

**IF AGRICULTURE CANNOT BE
RECONSTRUCTED FOR PROTO-
SINO-TIBETAN WHAT ARE THE
CONSEQUENCES?**

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Introduction

- Our understanding of the linguistic prehistory of South and SE Asia is strongly connected with claims concerning dates and homelands for its major language phyla
- Recent dates for agriculture in India and SE Asia have tended to push the inception of the Neolithic much nearer the present (perhaps only 4200 BP)
- These must be reconciled with the reconstructibility of agricultural terminology in the phyla of the region such as Sino-Tibetan, Austroasiatic, Hmong-Mien and Daic.
- It is essential the data from linguistic reconstruction be *congruent* with archaeological, ecoclimatic and genetic data; if they are not, then we must question the reconstruction
- It is also essential that claimed reconstructions are shown to be across the most diverse groups; it is not enough for there to be 'widespread' roots. This would almost certainly reflect the spread of crops etc. during the early agricultural period.

Sino-Tibetan

General background



Sino-Tibetan I

- Of all the phyla in the region, Sino-Tibetan remains the most problematic. In part this is because the inaccessibility of comparative materials makes assessment of the true situation difficult
- Various claims have been made about the reconstructibility of terms for crops and livestock in Sino-Tibetan, but they have rarely been supported with datasets that suggest individual terms are genuinely widespread.
- Such claims have been taken by archaeologists to support the view that Sino-Tibetan was an expansion of agriculturists.
- This paper will suggest that no such reconstructions are solid and that scattered look-alikes or subgroup reconstructions simply do not constitute evidence for a proto-language.
- If this is so, then it has important implications for the prehistory of the phylum in terms of its dating and early evolution.

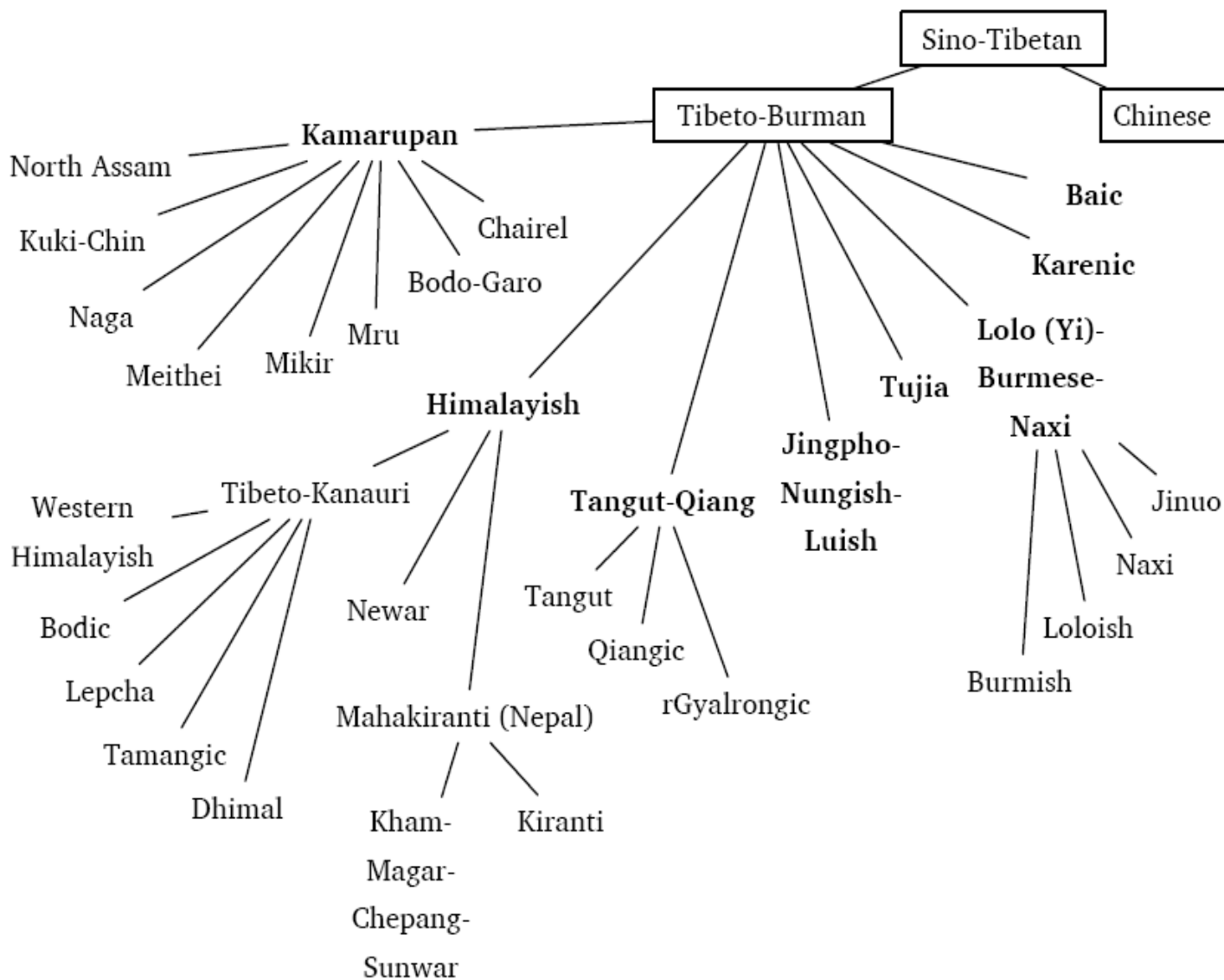
Generalised
map of the
Sino-Tibetan
languages,
from Van
Driem (2001)



Sino-Tibetan classification

- The internal classification of Sino-Tibetan remains highly controversial, as is any external affiliation.
- Some key questions are;
 - whether the primary branching is Sinitic (i.e. all Chinese languages) and the remainder (usually called Tibeto-Burman) or whether Sinitic is simply part of one branch, e.g. Bodic etc. Certainly the distinctiveness of Sinitic is far from proven.
 - What are the inter-relations of its branches?
 - there are also claims for links with other phyla such as Austronesian (e.g. Sagart).
- There are two markedly different views on the table, shown in the following figures

Sino-Tibetan according to Matisoff (2008)



'Fallen leaves' model of Sino-Tibetan according to Van Driem (many places)

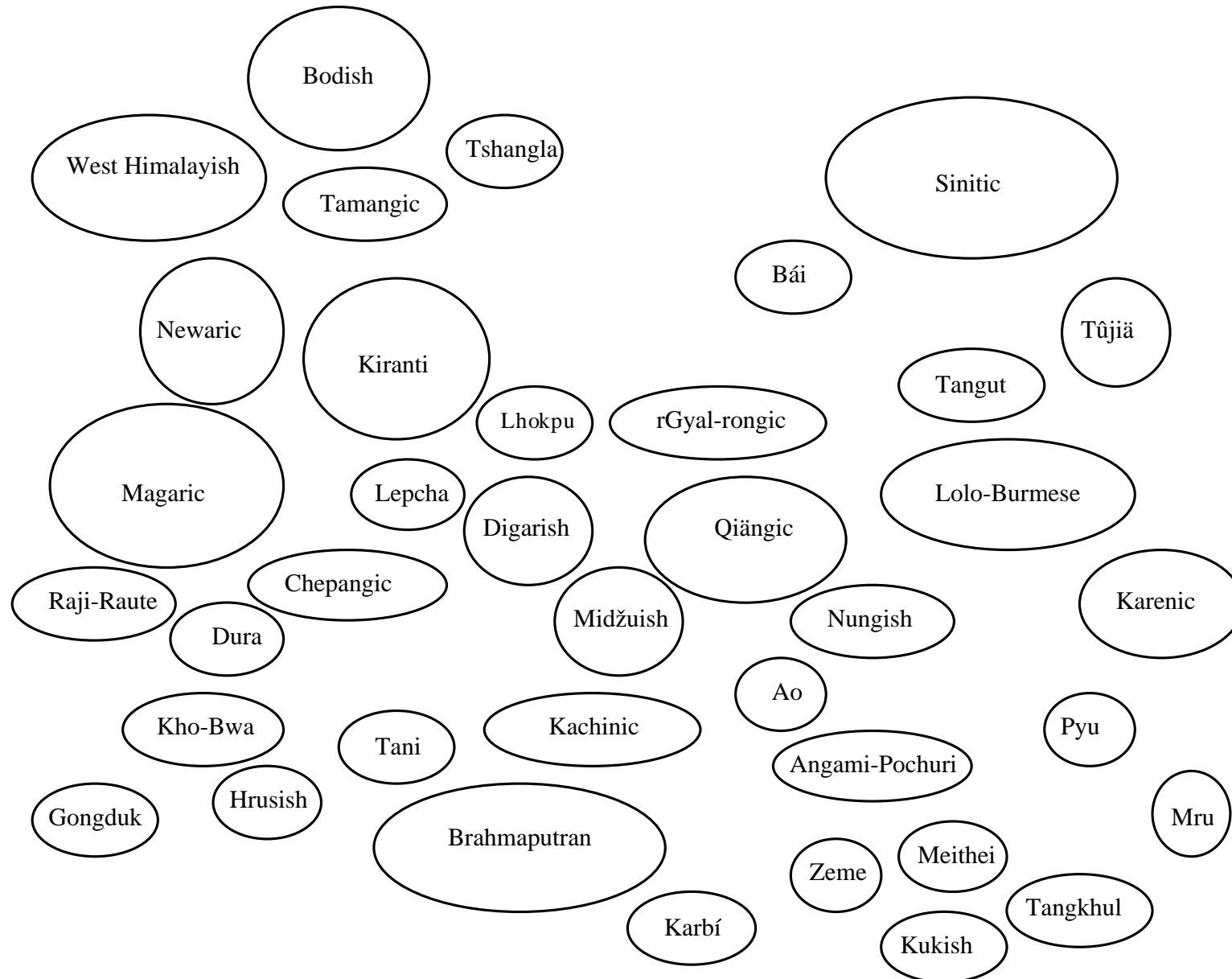
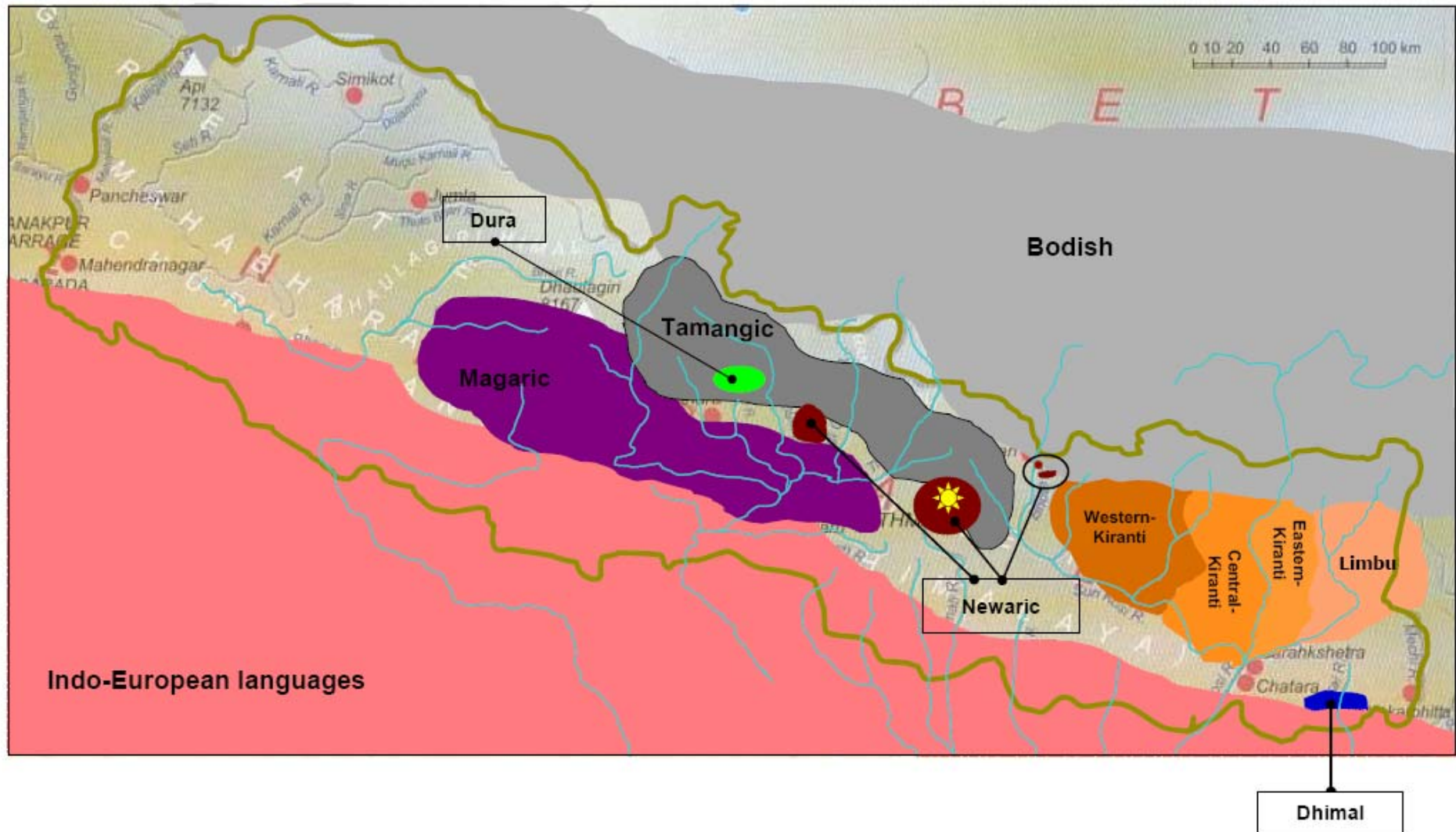


Figure 3: General distribution of the main ethnolinguistic groups throughout Nepal



And we can conclude?

- Both these classifications essentially show large numbers of parallel arrays, with Van Driem being the extreme version of the agnostic view.
- But however you look at it, the building of a hierarchical model of Sino-Tibetan appears to be a long way off
- In terms of internal diversity, it appears that the Himalayan/Assam region is massively diverse synchronically, with large numbers of small subgroups which appear to be very different from one another
- Are some of these groups Sino-Tibetan at all? Recent reports that the sago-exploiting Sulung may simply be something else, suggest even more strongly that we have to suppose a diversity typical of NE Asia or parts of the Amazon
- Mark Post suggests that the supposedly Tani-affiliated Milang may be a Sino-Tibetanised group of foragers

And we can conclude?

- Was this also the case in the Sinitic-speaking region? Was it once much more diverse but that assimilation of any languages has flattened out this diversity?
- The presumably remnant Tujia and Bai make this seem a very real possibility. Bai, more than Tujia, has so many deep level Sinitic borrowings that its base lexicon is hard to determine
- On general grounds, the region around the Tibetan Plateau seems a likely candidate. The relatively recent expansion of Tibetic makes it hard to be sure of its prior diversity
- However, as NE India and adjacent regions open up, we are beginning to realise more precisely the enormous linguistic diversity of this region, plus the presence of near-foragers and vegetative cropping systems quite distinct from the classic grain-based model.

And we can conclude III?

- 🌐 If we don't have reliable data for many languages, especially on items that reflect subsistence and can thus potentially be linked to archaeology and palaeoclimatology, *and* we don't have anything resembling a consensus on internal structure then reconstructions take on a very provisional character
- 🌐 It should be remembered that even Indo-European studies are split in two between the horse pastoralism solution (Anthony 2007) and the Anatolian farming solution (Renfrew many places) which has corresponding implications for dates.

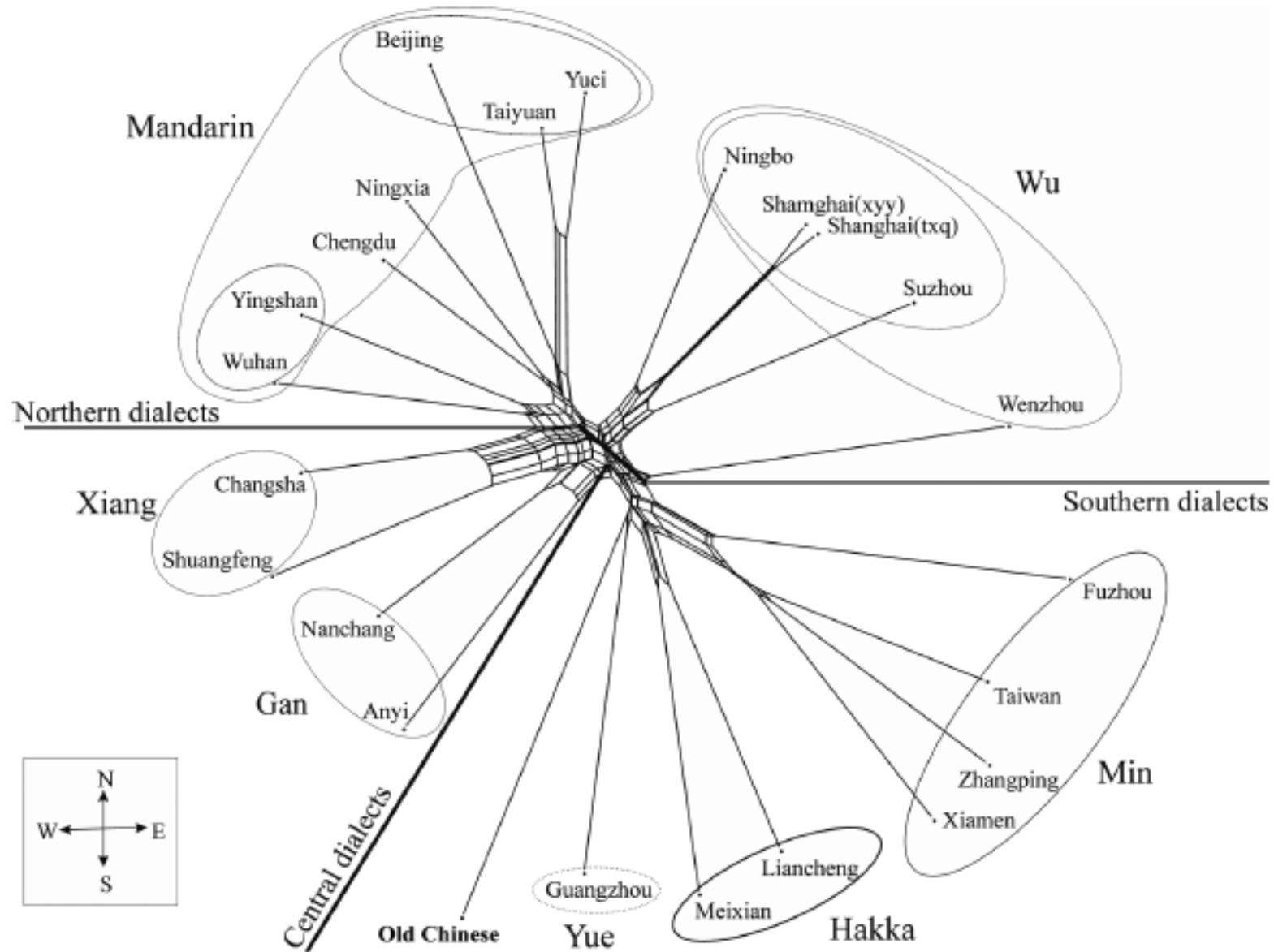
Dates and diversity

- 🌐 Looking across the world, we now have reasonable dates for the diversification of Polynesian, Bantu, Mayan, Turkic.
- 🌐 In other words, without resorting to glottochronology we can see approximately what level of diversity we should see in say, 3-4000 years.
- 🌐 Furthermore these are all branches of families where agriculture can be reconstructed without question
- 🌐 The level of internal diversity in Sino-Tibetan points to a far older date than this.
- 🌐 I don't think we can yet put a date on it, but it is surely at least twice as old as Polynesian?

Sinitic excursus

- Sinitic is not very diverse when compared with the rest of Sino-Tibetan. Even given the caveats just expressed it must be relatively recent. Presumably one among many competing ethnolinguistic groups that gained the advantage.
- Wherever it originates within Sino-Tibetan there is a broad consensus that its main spread has been north-south from the millet-growing to the rice-growing areas and that it has assimilated or overwhelmed a diverse *in situ* population
- Tujia and Bai are particularly interesting, especially Tujia, as it has agricultural terminology not related to Sinitic, but seems to be innovative or show links with other Sino-Tibetan subgroups.

Hamed & Wang (2006) on Sinitic networks



Sino-Tibetan IV

- It is *not* the case that we can confidently reconstruct *any* agricultural terms to PST, simply because there are no certain attestations in numerous subgroups, especially in the Himalayan and NE Indian branches.
- We can suggest some potential terms attested in well-known branches such as Sinitic, Karenic and Lolo-Burmese
- Importantly, almost all these terms also occur in neighbouring phyla which points to the ease with which they are borrowed
- This suggests to sceptical observers that they may also be borrowed between branches of Sino-Tibetan

The archaeological record

- The earliest dates for rice cultivation are disputed; rice was probably 'managed' before true domestication which might be in the Yang Tze valley ca. 6500 BP.
- Foxtail millet is around the same period (and spreads to Taiwan by 5500 BP)
- But the Neolithic in SE Asia is much later, probably 4500-4200 BP. Why doesn't it spread south? Presumably because foraging remains a rational strategy for much longer
- Similarly with domestic animals; we have a fairly good idea when these appear in the Chinese archaeological record, much less certainty about other Sino-Tibetan-speaking areas

Early livestock in China

Species	Date BP
Dog	Before 10,000
Pig	ca. 7700
Sheep/goat	4400
Cow	4300
Horse	3200
Chicken	?? 3300

Sino-Tibetan: widespread roots

- Some examples;
- *#mei* 'rice' [also in Daic and Hmong-Mien]
- *#fan* 'rice' [also in Daic]
- *#tɕok* 'foxtail millet' [also in Mienic and ? Austronesian]
- *#ŋwV* 'cow, ox' [also in Daic and Austroasiatic]
- *#brak* pig [also in Austronesian]
- This list is too short and too partial to be very indicative and all are found outside Sino-Tibetan

Buckwheat (*Fagopyrum esculentum*)

- The domestication of buckwheat is described in Joshi & Rana (1995) and Ohnishi (1998). It is generally considered to have been domesticated in NW China and to have spread widely through the region.
- Buckwheat is a high-altitude crop, so etyma often disappear when populations migrate to lowland areas.
- Buckwheat is the most important crop of the mountain regions above 1600 m a.s.l. both for grain and greens and occupies about 90% of the cultivated land in the higher Himalayas.

Buckwheat (*Fagopyrum esculentum*)

Phylum	Branch	Language	Attestation	
Sino-Tibetan	Sinitic	Chinese	Chinese	<u>qiáo mài</u> 蕎麥
Sino-Tibetan	Sinitic	SW Chinese	SW Chinese	tɕiau31
Sino-Tibetan	Bai	Bai	Bai	ky21
Sino-Tibetan	Qiangic	Jinghua	Jinghua	tãu tʃə13
Sino-Tibetan	Qiangic	Qiang	Qiang	dzuɑɕɑ
Sino-Tibetan	Qiangic	Taoba	Taoba	tō35 tɕi35
Sino-Tibetan	Loloish	Lisu	Lisu	gwa21
Sino-Tibetan	Loloish	Nosu	Nosu	ŋgw33
Sino-Tibetan	Loloish	Akha	Akha	ɣa21
Hmong-Mien	PHM			*jæu
Hmong-Mien	Hmong	White	White	cey
Hmong-Mien	Mien	Mun of Funing	Mun of Funing	hao53 ga53
Austroasiatic	Pakanic	Bugan	Bugan	thuŋ31 go31
Daic	Tai	Dehong	Dehong	ɕiau42
Daic	Tai	Kam	Kam	əu31 ɕoŋ453

What can archaeology of the west tell us?

- Archaeology of the Tibetan region is sketchy at best, but there may have been MSA foragers reaching the area as early as 20,000 BP (Zhang et al. 2003)
- A second phase of occupation, apparently seasonal exploitation by foragers begins by 7500 BP (Huang 1994). This marked by the presence of microliths
- Permanent human occupation of the Plateau 4-5000 BP (Aldendorfer & Zhang 2004).
- This is most likely to reflect the domestication of the yak which would make it possible to exploit the pastures of the Plateau and subsist in the inimical climate all year round

What can archaeology tell us?

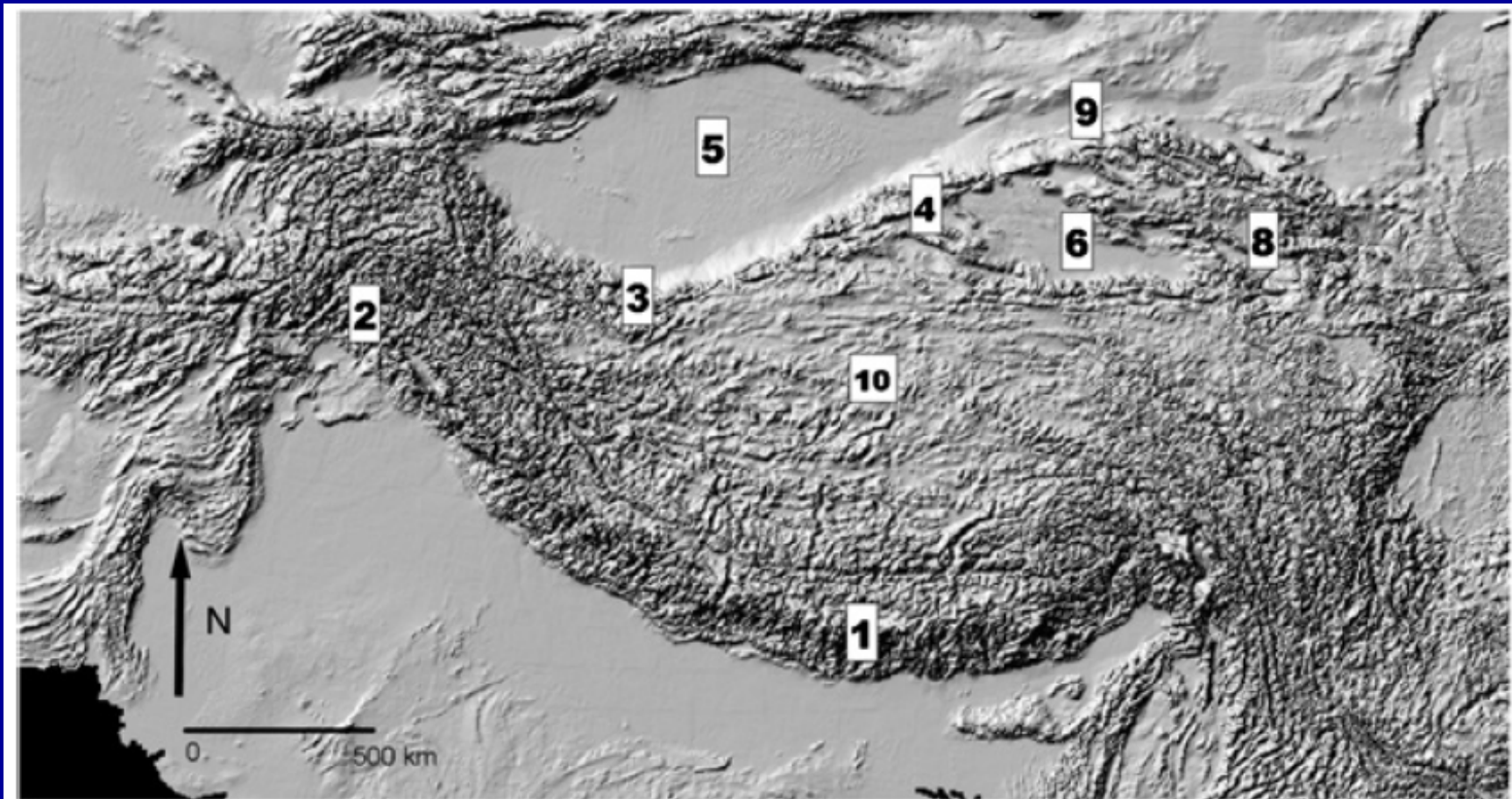


Fig. 2. Major topographic features of the Tibetan plateau. 1: Himalayas; 2: Karakoram and Pamirs; 3: Kunlun Shan; 4: Arjin Shan; 5: Taklamakan Desert; 6: Qaidam Basin; 7: Qilian Shan; 8: Qinghai Hu (Lake Koko Nor); 9: Heixi (Gansu) corridor; 10: Chang Tang. Scale approximate.

What can archaeology tell us?

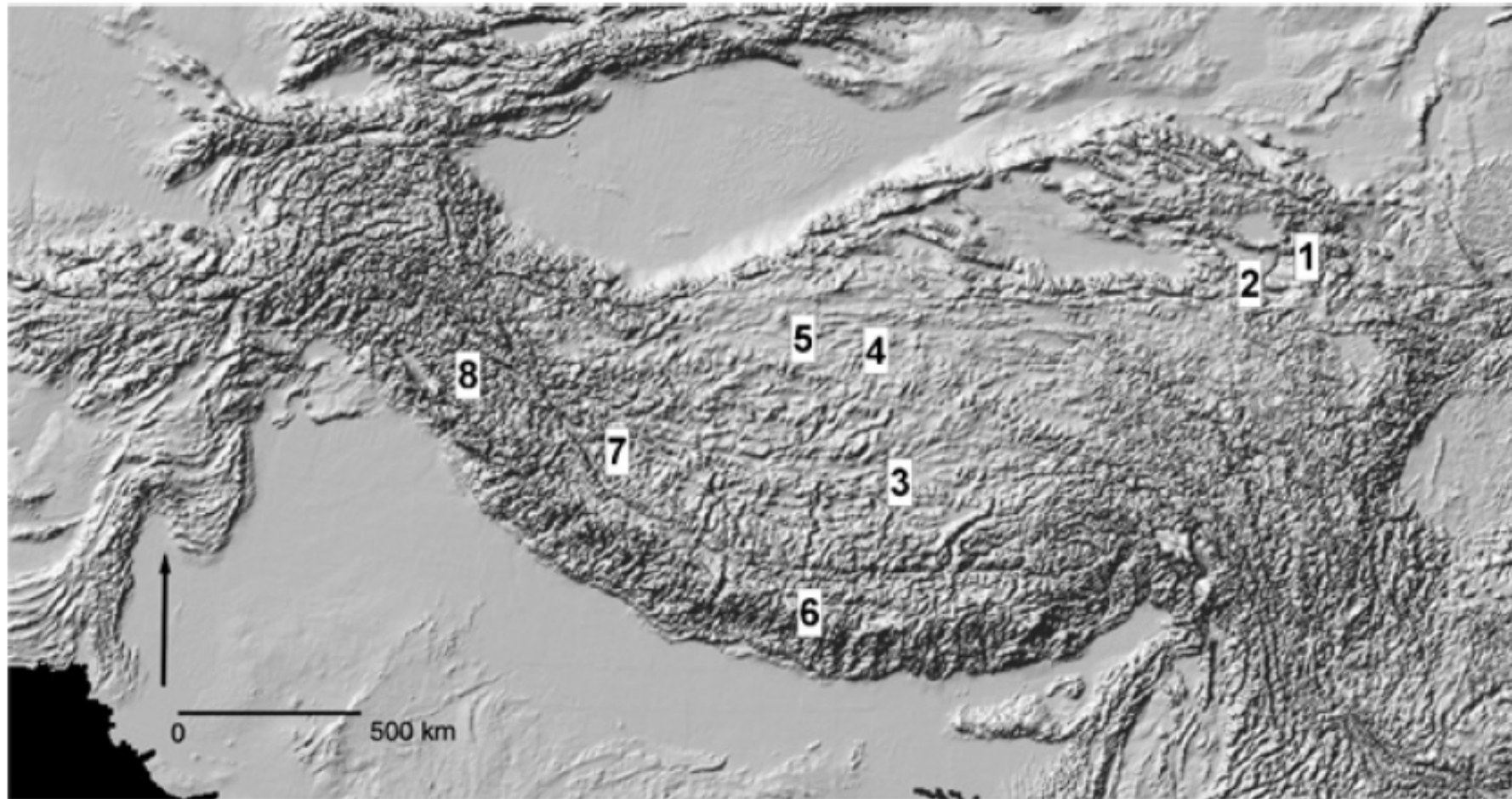
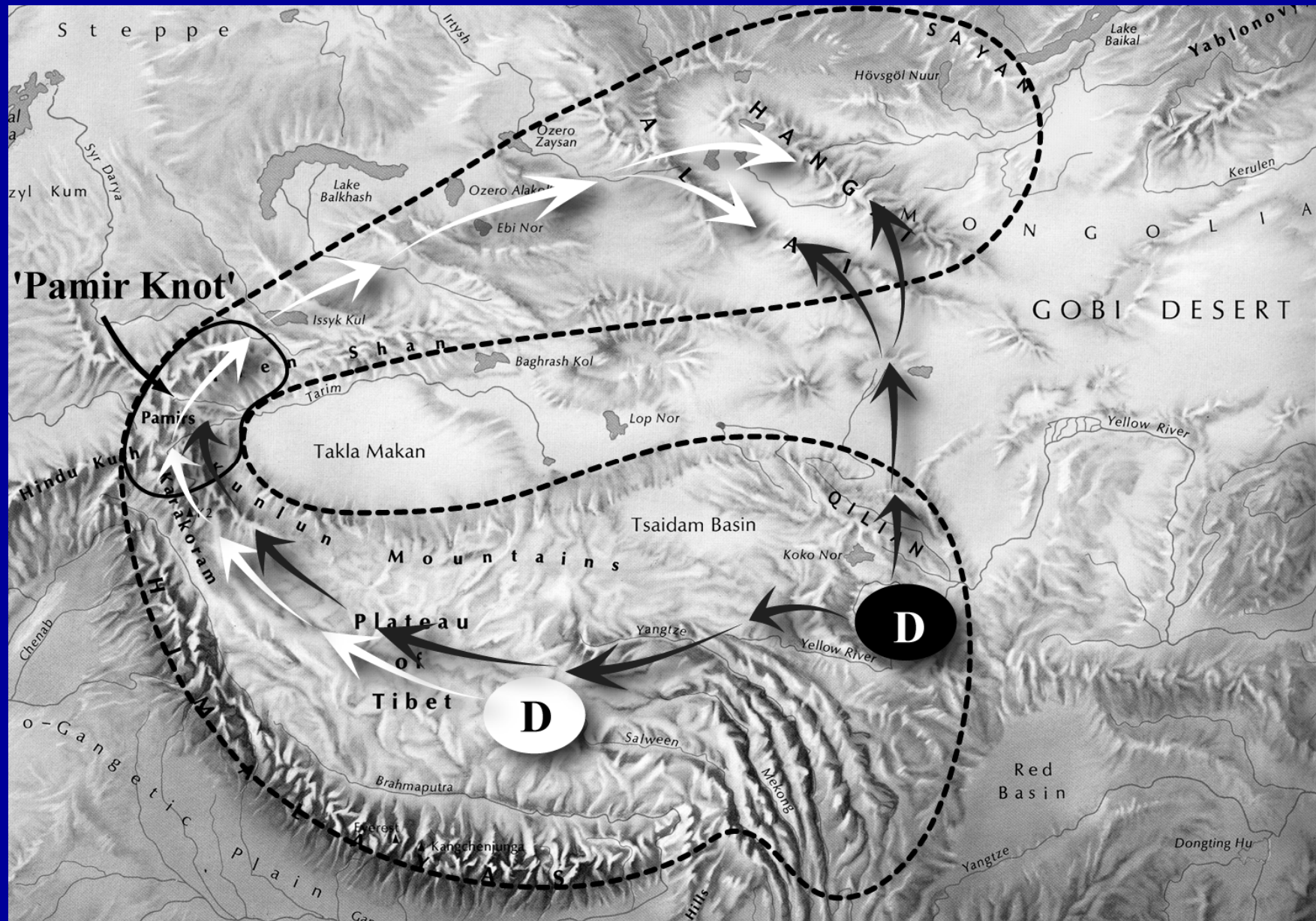


Fig. 7. Location of major microlithic sites on the plateau. 1: Layihai; 2: Dayutai; 3: central Chang Tang sites; 4, 5: northern Chang Tange sites; 6: Zhongba, Nyalam; 7: upper Yarlung Tsangpo sites; 8: Rutog.

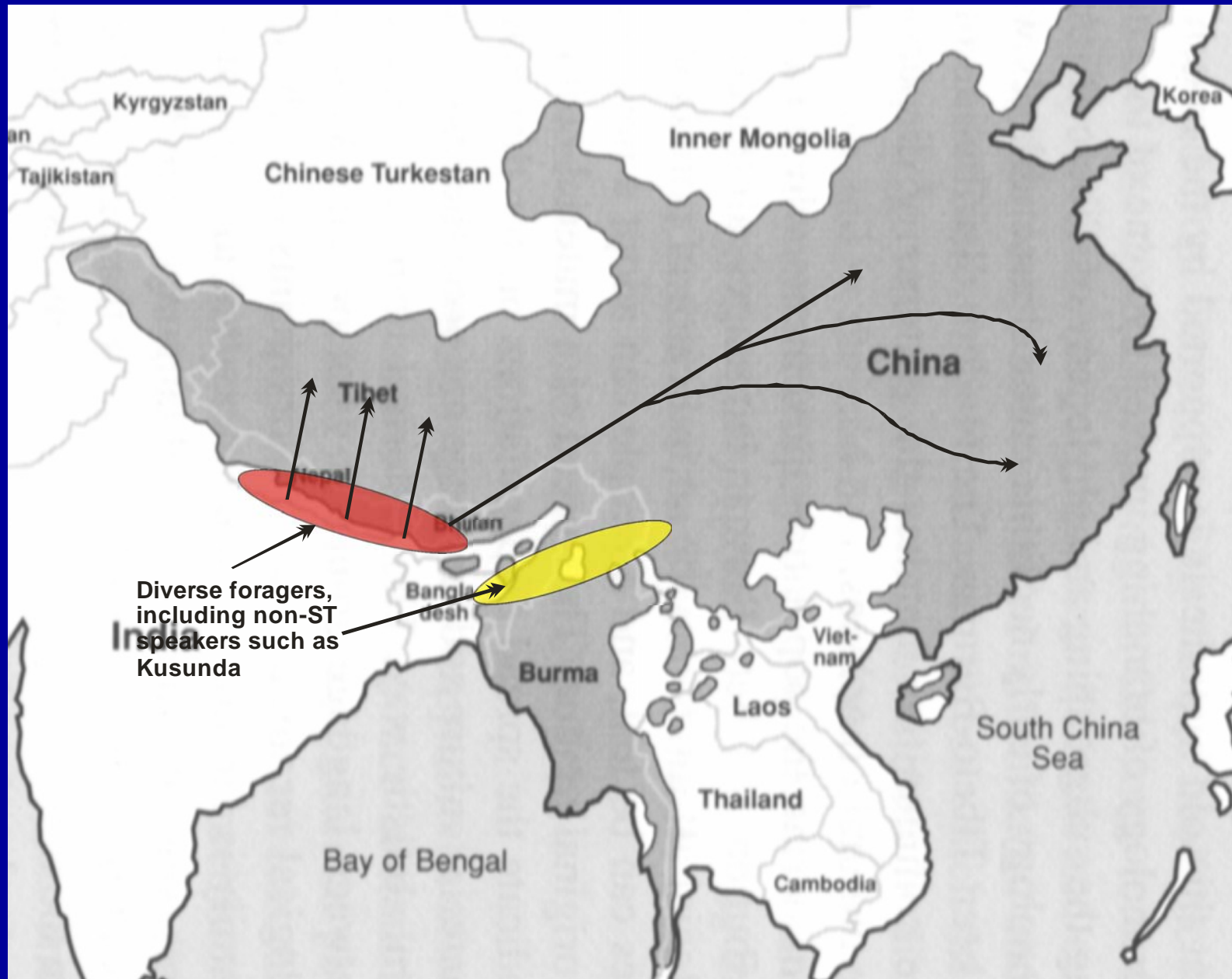
Prehistory of yak pastoralism (Xuebien 2008)



Sino-Tibetan: an alternative model I

- The earliest speakers of Sino-Tibetan were highly diverse foragers living in an arc between the slopes of the Himalayas and Assam/Arunachal Pradesh up to 10,000 years ago
- Some speaking early Sino-Tibetan languages, others 'Kusundic'
- They probably began to practise vegeculture (taro, plantains) and arboriculture (sago) (NE India) and animal management (mithun) by 6000 BP
- Seasonal foragers were exploiting the high Tibetan Plateau from 7500 BP
- Perhaps 6-5000 BP 'livestock revolution' takes place. Yak herders move and permanently settle the Tibetan Plateau
- But at the same time early Sino-Tibetan groups spread eastwards to China. Sinitic is not a primary branch but simply one of many migratory groups
- Proto-Sinitic speakers encounter early Altaic speakers with foxtail millet and other crops

Early Sino-Tibetan



Sino-Tibetan: alternative model II

- Proto-Tujia, proto-Bai and probably others meet unknown populations (Hmong-Mienic? Austronesians?) with domestic pigs, while also cultivating and beginning to domesticate rice
- The Sinitic languages expand southwards, assimilating or encapsulating many small groups. They encounter Hmong-Mien speakers with rice and switch millet terminology to rice
- Cold zone cereals (buckwheat, foxtail and *Panicum* millet) are moved from gathering to domestication in the montane areas on the fringes of the Himalayas
- Rice moves up from India but also westwards from China (hence hybridised types) and overlays older cereals where ecologically possible
- Ruminants (cows, sheep, goats) spread downwards into China from Central Asia 4400 BP (? Altaic for small ruminants but not cattle)

Sino-Tibetan: alternative model III

- Tibetic speakers undergo a major expansion (when?) assimilating linguistic diversity on the Plateau
- Rice invades the lowland vegetational zones rather later, pushing taro into residual systems
- Groups such as early Burmic spread southwards, fragmenting Austroasiatic-speaking peoples

Where next?

- Archaeology is constantly providing us with a better record of early crops and livestock
- Genetics is illuminating human migration and interaction as well as the likely origins and affiliations of domestic plants and animals
- The linguistic record is still full of large gaps as well as unpublished and untabulated data
- We need to be more careful about claims concerning reconstruction especially when they can be cross-checked against external data
- And we need not to stick to fixed ideas about early Sino-Tibetan society which may well derive from Sinosphere models

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