāngic', as currently conceived, could turn out not to be a valid clade at all but to consist of a number of independent clusters. In Diagram 2, the Ěrsū cluster is another name for 'Southern Qiāngic', and may in fact consist of several subclusters. Qiāngic is 'Northern Qiāngic', which is currently supposed to include the rGyal-rongic group recognised by Jackson Sun (Sūn Tiānxīn) and Huáng Bùfán. In fact, the precise phylogenetic relationships between the diverse rGyal-rong languages, Ěrgōng, Qiāng, Mi-ñag (Mùyǎ), Tangut, Ěrsū, Lǔsū, Tosu (Duōxù), Nàmùyì, Shǐxīng, Guìqióng, Choyo (Quèyù), Zhābà and Prinmi (Pǔmǐ) have yet to be demonstrated. In short, there is a lot of work left to be done in Sìchuān and Yúnnán provinces.

Just like British scholars of the nineteenth century, Jaxontov proposed a homeland in Sìchuān (1977). Subsequently, so did I (van Driem 1998). Peiros' classification based on the highest lexicostatistical diversity of primary taxa purportedly indicates 'a possible location of the homeland in the territories south of the Himalayas', whereas the location of Sinitic could be 'easily explained as the result of later migration' (1998: 217). In December 2004 at the 10th Himalayan Languages Symposium in Thimphu, I presented the argument of the internal linguistic diversity of the family for a Himalayan homeland for Tibeto-Burman. The location of the Tibeto-Burman homeland is not just a linguistic question, and historical comparative linguistics offers but one version of prehistory. Yet questions of linguistic phylogeny are fundamentally resolved by historical linguistic comparison.

In addition to the comparative method, new mathematical models which aid lexicostatistical comparison may prove a useful tool. Elsewhere I have discussed the history of lexicostatistics since its invention by Rafinesque in 1831 (van Driem 2005). From the time of Dumont d'Urville (1834), the real advantages as well as the limitations of Rafinesque's method of lexicostatistics have become increasingly evident, particularly if the methodology is applied without the insights of historical linguistics. Hendrik Karel Jan Cowan (1959) was amongst the first to stress that many a practitioner of glottochronology and lexicostatistics appeared oblivious to the far greater probabilistic significance of structural correspondences between grammatical systems. A fundamental flaw in the reasoning of glottochronology is that different languages are historically known to have changed at different rates. The validity of mathematical models employed in glottochronology were also challenged quite early on, e.g. Bergsland and Vogt (1962), Chrétien (1962), Guy (1994).

More recently, however, mathematical models used in glottochronology have undergone refinement, e.g. Gray and Atkinson (2003). Russell Gray is making every attempt to accommodate the criticisms of comparative linguists and so increasingly to incorporate historical linguistic insights into his mathematical model. Such models appear to work fine for Austronesian, a language family in which cognacy judgements are relatively non-controversial. However, the model can give false and misleading results when based on cognacy judgements for language families where such judgements are difficult and more controversial. For example, Matisoff's cognacy judgements for Tibeto-Burman etyma have not gone undisputed. In other cases, the putative phylogenetic construct is purely hypothetical and the cognacy judgements remain speculative, e.g. Sagart's Sino-Austronesian, Starostin's Sino-Caucasian (cf. van Driem 2005). As long as the caveats regarding lexicostatistical models are kept in mind, then there need not be much harm in using these potentially useful tools. The lexicostatistical attempt by Dèng and Wáng (2003) to arrive at a tree of some of the Tibeto-Burman languages spoken in China is a good beginning. Such studies will in time hopefully be extended to the Tibeto-Burman language family as a whole, most branches of which are represented exclusively outside of China.
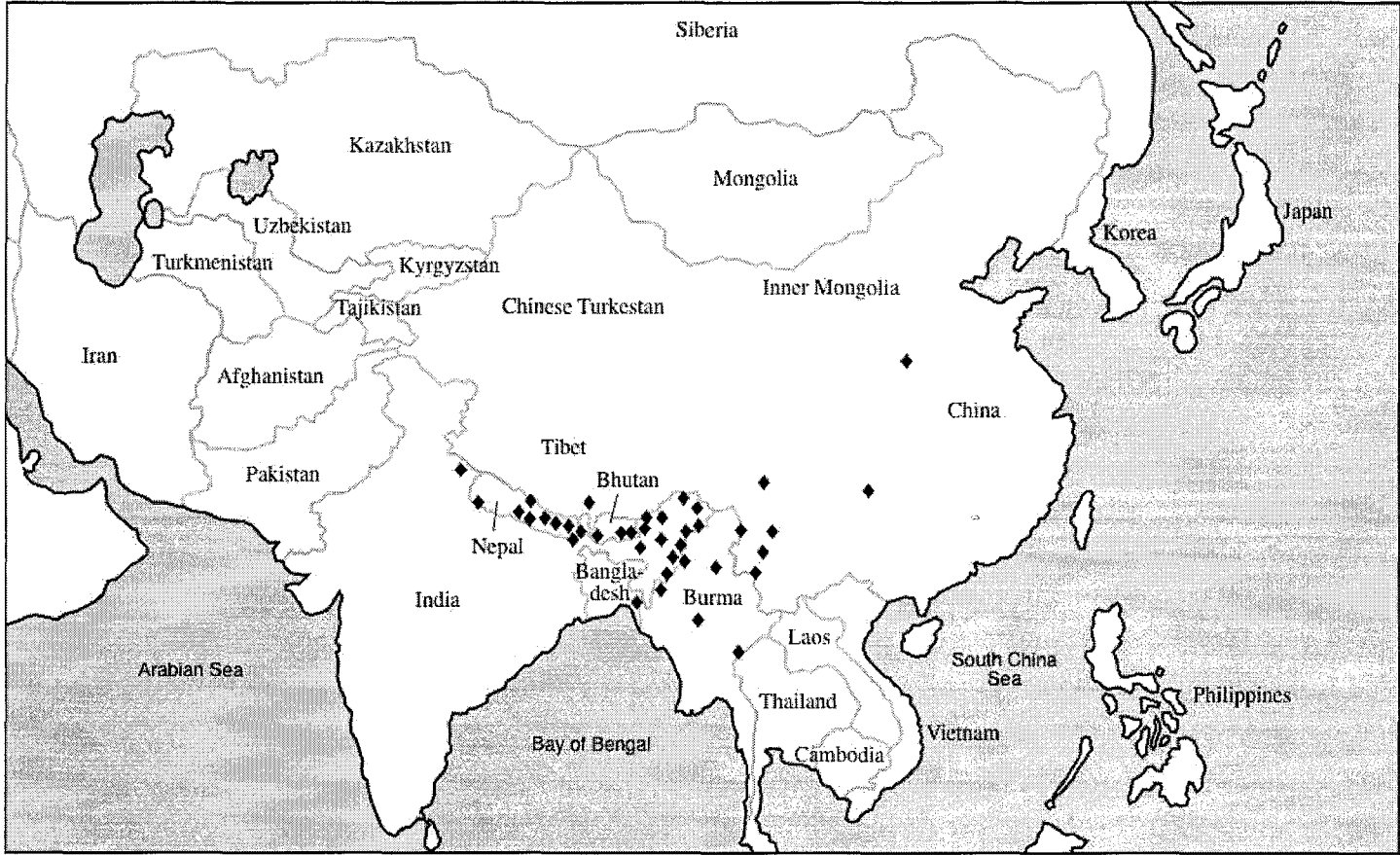
DIAGRAM 4 (previous page): Geographical distribution of the major branches of the Tibeto-Burman. Each diamond represents not a language, but a major subgroup.

At the same time, attempts have been made by various scholars to go beyond the maximum time depth usually considered accessible to practitioners of historical linguistic comparison. For example, Dunn *et al.* (2005) have attempted to use typological features to go beyond the time depth of 8,000 years, give or take two millennia, reconstructible by conventional historical linguistics. They arrive at a tree for the hitherto unrelatable Papuan isolates of island Melanesia, which suggests to them a late Pleistocene dispersal, now visible only as vestigial structural similarities between the languages and no longer in the form of any reconstructible vocabulary or morphology. Yet in the case of Tibeto-Burman, it would be premature to use typological comparison of this sort to attain benthic time depths. By the same token, the conclusion seems inescapable that only expediency could be the motivation behind a rush to use mathematical tools for lexicostatistical comparison in Tibeto-Burman at a time that most languages have still not yet been documented in adequate detail and historical linguistic comparison has yet to be carried out to anything approaching a satisfactory degree of refinement.

7. Linguistic ancestors and biological ancestors

The linguistic ancestors of a language community were not necessarily the same people as the biological ancestors of that community. We invariably get all of our DNA from our biological parents, but only in most cases is our native language also that of our parents. So, notwithstanding the probabilistic correlation between languages and genes, the discrepancies between the two versions of prehistory can tell us at least as much about what went on in the past as the grand correlations.

The genetic picture also shows a certain sexual dimorphism in linguistic prehistory. In Baltistan, located in what today is northern Pakistan, the local Tibetan dialects are the most conservative of all Tibetan languages, preserving consonant clusters retained in Classical Tibetan orthography but wholly lost in most other Tibetan dialects. Yet the Balti abandoned the Tibetan script after they were converted to Islam in the fifteenth century, although native activists have in recent years begun reintroducing the Tibetan script, e.g. on shop signs, somewhat to the displeasure of central government authorities. Paradoxically, the old consonant clusters ceased to be pronounced as such in most areas throughout Tibet where the conservative indigenous orthography representing these phonological segments remained in use. Genetic studies

of the Balti populations show intrusive Y haplogroups from the Near East, whereas the mitochondrial DNA of the Baltis is predominantly Tibetan mtDNA (Poloni *et al.* 1997, 2000, Zerjal *et al.* 1997, Quintana-Murci *et al.* 2001, Qamar *et al.* 2002). So, the religion of the Balti would appear to be a paternal heritage, whilst the languages that they speak are literally mother tongues.

Genetic studies have suggested that the distribution of Indo-Aryan language communities in northern India patterns well with intrusive Y haplogroup frequencies emanating from the northwest, reflecting what many linguists and archaeologists had long thought about Indian prehistory. The picture of an Aryan invasion emerging from the Ṛgveda, in the words of Mortimer Wheeler, 'constantly assumes the form of an onslaught upon the walled cities of the aborigines,' i.e. the *puras*, and the Aryan god Indra is a *puraṃdara* 'destroyer of aboriginal forts', who shattered ninety such strongholds (1966, 1968). Many scholars have connected this destruction of aboriginal fortresses and the conquest of subjugated Dasyus recounted in the Aryan hymns to the extinguishing of the Indus Valley civilisation. At any rate, the activities depicted were a predominantly male occupation. Genetic studies have suggested that the Y haplogroups L, R1a and R2 spread from the northwest along with Indo-Aryan language across northern India and to Ceylon, whereas mitochondrial lineages prevalent in India are overwhelmingly indigenous to the Subcontinent (Kivisild *et al.* 1999a, 1999b, Wells *et al.* 2001, Cordaux *et al.* 2003, Kivisild *et al.* 2003, Baig *et al.* 2004, Cordaux *et al.* 2004, Metspalu *et al.* 2004, Quintana-Murci *et al.* 2004, Thangaraj *et al.* 2005). At the same time, the spread of Indo-Aryan languages unambiguously attests to an ancient linguistic intrusion into the Subcontinent from the northwest. So, were Vedic and Avestan introduced as father tongues?[10]

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[10] A recent study (Sahoo *et al.* 2006) attempts to challenge the Y chromosome picture. The study is a major leap forward, but the sampling is still coarse, and the survey neglects to systematically distinguish between Turks, Kurds and other language communities in the Near East and between Indo-Iranian and Turkic language communities in Central Asia. A fine-mesh and more ethnolinguistically informed sampling remains a realisable goal. More crucially, the reasoning in Sahoo *et al.* (2006), edited by Colin Renfrew, omits to take note that Central Asia saw major incursions of Altaic populations in historical times, and that an ethnolinguistically low-resolution survey of present Central Asia Y chromosomal genography cannot be presumed to reflect the genography of the region during, say, the Andronovo Bronze Age culture and the Bactria Margiana archaeological complex. In fact, the probable replacement of Y chromosomal lineages during the Altaicisation of Central Asia is consonant with the team's observation that the Y haplogroups E, I, G, J* and R1*, which have a combined frequency of 53% in Turks of Asia Minor and 24% in Central Asia, are virtually absent in India, except for a trickling of R1*. Also absent in India are haplogroups C3, D, N and O, which are 'specific to Central Asia', where they have a combined frequency of 36%. Likewise, the complete absence in India of the

What do genetic studies tell us about the spread of Chinese? Pioneering work in the 1990s found the genetic distance between Mandarin speakers in the north and Tibetans to be far less than between southern Hàn Chinese and Mandarin speakers (Cavalli-Sforza, Menozzi and Piazza 1994: 225), even though southern Hàn populations such as the Cantonese and Mǐn speak Sinitic languages. The genetic discrepancy between southern Hàn and northern Hàn then already appeared to corroborate what we knew about the history of China, particularly with respect to Hàn linguistic and cultural expansion.

The Qín launched a brutal campaign to subdue the 'one Hundred 越 Yuè' tribes of southern China in 221 BC, but resistance by indigenous population groups persisted fiercely, and Qín control over these areas was lost after the death of the first Qín emperor in 210 BC. The Hàn dynasties were able to consolidate Qín territorial gains and even expand further. In the south, the newly consolidated Sinitic state underwent territorial expansion into the eastern half of Yúnnán overthrowing the 滇 Diān kingdom in 109 BC, then subduing the region of 嶺南 Lǐngnán in 111-112 BC, an area comprising modern Guǎngxī and Guǎngdōng provinces, Hǎinán island and what today is northern Vietnam. Mountainous Fújiàn only became sinified much later, during the period of the Three Kingdoms in the aftermath of the Wú state's invasion of the southeast ca. 260 AD.

More recently, a population genetic study of 23 Hàn populations (Wen *et al.* 2004a) has further corroborated the picture which linguists and historians had of a martial and therefore male-biased Hàn expansion southward during the sinification of what today is southern China. Southern and northern Hàn populations were found to share roughly the same mean frequency of around 54% for the Y chromosomal haplogroups O3-M122 and O3e-M134, both characterised by the M122-C mutation. On the other hand, southern Hàn were found to have a higher frequency than northern Hàn, *viz.* 19% vs. 5%, for the mutation M119-C, characterising Y chromosomal haplogroups O1* and O1b, and the mutation M95-T, typifying haplogroups O2a* and O2a1. These haplogroups are known to be frequent in Daic, Austroasiatic and Hmong-Mien populations south of the Yangtze.

Moroever, southern Hàn were found to have an average frequency of 4% for the haplogroups O1b-M110, O2a1-M88 and O3d-M7, likewise frequent in pre-Sinitic

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derived C3 lineages, which account for over 95% of the C haplogroup variation in Central Asia, 'cannot be ascribed to a recent admixture from the north' (op.cit. 845). At the same time, the J2 haplogroup, which appears to emanate from the Arabian Peninsula and, unlike haplogroups N and R1a, attains no high frequency in Ceylon, 'indicates an unambiguous recent external contribution, from West Asia rather than Central Asia,' (op.cit. 87) and indeed this gradient probably reflects the historically attested male-borne eastward spread of Islam.

populations south of the Yangtze, whereas these haplogroups were not found in northern Hàn. By contrast, the maternal lineages of southern Hàn showed an overall frequency of 36% for the mitochondrial haplotypes A, C, D, G, M8a, Y and Z, typically widespread in northern East Asia, as opposed to an overall frequency of 55% in northern Hàn. Mitochondrial lineages predominant in Daic, Austroasiatic and Hmong-Mien populations south of the Yangtze, i.e. haplotypes B, F, R9a, R9b and N9a, were found in a frequency of 55% in southern Hàn as opposed to 33% in northern Hàn.

In short, the southern Hàn paternal lineage shows preponderant northern Hàn penetration alongside a faint pre-Sinitic signature. Males from the north were the primary contributor to the paternal gene pool of southern Hàn populations, whereas the mitochondrial DNA of southern Hàn populations contains roughly equal contributions from pre-Sinitic and Hàn maternal ancestors. What I first called the 'Father Tongue hypothesis' at the Indo-Pacific Prehistory Association conference held here in Taipei in 2002, based largely on the work of Poloni *et al.* (1997, 2000), appears to apply for Sinitic in the form of the Hàn demic expansion, at least on the basis of population genetic studies completed to date. Although there must be numerous contrary cases such as the Tibetan mother tongues of Baltistan, as a general principle the Father tongue hypothesis may at many times and in many places in prehistory have been an important mechanism in language shift.

The dynamics of a process whereby mothers passed on the language of their spouses to their offspring has major implications for our understanding of language change. If the language shift giving rise to the Sinitic languages and perhaps also the eastward spread of Indo-Aryan speech across northern India took place in this way, then such languages may have begun as languages belonging to another phylum until they reached the stage currently attained by Michif. In origin at least, Michif is genetically an Alqonquian language that was spoken by women who relexified the language with the French spoken by their husbands to such an extent that the genetic affinity has nearly been obscured (Bakker 1992, 1994, van Driem 2001: 169-173). If the process of relexification were to continue beyond the stage attained by Michif, then a language could conceivably change its genetic affinity even though the dynamics of the process would introduce a discontinuity with its past. Can such a process ever be reconstructed linguistically? A recent study of Chinese dialects indicates that the diversification of Sinitic languages did not proceed in a tree-like fashion (ben Hamed and Wāng 2006).

At a deeper time depth, what can we say about the origin of the Sinitic branch as such? Genes do not tell us which linguistic intrusions took place in prehistory. For this linguistic geography is a better indicator. Population genetics tells us about the spread of genotypes, whether this is caused by circumstances of origin, migration or natural selection. Geneticists have looked for markers which identify Hungarians as a Uralic

language community and failed to come up with much. Even the Y chromosomal haplogroup N-TatC (N43), which is found at a high frequency throughout all Uralic language communities, does not seem to be prevalent in Hungary. Outside of Uralic speech communities, the haplogroup is also found at a high frequency amongst the Yakut, Even and Tuva.

Rather, Hungarians look genetically quite a lot like a Western Slavic language community, and there is very little trace at the moment of a Uralic genetic signature (Tambets *et al.* 2001). Perhaps the Magyars who penetrated into Pannonia introduced a Uralic language but not much else. Perhaps Uralic Y chromosome lineages died out in Hungary for some reason. Whatever the case may be, the Hungarian language constitutes incontrovertible linguistic evidence that the Magyars came to Pannonia. The historically attested Magyar linguistic intrusion may be genetically invisible, but the Hungarian language is linguistically very much in evidence. Given the extremely low population numbers which characterised prehistoric human demography, it stands to reason that no colossal throng of people was needed to effectuate a linguistic incursion.

By the same token, let us keep in mind that the linguistic ancestors of the Chinese were Tibeto-Burman, but there is no *a priori* reason for assuming that the biological ancestors of the Hàn Chinese derived predominantly from ancient Tibeto-Burman speech communities. Earlier studies have been interpreted to indicate movements in all directions. However, work by our own team on the Y chromosome indicates that the linguistic ancestors of the Hàn Chinese and at least some portion of Hàn biological ancestry in the paternal line were the same people. Moreover, genetic studies do not reveal a simple picture of our past, but a multi-layered pattern of movements in different directions at different time depths, and sometimes these migrations are characterised by a certain sexual dimorphism or gender bias, whereby the women quite often get left at home.

The reduced polymorphism of northern populations of East Asia, which represent a subset of the haplotypes found in southern populations, was taken to reflect the peopling of the north after the Ice Age (Sù *et al.* 1999), whereas the extremely high frequency of H8, a haplotype derived from M122C, was seen as reflecting a genetic bottleneck effect that occurred during an ancient southwesterly migration about 10,000 years ago, suggesting a demic diffusion at the outset of the Neolithic (Sù *et al.* 2000, Ding *et al.* 2000, Shi *et al.* 2005). Another study suggested that Hàn Chinese did not originate in the Yellow River basin but had more recently migrated to this area from southwestern China (Chǔ *et al.* 1998). Comparison of various haplogroup frequencies exhibited by Tibetans vs. Tǔjiā, Bái and Lolo-Burmese groups showed all Tibeto-Burman groups to have a high frequency of the Y-chromosomal haplogroups O3e and O3*, with the average hovering approximately around 40%. The findings were

interpreted as supporting a slightly male-biased infiltration from the Bodish area in Amdo into Yúnnán and Húnán about two and a half millennia ago, though 'the less drastic bias between male and female lineages' suggested that these putative southward migrations 'likely occurred with the involvement of both sexes rather than as conquests involving expedition forces primarily consisting of male soldiers.' (Wen *et al.* 2004b)

However useful these genetic studies are, they are limited by the fact that most Tibeto-Burman language communities and even most branches of the language family are exclusively represented outside of China. The picture of the Tibeto-Burman past has been rendered far more complete by findings of our research team, which has conducted the most extensive sampling of Tibeto-Burman populations in the Himalayan region (Kraaijenbrink *et al.* 2007a, 2007b, Parkin *et al.* 2006, 2007).[11] Our team have identified markers which we believe to be specifically correlated to the spread in Asia of Tibeto-Burman language communities. Our results will be published in due course in an appropriate population genetics journal, and I am not at liberty to detail the findings here. However, suffice it to say that one highly plausible interpretation of these findings would be commensurate with one of the scenarios outlined in the following section of this paper.

Far away to the south, in the Brahmaputran basin and the Indo-Burmese borderlands, however, some of the spread of Tibeto-Burman may have been at the expense of indigenous Austroasiatic populations who were assimilated linguistically. The Y haplogroup O2a is represented at a frequency of 77% in Austroasiatic groups in India and 47% in Tibeto-Burman groups of northeastern India (Sahoo *et al.* 2006). This patterning could suggest that Tibeto-Burman paternal lineages may have partially replaced indigenous Austroasiatic lineages in the northeast of the Indian Subcontinent and that Austroasiatic populations preceded the Tibeto-Burmans in this area, as linguists and ethnographers have speculated for over a century and a half.

8. Linguistic ancestors and material culture

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[11] Our findings are not contradicted by other recent genetic studies on populations of East and Central Asia (Hu *et al.* 2005a, Hu *et al.* 2005b, Hu *et al.* 2005c, Hu *et al.* 2005d, Liang *et al.* 2005, Lin *et al.* 2005, Xue *et al.* 2005, Yang *et al.* 2005, Zhu *et al.* 2005, Chen *et al.* 2006, Kang and Li 2006, Shi *et al.* 2006, Zhang *et al.* 2006) or relevant portions of the Indian subcontinent (Ashma and Kashyap 2002, Sahoo and Kashyap 2002, Kashyap *et al.* 2002a, Kashyap *et al.* 2002b, Maity *et al.* 2003, Kumar *et al.* 2004, Langstieh *et al.* 2004, Thomas *et al.* 2004, Banerjee *et al.* 2005a, Banerjee *et al.* 2005b, Debnath and Chaudhuri 2005, Krithika *et al.* 2005, Watkins *et al.* 2005, Singh *et al.* 2006). DNA testing on probably Tibeto-Burman mummies in the Kālī Gaṇḍakī valley has yet to test for the relevant markers (Alt *et al.* 2003).

Linguistic palaeontology has begun to suggest that the early speakers of Tibeto-Burman languages, or a subset thereof, were already agriculturalists as well as hunters. On the other hand, the Limbu, Lohorung, Dumi and other Kiranti groups in the eastern Himalayas retain lore whereby their ancestors once only practised hunting and gathering and then one day became cultivators. The transition to a sedentary agricultural lifestyle no doubt occurred in the hoary past, yet the memory of this episode is kept alive as if it were a recent historical event. Could the Kiranti ancestors have been farmers who were forced by circumstances at some point to revert to a hunter-gatherer existence, only for their descendants in some later period to return to sedentary agriculturalism? The antiquity of oral traditions is difficult to ascertain, yet millets must have played a key role in Tibeto-Burman culture for a long time, as attested by reflexes for *Setaria italica* in languages as far flung as Old Chinese 稷 ^btsïk in the Yellow River basin and Lhokpu *că^ʔkto* 'foxtail millet' in modern southwestern Bhutan.[12]

Both foxtail millet *Setaria italica* and broomcorn millet *Panicum miliaceum* were staples in what today is northern China, where they are first found to occur in the Péilígǎng culture (6200-5000 BC). No archaeological sequence provides evidence for their prior domestication, and neither northern China nor Korea have yet yielded any archaeological data on subsistence for the period between 10000 and 6500 BC (Crawford 2006: 80-81, 91), even though by far 'most archaeological fieldwork has taken place in the eastern half of China' (Underhill and Habu 2006). Domesticated foxtail millet derives from green foxtail millet, i.e. *Setaria italica*, subsp. *viridis*. Broomcorn millet is known to grow throughout Eurasia as a weed, and the wild form has been denominated subspecies *ruderale*. The early Neolithic in northern China is therefore in effect defined by the appearance of ceramic communities, although the appearance of ceramic communities in Korea and Japan are conventionally not interpreted as representing agricultural communities (Underhill and Habu 2006).

For Kiranti groups of eastern Nepal no sacred ritual can be performed without millet beer and distilled millet spirits. This applies particularly to ceremonies to commemorate and revere the ancestors, at which millet beer and millet brandy are indispensable. In Nepal, *Setaria* and *Panicum* have in many areas been replaced with finger millet *Eleusine coracana*, a crop ultimately of African provenance. Yet in parts of Nepal as well as in Bhutan, *Panicum, Setaria* and other millets are still widely cultivated, though these crops are on the decline due to our headlong global rush

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[12] The Lhokpu are an inbred and genetically highly distinct group within the Himalayan region as a whole (Kraaijenbrink *et al.* 2007a, Parkin *et al.* 2006). The impact of matrilocality and cross-cousin endogamy is clearly discernible in the genetic signature of this language community. Many of the ancient Tibeto-Burman groups may have been matrilineal, matrilocal societies with uxorilocal marriage such as the modern Lhokpu and Gongduk of Bhutan.

towards 'improved' monocultures. Amongst the Gongduk community in Bhutan, for example, broomcorn and foxtail millet are prized as the staples sacred to the tribal ancestors.

In the Himalayas, groups which have undergone either strong Aryan religious and Hindu cultural influence or the influence of Buddhism emanating from the Tibetan plateau preserve less faithfully the Tibeto-Burman cultural heritage retained amongst groups like the Kiranti in eastern Nepal and the Gongduk of eastern Bhutan. Wherever the older stratum of shamanism and sacrifice has been retained, the role of millet beer and millet brandy takes centre stage. I cannot help but look with Kiranti eyes at the plethora of elaborate bronze ritual vessels for beer and distilled spirits which appear in the Shāng and Zhōu period. These diverse ornate liquor vessels have been labelled by archaeologists variously as 觚 *gū* 'beaker', 壺 *hú* 'liquor vessel', 尊 *zūn* 'liquor vessel', 觶 *zhì* 'goblet', 觥 *gōng* 'animal-shaped liquor receptacle', 杯 *bēi* 'beer bowl', 卣 *yǒu* 'spiced millet liquor vessel', 斝 *jiǎ* 'vessel for libations in honour of the ancestors', 盉 *hé* 'vessel for mixing liquor', 彝 *yí* 'large liquor container', 罍 *lěi* 'liquor receptacle', 罏 *líng* 'liquor receptacle, modified from the *lěi*', 角 *jué* 'decanter' and 爵 *jué* 'decanter'. These receptacles were used for storing, blending, serving beer and spirits brewed from the millets *Setaria* and *Panicum*, sacred to the ancestors of the Kiranti, the Gongduk and the Chinese.

So, were broomcorn millet and foxtail millet first cultivated in what today is northern China, where evidence of their domestication appears as early as 6200 BC, or were they first domesticated somewhere in the expanse of territory between Shǎnxī and the eastern Himalayas, where these crops are still cultivated by indigenous Tibeto-Burman peoples today? Are the Lhokpu descendants of early agricultural colonists from the Yellow River basin who forged their way across the Tibetan plateau, over the towering Himalayas and down its southern flanks into the dense malarious jungles on the western duars in search of arable land? Or did the linguistic ancestors of the ancient Chinese migrate up from the jungles of the Brahmaputran plain across the white peaks of the Himalayas to make a long trek to what is now the North China plain in search of fertile fluvial plains far away? Before we cast our inquiry in such a mould, we must ask what the first domestication of crops can tell us about the spread of language families. The Neolithic spans a vast stretch of time, and this long period was no doubt not characterised by demographic stasis. Moreover, the very first cultivators may not have left any linguistic descendants at all.

Across the Fertile Crescent, agriculture was adopted by ethnolinguistically unrelated populations, and agriculture spread effortlessly across ethnolinguistic boundaries without disrupting them in any significant way. The Sumerian, Elamite,

Akkadian,[13] Hurrian, Hattic and other contemporaneous agricultural civilisations were in all likelihood not the first cultivators of the region, nor have these antique language communities left any surviving linguistic descendants today. The earliest recorded and reconstructible history of the Near East bears witness to the permeability of linguistic boundaries for the dissemination of agriculture and crops.

The Bronze Age of Asia Minor and Mesopotamia is characterised by a long period of incursive population movements into, rather than out of Anatolia and the Fertile Crescent, lured by the relative affluence of urban centres supported by agricultural surplus. Gutæans, Amorites, Kassites and other peoples were drawn in by the promise of the good life. Indo-European groups such as the Hittites and Mitanni 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.

There is no reason to think that prehistoric events did not transpire in a parallel fashion in the Yellow River basin. A reasoned correlation of the archaeological record with the reconstructible linguistic past and the complex picture emerging from population genetic studies may help us reconstruct some of what actually happened. Archaeology, comparative linguistics and population genetics give us three different versions of prehistory, and in the handbook (van Driem 2001), I argued for keeping these three different versions of prehistory distinct. In a similar vein, Karafet et al. (2001) argue for a 'multilayered, multidirectional and multidisciplinary framework' and insist that 'more realistic models for the underlying processes leading to the modern population structure of East Asia will have to accommodate more complex multidirectional biological and — especially — cultural influences than earlier explanatory paradigms.' (2001: 626)

Cultural traits, crops and the names for crops could have come along with a community of speakers but are also known to diffuse back and forth across language boundaries or to be adopted by newcomers to an area from an older resident population. So this view varies fundamentally from a programme that seeks to see genes and languages spreading monolithically in tandem with Neolithic agriculture as attested in the archaeological record. What archaeology tells us is the prehistory of material culture, which may often be a reflection not of population movements but of socio-economic discrepancies which drove ancient peoples to migrate towards the centres of affluence which lured them with the promise of a better life. The distribution of major Tibeto-Burman subgroups mapped in Diagram 4 suggests the tracks of a northeasterly

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[13] Today Afroasiatic languages are spoken throughout this area, but none are descended directly from the extinct branch which Akkadian represents.

migration from the Tibeto-Burman core area in the fertile hills and river valleys of Sìchuān and the eastern Himalayas to the loess plains of northern China by an ancient group that was linguistically ancestral to the Chinese.

Different scenarios have been proposed to account for the modern geographical distribution of Tibeto-Burman language communities. Here I shall discuss three such possible versions of prehistory, which may be numbered Scenario 1, 2 and 3. Scenario 2 exists in several versions, which we may call Scenario 2a, 2b and 2c. Over the past years, I have argued the case for Scenarios 1, 2b and 2c. Scenario 2a was first implied by Paul Benedict, and Scenario 3 is a model of population prehistory proposed for Tibeto-Burman by Peter Bellwood.

Scenario 1 envisages Proto-Tibeto-Burman originating in what today is Sìchuān province, whence early Tibeto-Burmans spread to the southwest onto the Brahmaputran plain, introducing themselves and the Eastern Indian Neolithic culture to resident Austroasiatic populations. Another group, which we might call Proto-Sino-Bodic, moved to the northeast seeding the Péilígǎng (6500-5800 BC), Císhān (6000-5600 BC) and Dàdìwān (6500 to 5200 BC) Neolithic cultures along the Yellow River. Other groups remained in Sìchuān and spread across the fertile hills of Yúnnán province in the south. The Mǎjiāyáo Neolithic (3900-1700 BC) succeeded the Dàdìwān culture in eastern Gānsù and adjacent parts of Qīnghǎi and Níngxià. Sinitic remained in the east and can be associated with the Yǎngsháo culture (5500-2700 BC), which succeeded the Péilígǎng and Císhān cultures on the North China plain, whereas the expansion of Bodic into the Himalayas is associated with the sudden appearance of colonial exponents of the Mǎjiāyáo Neolithic in eastern Tibet at mKhar-ro and in Kashmir at Burzahom at the same time that the core area in Gānsù shrank during a period of climate change between the Mǎjiāyáo phase (2700-2300 BC) and the Bànshān phase (2200-1900 BC) of the Mǎjiāyáo sequence. This, in a nutshell, is the scenario which I outlined in several previous publications (van Driem 1998, 2001, 2002).[14]

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[14] In their archaeological discussion of the Sìchuān homeland hypotheses, Aldenderfer and Zhang 'agree with van Driem that Sichuan is a likely source for a Neolithic package' which gave rise to cultures on the Yellow River (2004: 39). Yet Aldenderfer and Zhang (2004: 37) appear to think that I do not include the mKhar-ro site near Chab-mdo or any other Tibetan archaeological sites in my model. The Tibetan archaeological site mKhar-ro or mKhar-chu, which I discuss at length (van Driem 2001: 430-431), is sinicised in the Chinese archaeological literature with characters that are correctly romanised as Kǎruò, and which Aldenderfer and Zhang incorrectly transcribe as 'Karou'. Sites should be named properly in accordance with archaeological convention. Their misunderstanding again provides the context for my assertion that: 'Numerous artificial problems in Tibetan toponymy and cartography currently result from the practice of listing only the sinified version of Tibetan place names in Hànyǔ Pīnyīn romanisation without providing the actual place names.' (loc. cit.) Incorrect Hànyǔ Pīnyīn

Scenario 2, discussed as an alternative proposal in the same publications, plays out at an utterly different time depth. This alternative view does not see the ancient Tibeto-Burmans as the people who seeded the early Neolithic cultures seen at the Péilígăng, Císhān and Dàdìwān sites. Rather, the ancient Tibeto-Burmans emerged from the linguistic core area, drawn by the riches of the affluent Yellow River basin and introduced themselves and their language only in the late Neolithic or Bronze Age. The point of departure in this scenario again is Sìchuān.

The version of this model which we shall call Scenario 2a develops a proposal first put forward by Benedict that the Shāng may not yet have been Sinitic at all. Instead, the Zhōu, who came from the west, were the bearers of the Proto-Sinitic language who 'became fused with, or perhaps immersed in' the pre-Tibeto-Burman language spoken by the Shāng (1972: 197). My own variations on this theme are Scenario 2b, which envisages that the prosperous agricultural civilisation in the Yellow River basin may have lured the linguistic forebears of Sinitic, or perhaps even Sino-Bodic, before the Shāng period, and alternatively Scenario 2c, whereby Tibeto-Burman could have been introduced or re-introduced to the Yellow River basin more than once in the course of prehistory. Each version of Scenario 2 presumed that tidings of the technologically advanced societies already in place throughout the Yellow River basin would have provided ample motivation for the move, with enticing prospects of plunder, riches and material advancement.

There are possible archaeological correlates for the Bronze Age linguistic intrusion proposed by Scenario 2. As compared to eastern China, the vast southwestern region has not received nearly as much attention from archaeologists. Fortunately, some progress has been made since Zhāng Guāngzhí (1977, 1986) lamented the lack of fieldwork in Sìchuān. At the same time, the grand scale on which the earth is being ripped apart in many parts of Sìchuān, including even the Mínjiāng river valley, for highway networks, dams and large industrial projects may already have obliterated a great deal of potential archaeological sites, especially along rivers and at many of the best sites for ancient human habitation. When archaeological fieldwork *is* conducted in the region, excavations unearth spectacular new sites such as the major but previously

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transcriptions merely exacerbate the problem. Aldenderfer and Zhang identify mKhar-ro or Kăruò as a colonial exponent of the Măjiāyáo neolithic in Gānsu, but their cursory familiarity with the literature leads them to think that they are the first to do so. In fact, a good number of Chinese archaeologists (e.g. Xīzàng etc. 1979, Ān 1992) had already identified mKhar-ro or Kăruò as a colonial exponent of the Măjiāyáo neolithic, and my model followed this consensus. Aldenderfer and Zhang do not differentiate between language spread by demic diffusion and language intrusion by colonial migration, and they inexplicably attempt to interpret 'Karou' as the result of demic diffusion from Sìchuān.

unknown Bronze Age civilisation at Sānxīngduī, which only fully came to light in 1986, and the discovery in recent years of the earlier Neolithic civilisation along the precipitous upper reaches of the Mínjiāng river, a tributary of the Yangtze. In 茂縣 Màoxiàn county, the 波西 Bōxī (4000 BC), 營盤山 Yíngpánshān (3500-3000 BC) and 沙烏都 Shāwūdū cultures (2500 BC), situated on the largest pieces of fertile flat land along the Mínjiāng river, on the way from Chéngdū to gZi-rtsa-sde-dgu,[15] have been identified as possible antecedents of the Sānxīngduī culture, located 40 km northeast of Chéngdū.

Sānxīngduī has been associated with the ancient 蜀 Shǔ polity. In terms of chronology, the earliest period of habitation, Period I, is the 寶墩 Bǎodūn phase, which lasted from 2800 to 2000 BC and is contemporary with the Shāwūdū culture upstream in the Mínjiāng river valley. The spectacular Bronze Age culture at Sānxīngduī is represented by Periods II and III, which together lasted from 2000 to 1200 BC. The apogee of the Sānxīngduī culture is therefore contemporaneous with and somewhat precedes the Shāng period (1700-1100 BC) at Ānyáng. The later 巴蜀 Bāshǔ period (1200-800 BC) at Sānxīngduī is contemporary with the Western Zhōu (1100-771 BC) centred at Hào near Xī'ān. Dragons and physiognomic motifs on some of the bronze 鐃 náo 'ritual bells' and 盤 pán 'basins, dishes' of the late Shāng period at Ānyáng are in fact stylistically reminiscent of earlier Sānxīngduī iconography in Sìchuān.

The striking imagery of the Sānxīngduī culture has led archaeologists to speculate that the society was theocratic in nature, with sacrifice playing a central role. Brewing beer and distilling alcohol were evidently of pivotal cultural importance. In addition to elaborate bronze cooking vessels, musical instruments and a variety of water containers, the Sānxīngduī people also had a variegated repertoire of ritual vessels for beer and distilled spirits just like those of the Shāng and Zhōu further east. Archaeological speculation about the ritual importance of alcohol and of blood sacrifice to haunting goblin-like deities is reminiscent of the ritual importance of alcohol in many Tibeto-Burman cultures and of the blood sacrifice practised by the Kiranti and other Himalayan groups, which in olden days even entailed human sacrifice, as recorded in the Dumi grammar.

Sānxīngduī has yielded numerous ornate bronze ornaments and tools, but far more daunting is the vast arsenal of well honed jade weaponry, such as 璋 zhāng 'axe' and 戈 gē 'dagger axe', adzes, blades, swords and spear points in addition to numerous jade chisels and other lithic tools. Rather than a peaceful demic diffusion, the expansion of Tibeto-Burman into Shǎnxī may very well have been a military affair. The martial

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[15] gZi-rtsa-sde-dgu [zətsazdergə] is the local place name. The official Tibetan name is gYu-tsha-sde-gu [ɣjətsʰazdergə], and the Mandarin name is Jiǔzhàigōu.

campaigns which heralded the Tibeto-Burman linguistic intrusion into northeastern China may have left no more testimony in the archaeological record than did the successive invasions of Gutæans, Amorites and Kassites into the Fertile Crescent. Rather the principal, telling legacy of this intrusion today is the Sinitic branch of languages. As Máo's Red Army demonstrated in 1935-36, the rugged mountain strongholds of Sìchuān and the eastern perimeter of the Tibetan plateau are a strategic area from which to launch a military campaign into Shǎnxī. In their case, however, this area also served as a place of refuge for which many troops were ill prepared, with fatal consequences.

Even if Sinitic were only introduced to Shǎnxī as late as the Zhōu period, as Benedict proposed, then the turbulent maelstrom of cultural changes and military conflicts which have characterised Hàn expansion from the second century BC to the present day as well as the succession of distinct prestige vernaculars emanating from shifting capitals in the course of over two millennia are more than adequate to account for the aberrant appearance of modern Chinese dialects when compared to reconstructible Old Chinese. A language spoken in the thick of things incurs change more rapidly than languages sheltering in the undisturbed periphery. Once an ancient variety of Tibeto-Burman speech had been introduced into the political centre of what was to remain the most powerful polity in East Asia, the language would change more quickly than those varieties of Tibeto-Burman spoken in less easily traversable terrain.

Benedict's and my versions of Scenario 2 have different implications for the nature of the Shāng script. For Benedict, the Shāng spoke a pre-Sinitic language, whilst my versions, 2b and 2c, do not exclude the possibility that the Shāng script might already represent an early Sinitic language. In favour of Benedict's view, it can be pointed out that only half of the nearly five thousand Shāng period characters have been deciphered with certainty, and the extant corpus consists entirely of highly abbreviated divinatory fragments. No critical study has been undertaken to ascertain precisely what percentage of Shāng characters consist of a phonetic and a semantic component, and how the phonetic components in composite Shāng characters compare with those in Zhōu characters with the aim of testing the hypothesis of a possible language shift between the two periods, whereby the script was adopted by an early Sinitic population from a non-Sinitic one. Indeed, undertaking any such study of the Shāng character corpus with the aim of assessing this hypothesis dispassionately would already be flying in the face of orthodoxy.

Tangential to Benedict's hypothesis is the question of the origin of the Shāng script itself. Nativists such as Keightley oppose the idea of a foreign inspiration for the earliest Sinitic script because of the lack of similarity between Shāng oracle bone inscriptions and 'Sumerian, Egyptian or Hittite' writing (2006: 177). Few would take issue with the

lack of similarity between cuneiform, Egyptian hieroglyphs and the Shāng characters that appeared in the second millennium BC. However, the old theory that the Shāng writing system was inspired from a foreign model does not look to cuneiform or hiero-glyphic writing, but logically looks to the two earlier writing systems that were closest to the Yellow River basin both in time and in space, i.e. the Indus and Proto-Elamite pictographic scripts.

These two logosyllabic writing systems could have travelled eastward via the same, then already ancient trade route as did contemporary Bronze Age technologies. The Indus and Proto-Elamite scripts are not only structurally similar[16] to the early Shāng writing system but also similar in terms of individual graphemes, as I have illustrated previously (2001: 355-358). Is it mere coincidence that the Western Zhōu ideograms show great resemblance to contemporaneous Late Bactrian glyphs, whilst the earlier Shāng script more closely resembles its nearest precursors, Indus and Proto-Elamite writing? Or are such differences in style and parallel developments in style to be explained away merely as a function of the difference in medium involving the transition from scapulae and plastrons to bronzes in which shapes could be carefully fashioned in the malleable clay of the moulds?

Nativists look for precursors to the Shāng script in the decorative glyphs found on local ceramics, whilst ignoring likely Central Asian antecedents. Followers of this line of inquiry should at least include the 巴蜀 Bāshǔ pictographs on Sānxīngduī pottery in their deliberations. Some have ventured to speculate on the erstwhile existence of texts of a more elaborate nature on perishable materials during the Shāng period, not one of which has survived. If such speculation is warranted, then how much more probable is it that specimens of Indus and Proto-Elamite writing on perishable materials could have made their way along the main eastbound trade artery to the Yellow River basin by the sixteenth century BC and inspired the writing system of the Shāng in the first place? Or could the idea of script have travelled via Sānxīngduī itself, where hoards of tusks, cowrie shells and other objects likewise attest to long-distance trade?

More fundamentally, the search for precursors of the Shāng script in the decorative motifs on pottery reminds us that semasiography, *viz.* communication by pictorial or symbolic representation, was already a finely developed art in the Upper Palaeolithic. Franco-Cantabrian glyphs which appeared between 60,000 and 40,000 years ago, some spectacular specimens of which are kept at the Museum of Natural History in Brussels,

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[16] Whilst modern Chinese writing is ideogrammatic in that it consists of characters or ideograms representing morphemes, the Shāng writing system is widely held to have been logographic, whereby each character represented a word. I shall not entertain the theory of Vandermeersch (1980) and Hansen (1993) that Shāng writing was ideographic in the sense of representing ideas or things directly rather than representing language.

resemble symbolic writing systems far more than do the decorations on East Asian ceramics of the fourth and third millennium BC. Glottography, *viz.* visual representation of spoken language, is attested from 3200 BC in Sumer, and recent finds at Abydos by Günter Dreyer's team may now push back the date for glottography to 3400 BC and its earliest attestation west to Egypt. Subsequently a plethora of writing systems had evolved in West Asia and the eastern Mediterranean before the Shāng writing system appeared nineteen centuries later in the sixteenth century BC.

Yet even if we envisage the Shāng as speakers of some early form of Sinitic, then the linguistic ancestors of the Chinese would still very much have been relative latecomers, arriving millennia after cultivation had begun to be practised along the Yangtze and Yellow River basins. This is the key feature of Scenario 2. Recently, a study of human leukocyte antigen (HLA) diversity on the genomic region known as the major histocompatibility complex (MHC) purportedly found support for the old linguistic view 'that Altaic speakers in northern China have been switching to Chinese *en masse* in historical times.' (Sanchez-Mazas *et al.* 2005: 290) At their current state of temporal resolution, these genetic findings are compatible with Benedict's version of Scenario 2, whereby Chinese arose in a process of language shift, with the Zhōu imposing the Proto-Sinitic language onto a Shāng population speaking some pre-Tibeto-Burman tongue, conceivably perhaps even some early form of Altaic. In fact, Benedict's suggestion about the origin of Sinitic gave expression to older widespread linguistic conjectures regarding the linguistic prehistory of eastern Asia. Hashimoto's altaicisation hypothesis [17] about Mandarin originating as a Manchu-Chinese pidgin (1986) can be seen as representing an even later stage in a long-term and intermittent process, the first stage of which was envisaged by Benedict.

An alternative view, which here I have called Scenario 2b, different from the hypothesis advanced by Benedict, envisages the Tibeto-Burman linguistic intrusion onto the North China plain as having first occurred either as early as the Lóngshān horizon, during the subsequent 二里頭 Èrlǐtóu period, or as late as the Shāng period. The Dàwènkǒu culture of Shāndōng and the Yǎngshóu cultural assemblage were superseded by the more advanced Late Neolithic Lóngshān culture in the middle of the third millennium BC. Population size increased in the Lóngshān period (2600-1900 BC), and jade and ceramic prestige objects proliferated, especially in Shāndōng and southern Shǎnxī. The walls surrounding many Lóngshān settlements indicate an increased concern with the protection of resources, although one rammed earth wall was

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[17] Hashimoto wondered whether the typology of Mandarin could be explained as the result of the altaicisation of Chinese or the sinicisation of Altaic languages, which would have involved either the 'Altaic replacement of Chinese syntax or the Chinese replacement of Altaic lexicon and morphology' (1986: 95).

also already found to surround a late Yăngshóu period settlement at Xīshān near modern Zhèngzhōu (Liu and Chen 2006, Underhill and Habu 2006).

Settlement nucleation in the subsequent Èrlĭtóu period, which emerges ca. 1900 BC, ostensibly during the time of the mythical Xià dynasty, has been taken to indicate increasing craft specialisation and changing patterns of resource management. The burial practices and stratiied urban architecture of the Èrlĭtóu period indicate the emergence of a more complex political infrastructure in what today is northern China. Perhaps the new Èrlĭtóu social order was established by the first incursive Tibeto-Burmans from the southwest, whereas the walls surrounding Lóngshān settlements were the fortifications which had been intended to repel them, but in vain.

Whichever scenario happens to be our favourite, what would appear to be incontestable is that the Hàn and Tibetan expansions are both historical and relatively recent, and could possibly have effaced and assimilated many Tibeto-Burman and allophylian groups in their paths. Yet even Hàn linguistic and cultural expansion appears not to have been so imperious as to have entirely swept away the Tŭjiā, Bái and diverse Lolo-Burmese, Qiāngic, Hmong-Mien and Daic language communities which remain scattered throughout central and southern China. Neither did the Tibetan expansion annihilate all of the Zhangzhung literary legacy or attestations of other languages still preserved in the Dūnhuáng documents. These residual islets of retention and the now mute testimonies represent vestiges of the older situation.

The expansions of these two branches of Tibeto-Burman, *viz.* Bodish and Sinitic, are seen precisely in the areas of high mobility where we would expect them to have occurred, i.e. martial expansion across the vast rolling treeless and sparsely populated high alpine plateau of Tibet in the case of Bodish or across the more easily traversable East, where mountainous areas such as Fújiàn were colonised only belatedly by the Hàn. Another important feature of the model underlying each version of Scenario 2 is the temporal dimension. Although Sìchuān is treated as the point of departure for the establishment of early Sinitic in Shănxī or perhaps an early Sinitic intrusion even further east into Shāndōng, the ultimate homeland of Tibeto-Burman, as suggested by the diversity observed between the distinct branches of the Tibeto-Burman family, would be expected to have lain far closer to the eastern Himalayas.

Scenario 2c envisages that Tibeto-Burman could have been introduced or re-introduced to the Yellow River basin more than once in the course of prehistory. The Sinitic heartland within the eastern half of what today is China was not politically unified before the Qín dynasty in 221 BC. Rather, monarchs from the house of Zhōu ruled over a constellation of distinct polities in the Yellow River and Yangtze basins

during the first millennium BC. It is conceivable that the Shāng, the Zhōu and the Qín[18] could all have spoken different early forms of Tibeto-Burman that influenced each other and ultimately led to the emergence of a Sinitic creole subsequently regularised by the Hàn. Many structural features which Sinitic languages share with young creoles are itemised by Aronoff, Meier and Sandler (2005). It is conceivable that an early migration of ancient Tibeto-Burman speakers to the Himalayan region was followed by a later migration of a Tibeto-Burman group back to the Yellow River basin.

Let us turn to a third view, which I shall call Scenario 3. Bellwood places the homeland of Tibeto-Burman, which he refers to as 'Sino-Tibetan', in an elongated region stretching along the lower course of the Yellow River in the northeast deep into Shănxī in the southwest. From this oblong territory he envisages the language family spreading into Gānsù and southwest into the Himalayas. The idea of agricultural dispersals in the Neolithic is an enthralling model. Such an interpretation of the archaeological record is an obvious one and was already pioneered by scholars such as Robert von Heine-Geldern. Yet the farming-language dispersal theory advocated principally by Bellwood and Renfrew differs essentially from associating the rapid spread of a specific and well-defined cultural assemblage such as, for example, the Măjiāyáo Neolithic in Gānsù and its recognisable colonial exponents in eastern Tibet and Kashmir with the spread of ancestral Sino-Bodic groups across the Tibetan Plateau towards certain parts of the Himalayas. Instead, the farming-language dispersal theory envisages genes and language spreading in tandem with the incremental spread of Neolithic agriculture.

It is indeed tempting to assume that genes, languages and archaeological horizons always tend to move in concert and to convince ourselves that this model generates the most parsimonious explanations. In fact, realities on the ground were often more complex. This complexity is not only suggested by the dissonance between the different pictures of prehistory reconstructible through the three disciplines, but more so by the multi-layered nature of the distinct pictures which emerge from linguistics, population genetics and archaeology. For example, Ossetian, an East Iranian language is spoken in an area which lies decidedly to the west of most West Iranian language communities, attesting to the ancient migration of the Alans and Sarmatians to the north central Caucasus. The geographical distribution of gene frequencies not only reveals distinct

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[18] In the fourth century BC, the Qín were described as 夷 Yí 'barbarians', and later sources such as the 史記 Shǐjì 'Historical Records' written around the beginning of the first century BC described the Qín as similar to the 戎 Róng or 狄 Dí, who strove to emulate Zhōu ritual and tradition. The ethnolinguistic composition of the Qín state must have been complex, and statues distinguished between 故秦民 gù Qín mín, the native Qín population, and 客 kè and 邦客 bāng kè, foreign and subject populations (Shelach and Pines 2006: 205, 217, 220).

migrations, sometimes in opposing directions at different time depths, but detailed future studies may also enable us to ascertain the relative chronology of the distinct layers of genetic diffusion at different times across the same areas. Archaeology defines specific cultural assemblages with definable horizons and identifiable colonial exponents.

The farming-language dispersal model necessarily works in the case of Austronesian, where the geographical spread of the language family has to a major extent resulted from the colonisation of previously uninhabited insular environments emanating from Formosa, or perhaps from Hémǔdù via Formosa.[19] Yet we must question whether the latter theory has the same explanatory power to account for the spread of language families under the circumstances which prevailed on the land masses where most of prehistory unfolded. For an archaeologist contemplating language families, the urge is inevitably irresistible to associate the geographical spread of technologically advanced Neolithic civilisations into more backward areas with the spread of peoples and language families.

Yet the very premises of the farming-language spread theory ought to be questioned. The surplus generated by an agricultural economy and the stratified social and command structure enabled by a Neolithic lifestyle are held to have driven demographic spread into many areas. This argument is plausible, but this argument is not the crux of the farming-language dispersal theory. Crucial to the model is the tenet that the incremental spread of the Neolithic as such is associated with 'the foundation dispersals' of language families. This theory therefore presumes that the ancient spread of language families unfolded in the same direction as the demographic spread driven by Neolithic agriculture. As outlined in Scenario 2 above, I submit that the very opposite may be what actually happened in many cases. We must consider such an alternative especially in those cases where the linguistic picture suggests a radically different view of prehistory than does the spread of material culture as reflected in the known archaeological record.

What can be said in favour of Scenario 3? The Sino-Tibetan hypothesis that there exist some shared innovations that unify all non-Sinitic languages within a truncated 'Tibeto-Burman' group remains empirically unsupported. Yet the hypothesis remains

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[19] The Hémǔdù culture at the mouth of the Yangtze (5000-4500 BC) provides the best unambiguous evidence for a population for whom rice is the staple. The oldest direct evidence for domesticated rice, however, dates from 6500 BC and is from the Bāshídàng and Péngtóushān sites belonging to the Péngtóushān culture (7500-6100 BC) on the middle Yangtze in what today is Húnán and from the Jiǎhú culture (6000-7000 BC) on the Huái river further north in what today is Hénán. Cultivated rice has been recovered from 南關里 Nánguānlǐ in southeastern Táiwān dating from ca. 3000 BC (Tsang 2004).

an intrinsically interesting one, especially from a Sinocentric perspective, and it cannot be excluded that some linguistic evidence for it may be found one day. Clearly an empirically unsupported linguistic hypothesis cannot buttress the case for Scenario 3.

A second potential argument in favour of Scenario 3 might be sought in the Sino-Austronesian theory, the veracity of which, likewise, has yet to be demonstrated. I have already discussed in detail the evidence marshalled in support of the Sino-Austronesian theory elsewhere (van Driem 2005). If Sino-Austronesian were demonstrated to have existed as an ancient genetic unity comprising Tibeto-Burman and Austronesian, as Sagart believes, then this could imply that the Proto-Tibeto-Burmans were on the North China plain at the Lóngshān horizon. Yet, if the correspondences adduced by Sagart represent the residue of an early Sino-Austronesian contact situation, then even this could imply that the Proto-Tibeto-Burmans, or some major subset thereof, lived as far east as Shāndōng in the Lóngshān period.

On the other hand, it does not seem that the correspondences necessarily represent anything but a collection of coincidental resemblances, with the exception of a tantalising correspondence first identified as a loan word into Tibetan by Hendrik Kern (1889: 5), *viz.* Austronesian *beRas 'husked rice' vs. Tibetan ḥbras 'rice'. Sagart has added the Old Chinese cognate 糯 ᵇmə-rat-s, and pointed out a second rice term Austronesian *Sumay 'rice as food' corresponding to Old Chinese 米 ᵃmijʔ 'grain of cereal' and Garo *may* 'paddy'. Kern believed that this loan correspondence pointed to the source whence the ancestors of the Tibetans had first acquired familiarity with rice.

If the veracity of either the Sino-Tibetan or the Sino-Austronesian hypothesis can ever be convincingly demonstrated, then this would compel us to decide in favour of Scenario 3. Yet at present the linguistic evidence for either hypothesis is not compelling. Whilst the lack of conclusive linguistic evidence does not support Scenario 3, neither does it invalidate Bellwood's model. Another line of reasoning which might sustain Bellwood's homeland hypothesis would be to argue that the current distribution of Tibeto-Burman groups could be accounted for if the Himalayas had for millennia served as a refuge area for people fleeing from more belligerent groups raiding, pillaging and waging war across more traversable terrain. The question formulated in the opening paragraph of this section alludes to this possibility. In other words, the present distribution of Tibeto-Burman linguistic diversity could arguably be a function of refuge areas and the traversability of terrain. Populations with cults possibly demanding horrific sacrifice, such as those suggested to some minds by Sānxīngduī iconography alongside the more concrete evidence found at sites such as Ānyáng, could have been amongst the repellent influences driving other Tibeto-Burman groups into ever more remote and sheltered alpine recesses.

Finally, Bellwood's Tibeto-Burman homeland in Scenario 3 extends all across Shǎnxī and abuts against Sìchuān, the homeland of Scenario 1. The disparity, therefore, is greater between Scenarios 2 and 3 than between Scenarios 1 and 3. The merit of Scenario 2 is that linguistic prehistory is reconstructed on the basis of the linguistic diversity situation, whereas the archaeological record is treated as testimony of the prehistory of material culture. The current impression is that emerging population genetic data appear to support a version of Scenario 2, but whether this impression will prove to be a trustworthy one is contingent upon further analysis of the genetic data, e.g. whether or not rooted topologies can be reliably ascertained for the haplogroups in question, and so forth. Therefore, this first impression too may change as more data are analysed and interpreted and this multi-facetted story continues to unfold in ways perhaps unforeseen.

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藏緬語族的多樣性和漢語的語言隸屬

無我

萊頓大學

　　漢語語言隸屬的兩個主要的理論，藏緬語族和漢藏語族，源出於十九世紀初葉。這兩個暗示著不同的東亞植民模式的不同的語言關係論，依據甚麼實證抉擇其取捨？語言多樣性的研究對辨明漢語的語言隸屬作出了甚麼貢獻？哪個語言關係論該是無庸爭議的假說？語言現象中哪些問題叫我們藉助於考古記載以及遺傳學？

關鍵詞：藏緬語系，漢語，考古學，先史學，遺傳學