Language Diversity and Human Diversity in Yunnan

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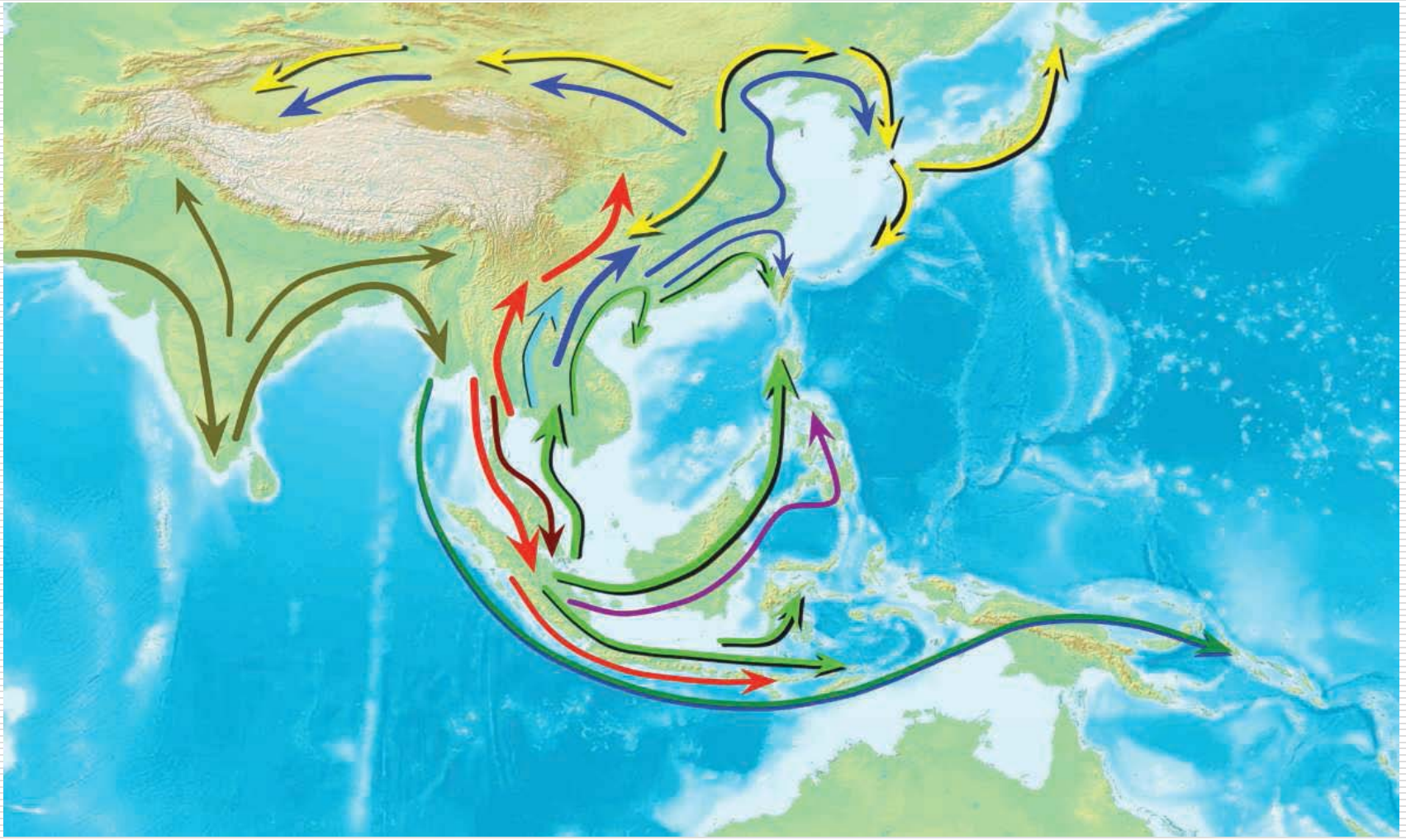
Out of Africa



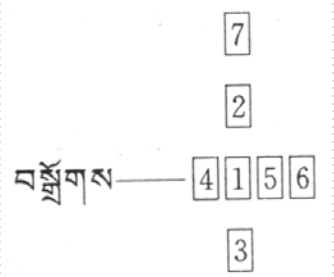
People Diversity

- 15 Minzus only in Yunnan, including 白族、布朗族、德昂族、傈僳族、普米族、哈尼族、阿昌族、景颇族、拉祜族、基诺族、纳西族、怒族、佤族、独龙族、傣族

Kingdom of languages

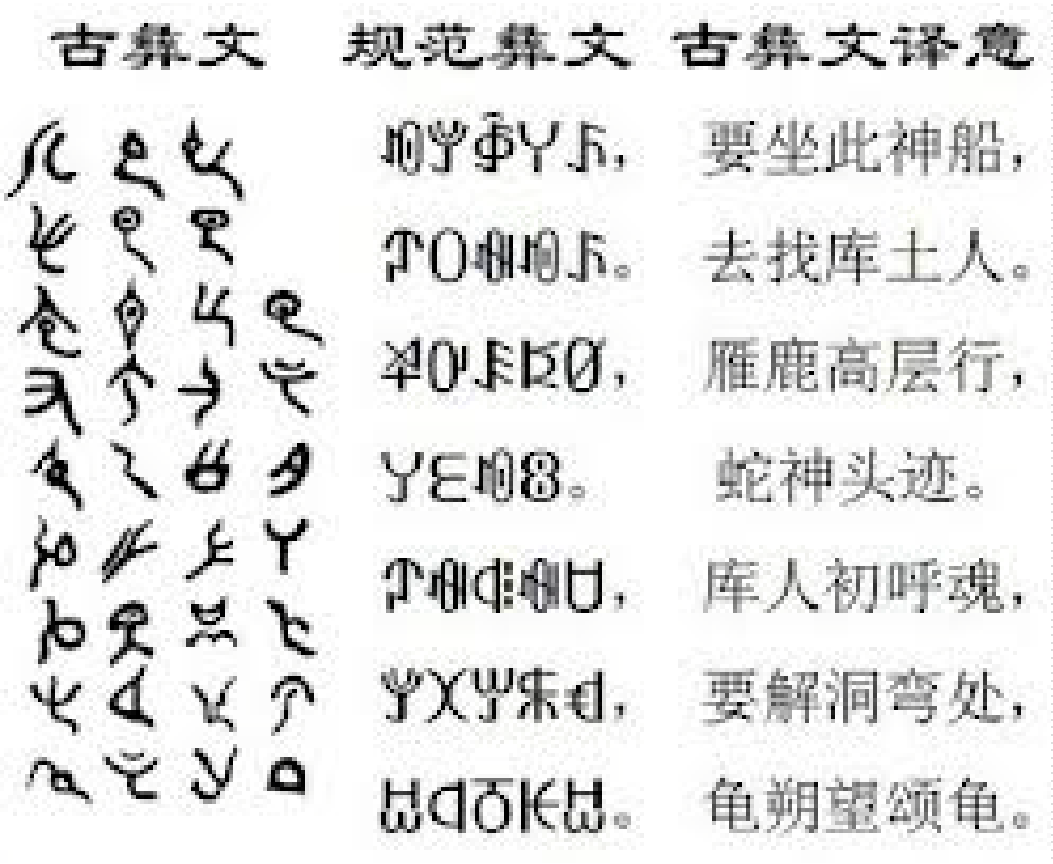
- Wang 2002 YUNNAN and her Cultural Treasures
  - Language families- Sino-Tibetan(Chinese dialects; Tibeto-Burman; Kam-Tai; Miao-Yao); Austroasiatic
  - Ancient traces
  - Early written systems

Written Tibetan

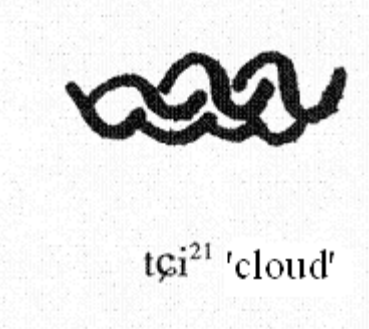


ཀ	ཁ	ག	ང	ཅ	ཆ	ཇ	ཉ	ཏ	ཐ	ད	ན
k	kh	g	ŋ	tɕ	tɕh	dʑ	ɲ	t	th	d	n
པ	ཕ	བ	མ	ཙ	ཚ	ཛ	ཝ	ཞ	ཟ	འ	ཡ
p	ph	b	m	ts	tsh	dz	w	ʒ	z	ɦ	j
ར	ལ	ཤ	ས	ཧ	ཨ			ི	ུ	ེ	ོ
r	l	ɕ	s	h	ʔ / a			i	u	e	o

Yi script



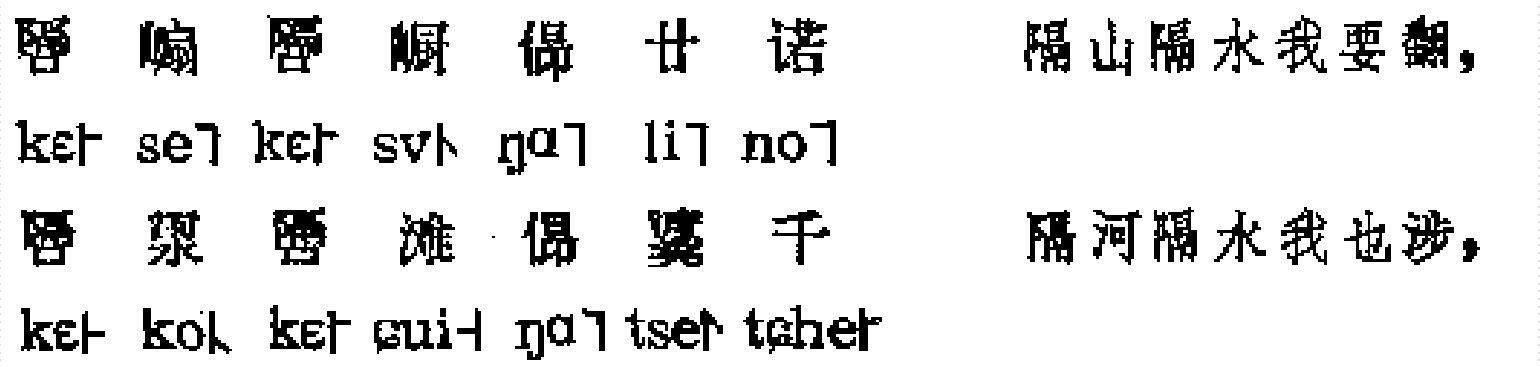
Dongba script



tɕi^{21} 'cloud'

be^{33} 'snow'

Bai script



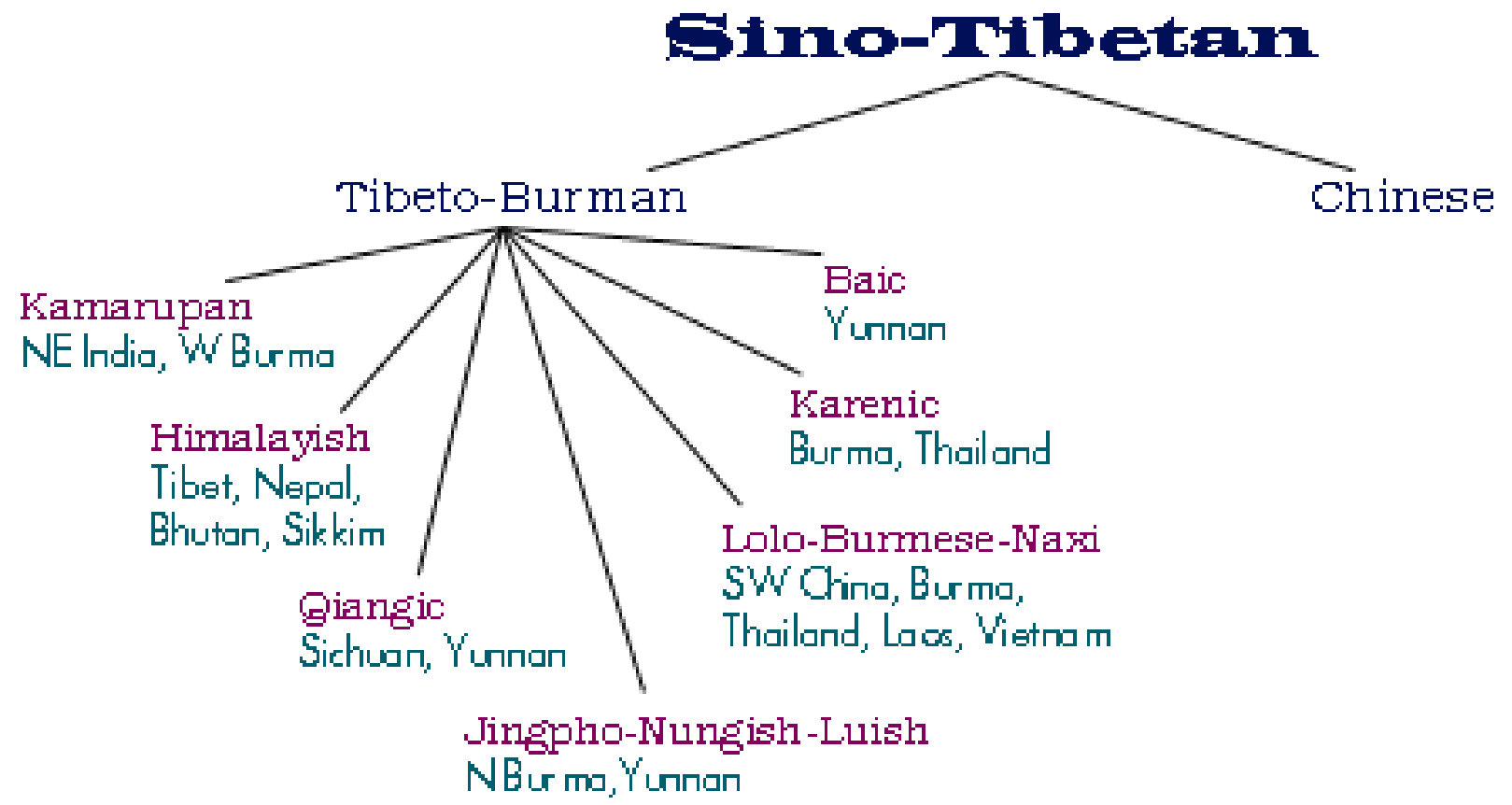
How does these languages come into being

- From Sino-Tibetan to Tibeto-Burman?

Sino-Tibetan

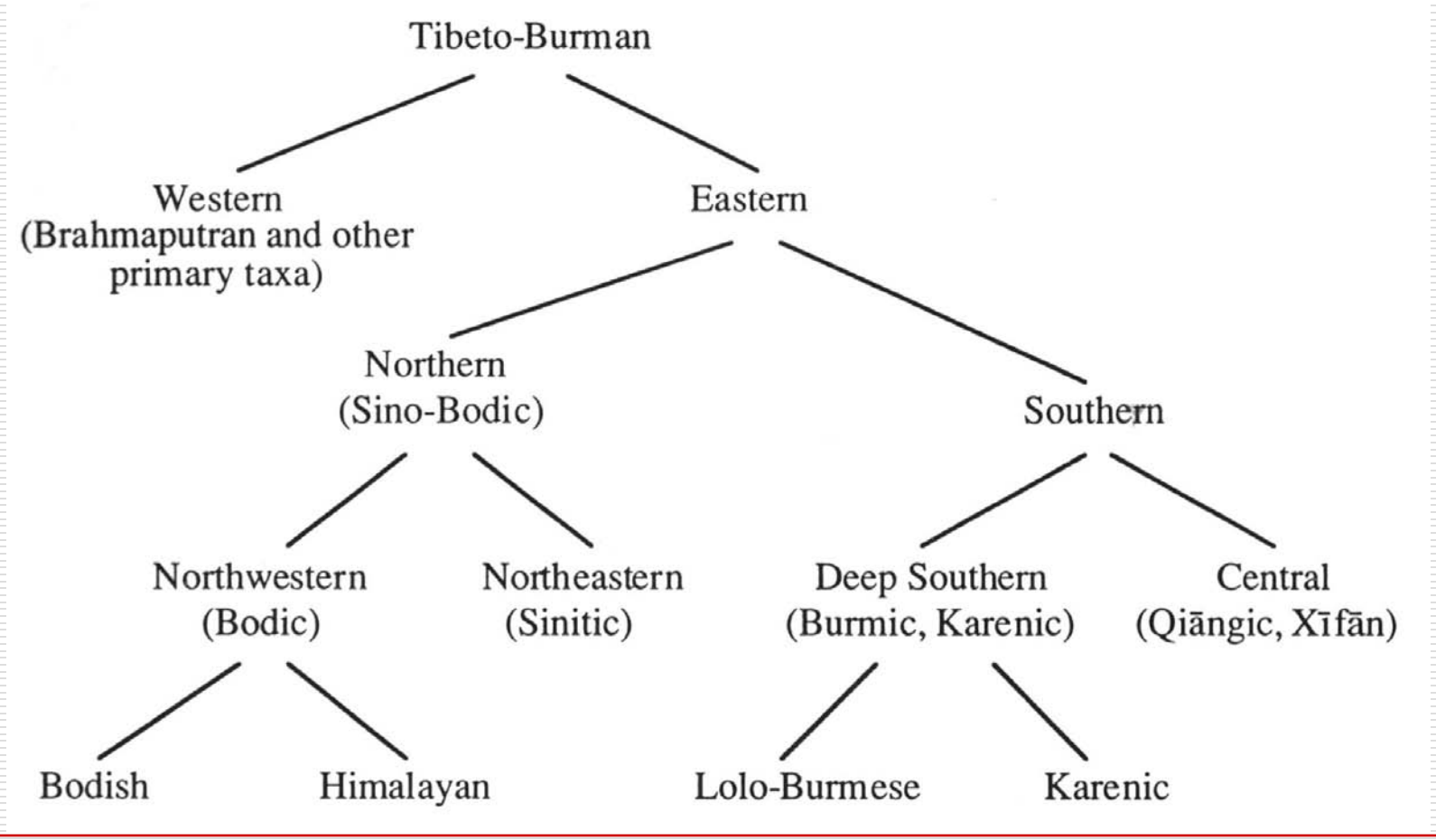
- Li Fang-Kuei 1937
- Sino-Tibetan
  - Sinitic
  - Tibeto-Buramn
  - Kam-Tai
  - Miao-Yao

Another version of Sino-Tibetan

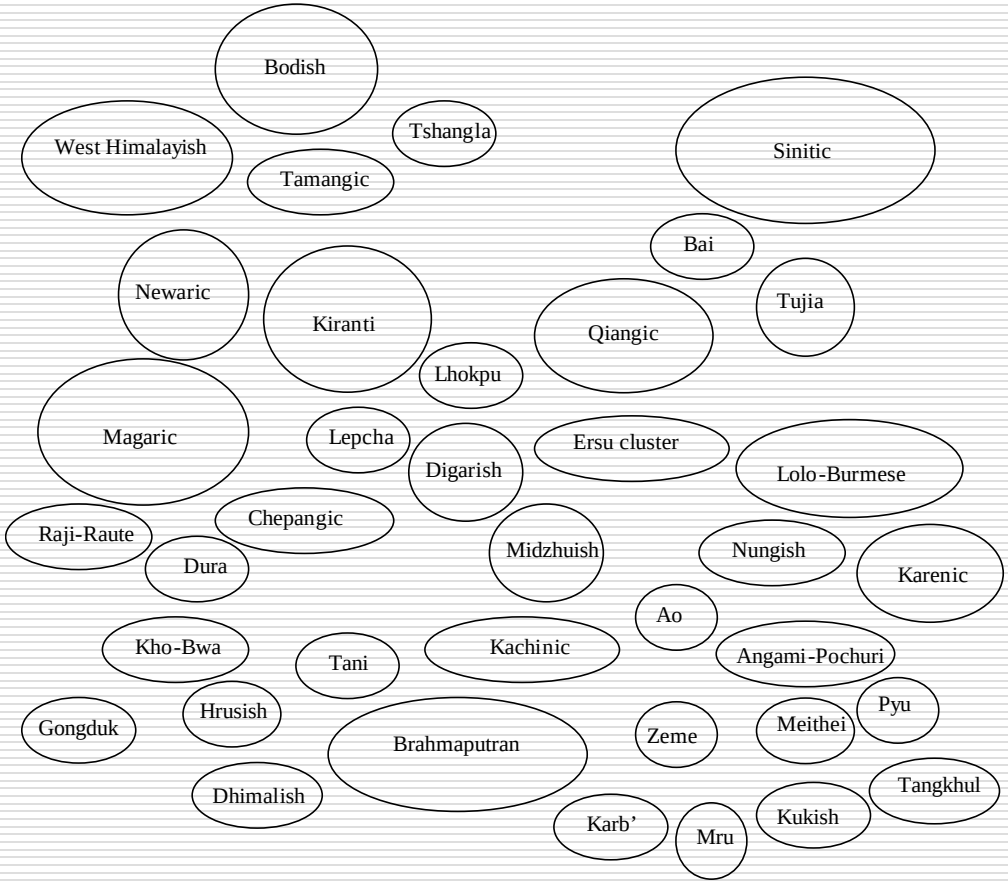


http://stedt.berkeley. Edu/html/STfamily.html

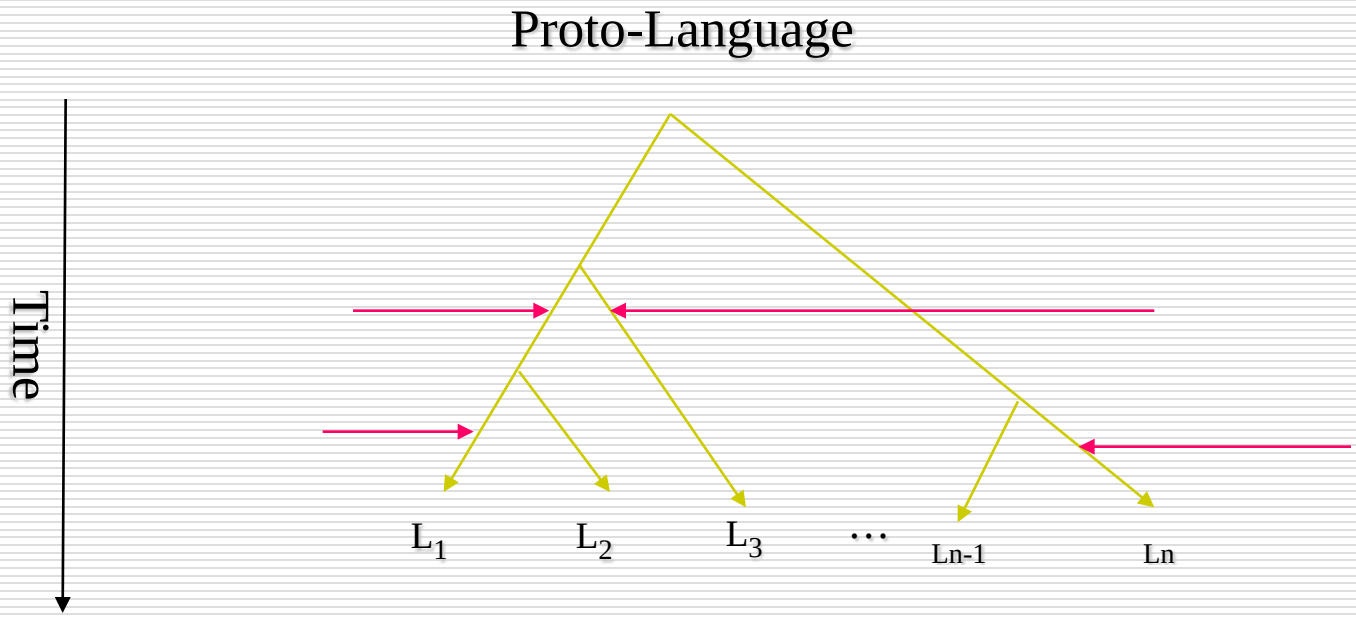
Sino-Bodic hypothesis => Chinese: ST or TB



Languages in Tibeto-Burman area

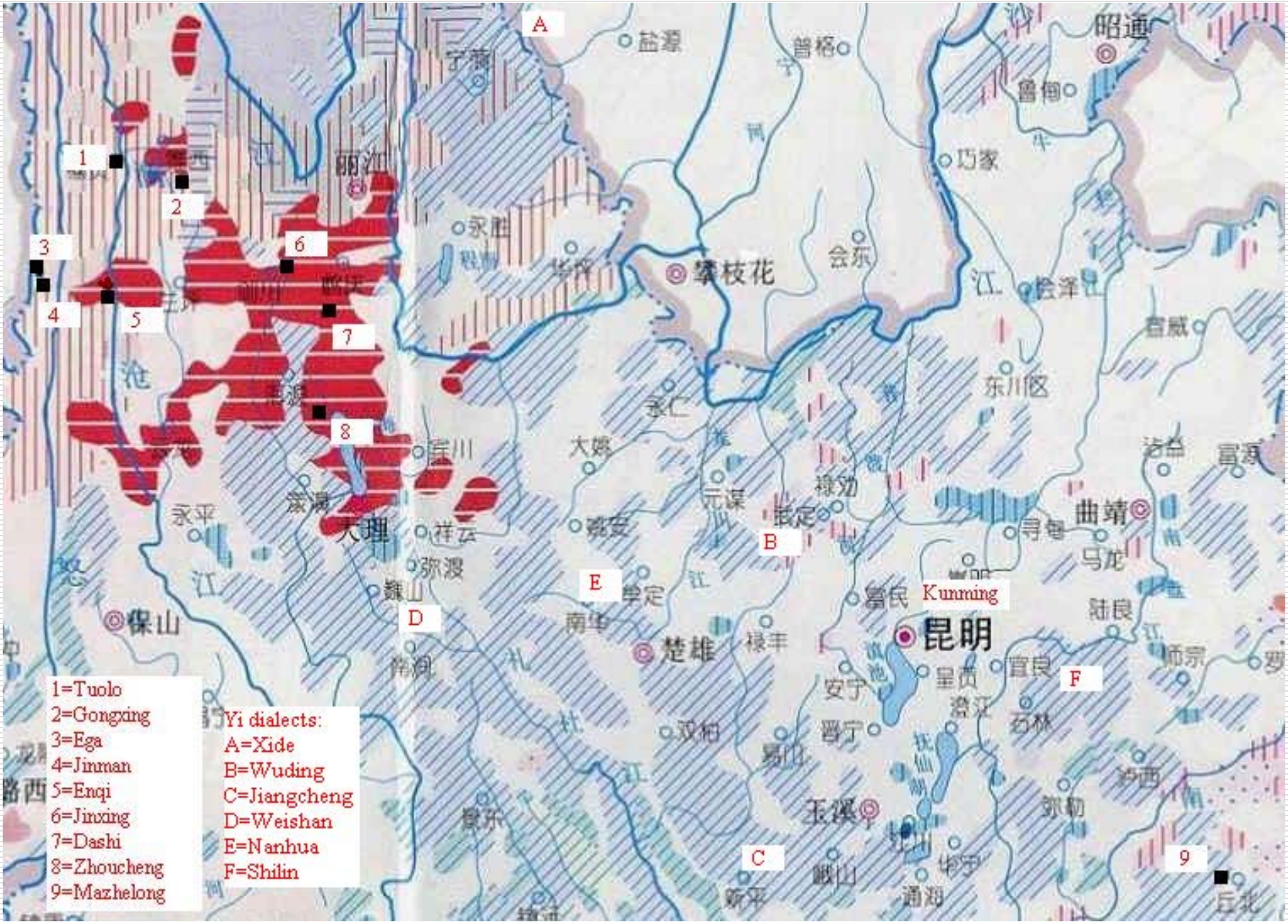


Vertical transmission and Horizontal transmission



The case of the Bai language

- To which language group does the Bai language belong to?
  - Many hypotheses…



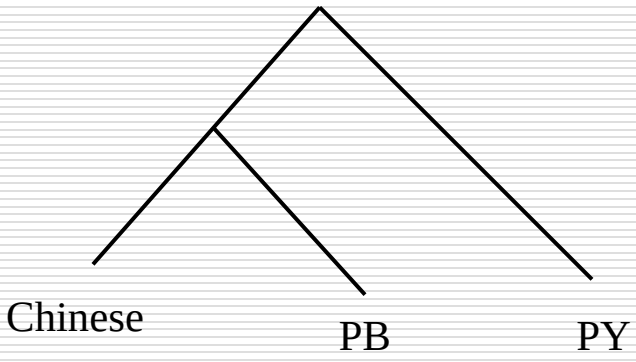
1=Tuolo
2=Gongxing
3=Ega
4=Jinman
5=Enqi
6=Jinxing
7=Dashi
8=Zhoucheng
9=Mazhelong
Yi dialects:
A=Xide
B=Wuding
C=Jiangcheng
D=Weishan
E=Nanhua
F=Shilin
Kunming
昆明
楚雄
大理
曲靖
昭通
攀枝花
丽江
保山
玉溪

Lexical Comparison: What are compared?

- Proto-languages
  - Old Chinese (>Middle Chinese)
  - Proto-Bai
  - Proto-Yi

- Comparisons between languages
  - Related words: words with sound correspondences
  - Sino-Bai Comparison → Sino-Bai related words
  - Bai-Yi Comparison → Bai-Yi related words

The genetic relationship between Chinese, PB and PY



- Wang (2006)

Shared sound changes between PB and Chinese

- 1. *-ra- → -□-
- 2. *ʔnj- → nj-
- 3. *-ag → -u

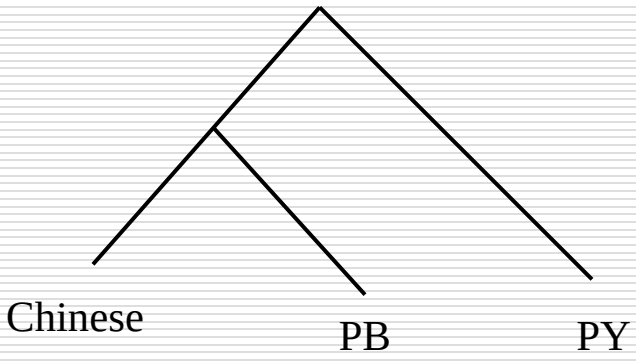
Words	PY	PB	Chinese (OC>MC)
white 白	**brak → phru1	**brak → bæ4	*brak → bæk4
sun 日	**ʔnjit → ʔni6	**ʔnjit → nji4	**ʔnjit → *njit → nyi4
five 五	**ŋagx → ŋuɔ4	**ŋagx → ŋu2	**ŋagx → ŋu2

Shared semantic changes between PB and Chinese

- 1. ‘firewood; tree’ → ‘firewood’;
- 2. ‘to plant’ → ‘tree’

PY	PB	Chinese (OC>MC)
si8 ‘tree’; ‘firewood’	sjen ‘firewood’	*sjin > sin1 ‘firewood’
	drɯɯ3 ‘tree’	*djugh > dzyju3 ‘tree’ (← ‘to plant’)

The genetic relationship between Chinese, PB and PY



The dating problem

- The time depth of Proto-Bai

- When did these languages split from each other?
  - Bai, Chinese, Yi

Historical documentation

- 言语音，白蛮最正，蒙舍蛮次之，诸部落不如也，但名物或与汉不同，及四声讹重。大事多不与面言，必使人往来达其词义，以此取定，谓之行诺，才勺反。大虫谓之波罗密，亦名草罗。犀谓之矣(读如咸)，带谓之佉苴，饭谓之喻，盐谓之宾，鹿谓之识，牛谓之舍，川谓之赕，谷谓之浪，山谓之和，山顶谓之葱路，舞谓之伽傍。加，富也；阁，高也；诺，深也；苴，俊也。东爨谓城为弄，谓竹为剪，谓盐为眴，谓地为溪，谓请为数，谓酸为制，言语并与白蛮不同。

词项	中古汉语	原始白语
1 虎 tiger	罗la1	*lo1
2 富 rich	加 kæ1	*go1
3 盐 salt	宾 pjin1(<*prjin1)	*pren1
4 高 high	阁 kɑk	*kaŋ1
5 吃 eat	喻 yju3	*jɯ4

The method of Word group 词聚法

- 石stone>铜bronze>铁iron
- 猪pig>狗dog>鸡chicken>羊sheep>马horse
- 葱onion>garlic 蒜 > cucumber黄瓜
- …

Tool materials in Bai

索引 Index	词目 Gloss	Proto-Bai	Tl	Gx	Eq	Eg	Jm	Jx	Ds	Zc	Mzl
43	石 stone	dro4	dju42	dzu21	tju21	tɕu42	tjo21	tsou42	tʂou42	tsou42	tshuv42
53	铜 bronze	qæn2	qaŋ33	qan22	qæ22	qa22	qã22	[tṽ21]	[tõ21]	kɛ33	kə̃33
54	铁 iron	the4	tɕhi42	tɕhi24	tɕhi55	tɕhi55	tɕhi55	the44	the44	thɛ33	thɛ44

索引 Index	词目 Gloss	原始白语 Proto-Bai	上古汉语 Old Chinese	对应 Correspondence
43	石 stone	dro4	djak	最早层次 The oldest layer
53	铜 bronze	qæn2	-	不对应 Not correspondence
54	铁 iron	the4	thit	最早层次 The oldest layer

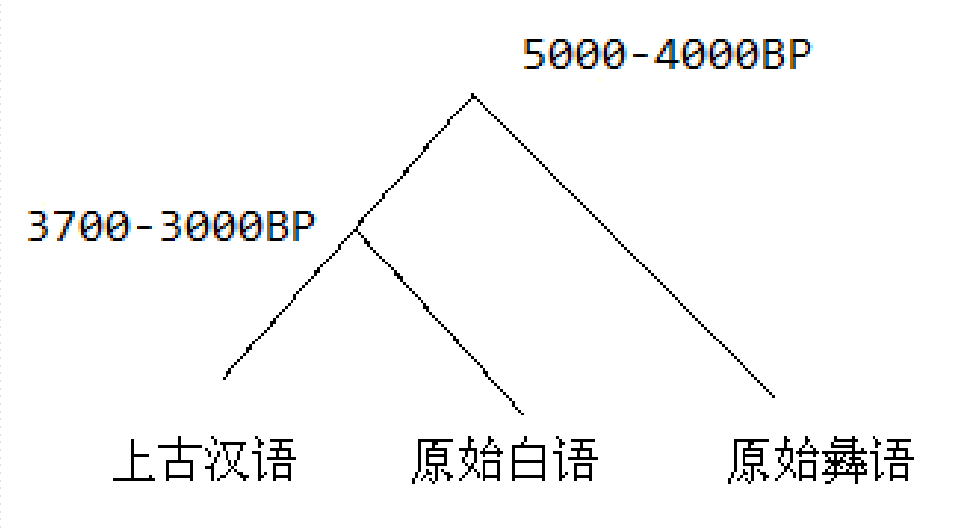
白汉分离时间:下限2600前
Split of Proto-Bai and Old Chinese: 2600BP

索引 Index	词目 Gloss	原始白语 Proto-Bai	上古汉语 Old Chinese	考古时间 Archaeological Time	对应 Correspondence
43	石 stone	dro4	djak	数万年前 More than 10,000BP	最早层次 The oldest layer
53	铜 bronze	qæn2	-	5000-2600BP	不对应 Not correspondence
54	铁 iron	the4	thit	2400-2200BP	**晚期层次 The later borrowing**

白彝分离时间:下限2600前
Split of Proto-Bai and Proto-Yi: 2600BP

索引 Index	词目 Gloss	原始白语 Proto-Bai	原始彝语 Proto-Yi	对应 Correspondence
43	石 stone	dro4	lo̱8	最早层次 The oldest layer
53	铜 bronze	qæn2	gjш4	不对应 Not correspondence
54	铁 iron	the4	-	-

Dating language split



Remarks

- 1. 历史语言学比较的长处是能确定语言先后发展的相对次序，但在绝对时间的确定上证据较少。词聚法不仅能进一步确证语源关系，还将考古及历史方面的信息引入进来，帮助确定分化或者接触时间的范围。

  Historical linguistics → sequence, lack of absolute date

  Method of word group → archaeological evidence with date

- 2. 在将来的研究中，如果能发现更多的可资利用的词聚，语言和文化的共同演化才能更准确的表现出来。

  More word groups → the clearer picture of coevolution of language and culture

Bai People

兰坪拉玛
Lama

大理白族Bai

丘北民家Minjia

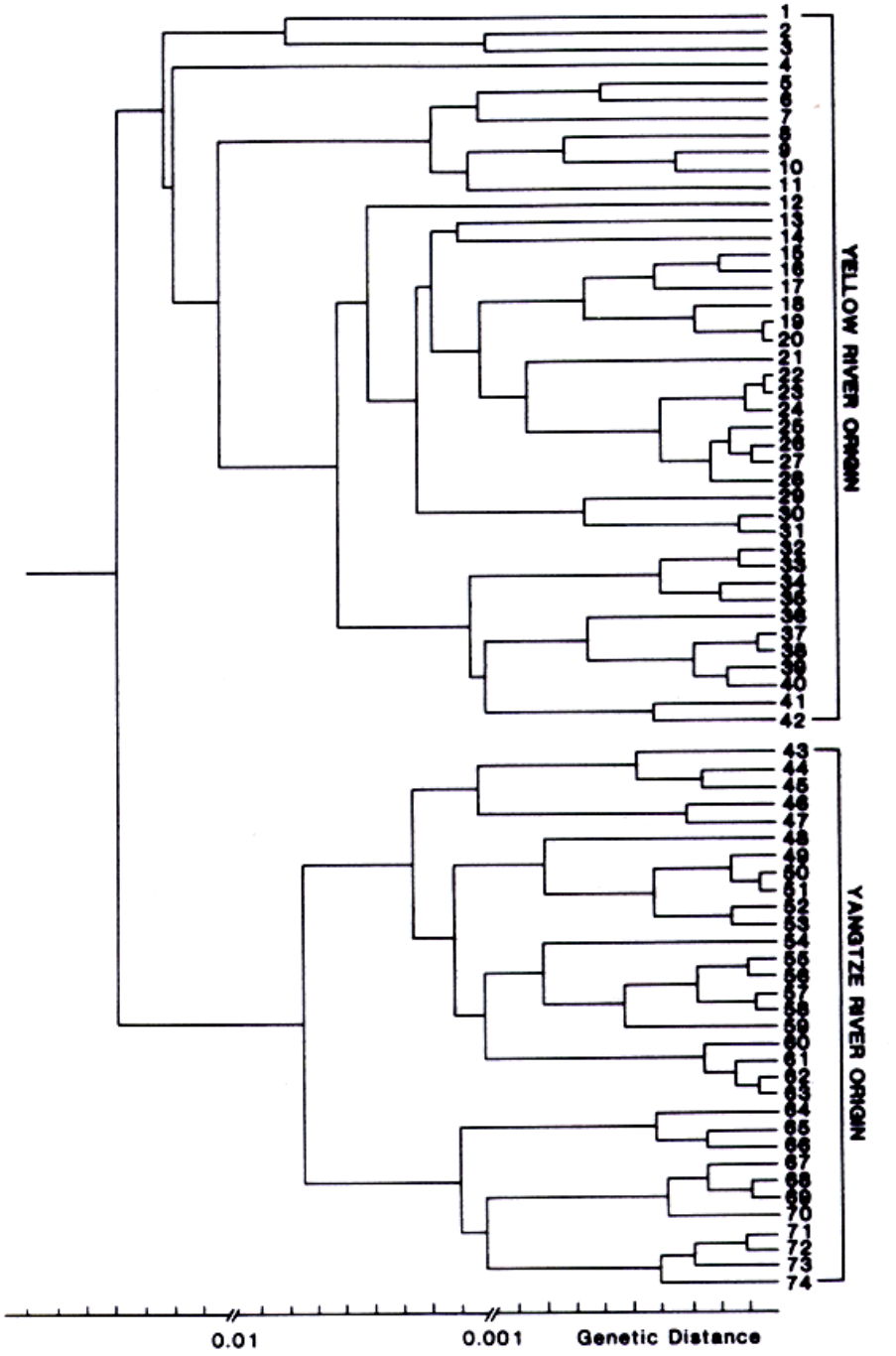
维西拉玛Lama

安宁白族Bai

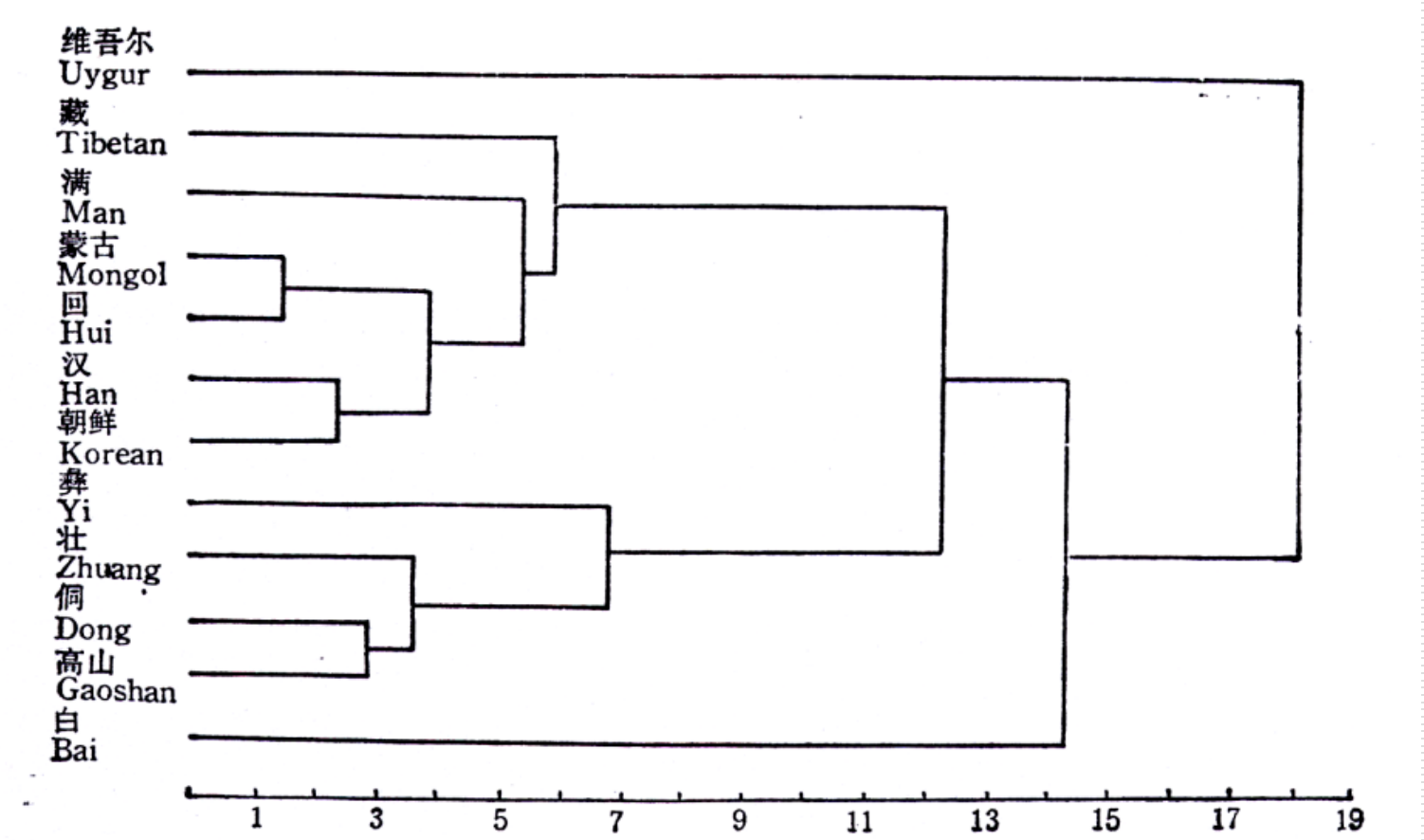
Zhao & Lee 1989:

- 注：48=金华汉，49=南昌汉，50=黄石汉，51=大理白，52=万县汉，53=攀枝花汉

Zhao, Tongmao & Tsung Dao Lee. 1989. Gm and Km allotypes in 74 Chinese populations: a hypothesis of the origin of the Chinese nation. *Human Genetics* 83:101-110.

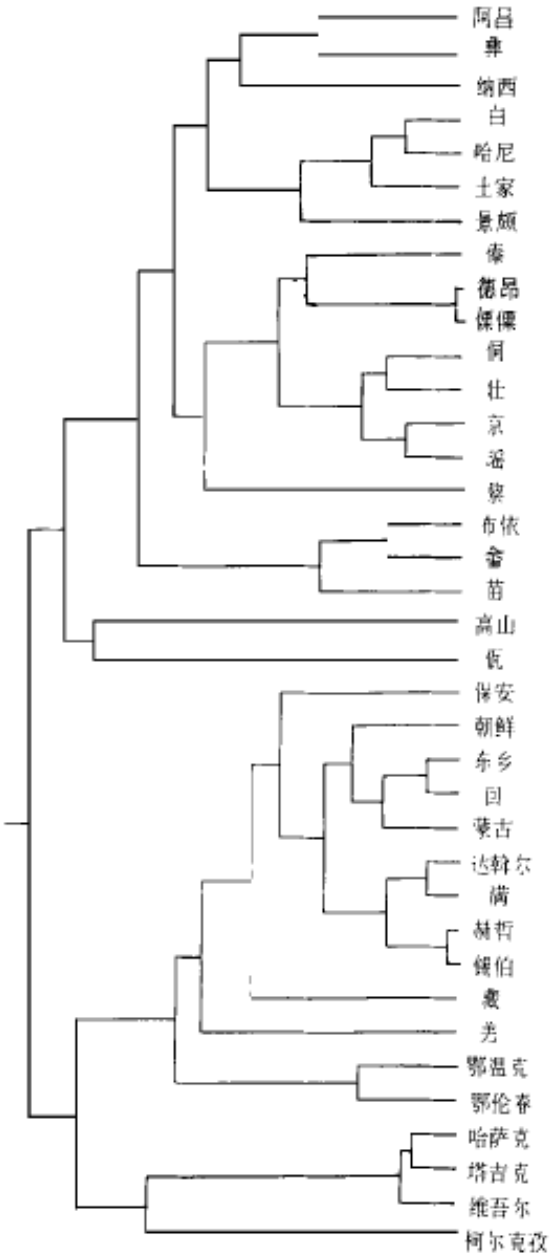


12个中国族群的遗传树图(翁自力 等 1990:265)



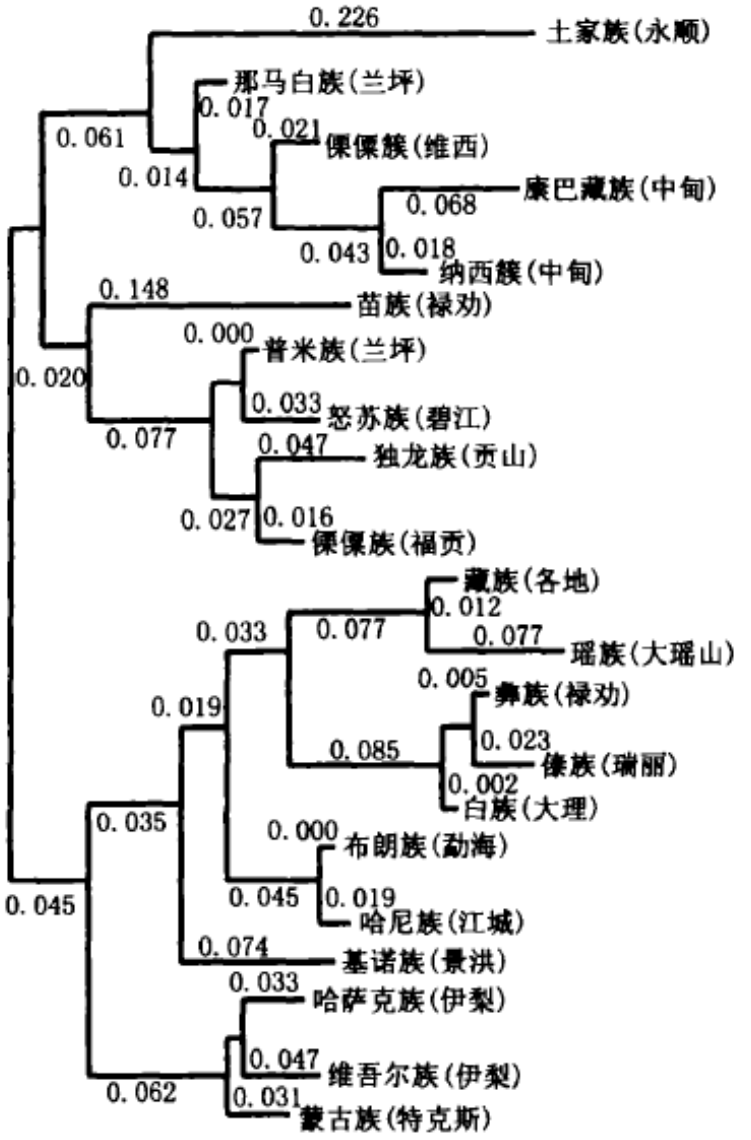
翁自立、袁义达、杜若甫. 1990. 中国14个民族红细胞血型座位的遗传变化.《遗传学报》17: 260-269.

- 杜若甫,肖春杰,Cavalli-Sforza LL. 用**38个基因位座的基因频率**计算中国人群间遗传距离.中国科学(C辑),1998,28:83-89.



面貌特征 Facial feature

李辉、潘方芳、张敏华等. 2001. 滇西北8个民族群体**面貌特征**观察的聚类分析. 《复旦学报(自然科学版)》40(5):568-576.



肤纹 dermatoglyph

柳扬帆、李辉等. 2003.白族勒墨人的**肤纹**分析及其统计方法探索 .《中央民族大学学报(自然科学版)》2003年1期

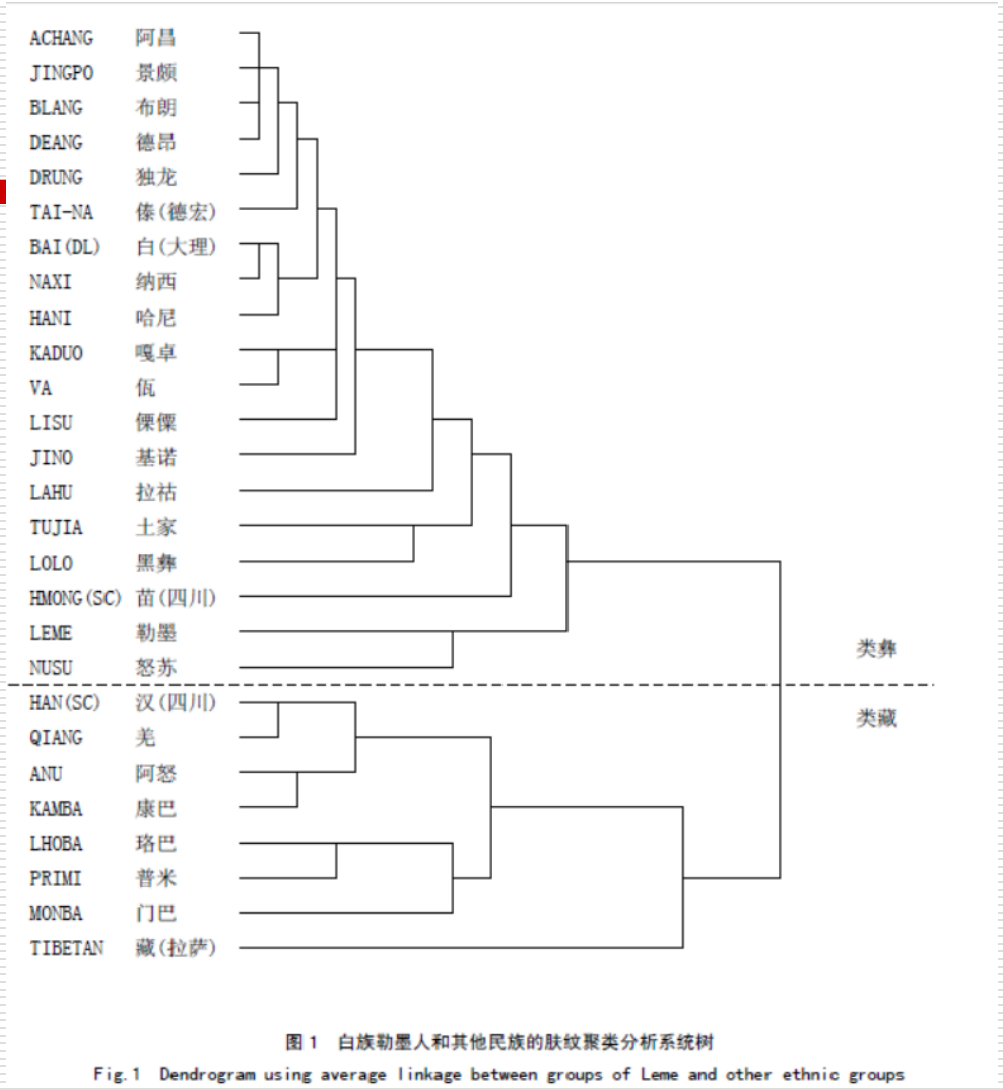


图 1 白族勒墨人和其他民族的肤纹聚类分析系统树

Fig.1 Dendrogram using average linkage between groups of Leme and other ethnic groups

Remarks

- 1 Time scales
- 2 People Sample
- Joint research → a whole picture

Reference (partial)

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谢谢☺

Thank you