

**SINO-TIBETO-AUSTRONESIAN:  
AN UPDATED AND IMPROVED ARGUMENT**

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**Sino-Austronesian, version I**

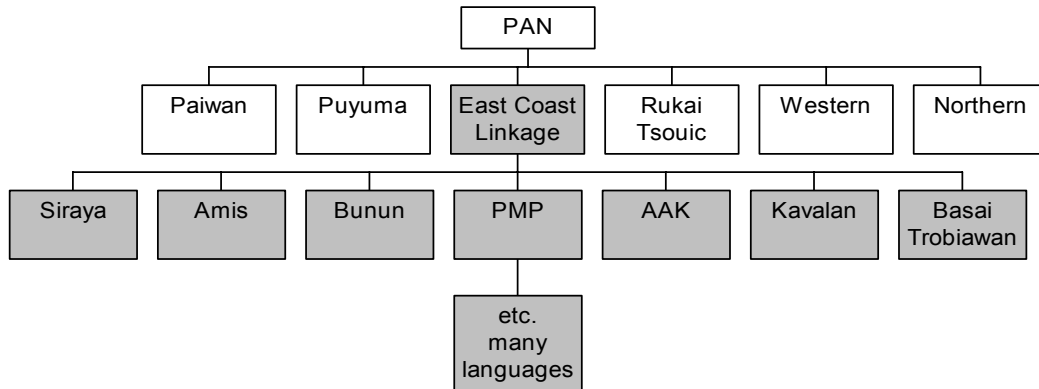
(Sagart 193, 1994)

1. Blust's higher AN subgrouping
2. Austronesian reconstructions by Dempwolff and Blust. MP material deemed essential.
3. only Chinese and Austronesian related
4. sound correspondences between final syllable of AN words and Chinese monosyllables.
5. some morphology
6. criticisms: too little basic vocabulary; Tibeto-Burman outside the relationship.

**Sino-Austronesian, version II**

1. East Coast Linkage (ECL) is one primary branch of PAN; Malayo-Poynesian forms one clade within ECL.
2. all Austronesian reconstructions either include Formosan material or are based on Formosan exclusively. MP material not essential.
3. Tibeto-Burman is reintegrated: relationship is between Sino-Tibetan and Austronesian.
4. some modifications in the sound correspondences; in addition, initial consonant of "lost" penultimate syllable of AN words governs Chinese syllable type.
5. more morphology
6. more basic vocabulary

**Higher AN subgrouping (adapted from Ho 1998)**



**Support for ECL: six innovations shared exclusively by PMP and Formosan East Coast languages**

- PAN \*C => \*t (Siraya, Bunun, Amis, Kavalan, Basay-Trobiawan, PMP: Ferrell 1969)
- PAN \*N => \*n (Kanakanabu, Bunun, Amis, Kavalan, Basay-Trobiawan, PMP: Ho 1998)
- 'bird' PAN \*ayam replaced by \*manuk (Basay-Trobiawan, PMP)
- 'banana' PAN \*belbel replaced by \*pu(n)ti (Basay-Trobiawan, PMP: Li 1992:277)
- 'to count' PAN \*supɛR replaced by \*bilang (Kavalan, Basay-Trobiawan, PMP: Li 1992:277)
- *pang-V* instrumental construction (Amis, PMP: Starosta 2001)

**Some PAN and PECL reconstructions**

**body hair**

PAN gumuN 'body hair'. Puyuma (Cauquelin 1991) gumul 'body hair, feather'; Saisiat (Ogawa and Asai 1935:6) komol 'pubic hair'. The analogy of PAN \*kumis 'beard' may or may not have played a role in the reflexion of PAN \*g- as k- in the Saisiat form (the Saisiat reflex of PAN g- is uncertain).

**bone**

PAN kukut 'bone'. Dempwolff reconstructed UA \*kukut 'joint, articulation' based on corresponding forms in Javanese and Ngaju Dayak. Add Favorlang 'o'ot 'bone' (PAN \*k goes to zero in Favorlang).

**foot**

PAN kakay 'foot'. Atayal *kakai*, Sediq *qaqay*, Thao *kakai*, all 'foot' (Ferrell 1969).

**palm of hand**

PAN *dapa* 'palm of the hand', consisting of Blust's PWMP (1980 # 112) *Da(m)pa* 'palm of the hand, sole of the foot' plus Atayal (Egerod 1980) *rapaʔ* 'palm of the hand'.

**horn, antler**

PAN (q)uRuŋ 'horn/antler': Pazeh ʔuxúŋ; Sediq uruŋ (Ferrell 1969), oloŋ (Pecoraro 1977); Yami ʔurúŋ, all 'horn' (Pazeh, Sediq and Yami forms cited from Ferrell 1969: 136); add Kanakanabu taʔuruŋu, Saaroa tauruŋu 'pygmy deer' (Tsuchida ms), both with prefixed ta- and final echo vowel; Long Nawang uheng, Uma Juman hueng 'horn, antler'.

Note: Blust (1973) reconstructed PAN \*(q)uReng 'horn, antler', based on the Pazeh, Sediq and Yami forms above, plus reflexes in two WMP languages: Long Nawang *uheng*, Uma Juman *hueng* 'horn, antler'. I reconstruct /u/ in the final syllable because Formosan and Extra-Formosan languages belonging to three primary branches (Pazeh-Sediq; Kanakanabu-Saaroa; and Yami) agree on /u/. I assume the Long Nawang and Uma Juman forms exhibit a secondary (WMP) *u* > *ə* dissimilatory change; Blust's decision to reconstruct /e/ in the last syllable reflects the greater weight given Extra-Formosan languages in his practice.

Note: Dempwolff had reconstructed "Ur-Austronesisch" \*suŋu 'horn'. Tsuchida (1976:165) reconstructed another form in the same meaning: "Proto-South-Formosan" \*seq<sub>1</sub>uŋ, with reflexes in Saaroa, Saisiat and Paiwan. He regarded Dempwolff's \*suŋu as a metathesized form of his own \*seq<sub>1</sub>uŋ. Both \*seq<sub>1</sub>uŋ/suŋu and \*(q)uRuŋ appear to have been PAN words; their referents must have been different, perhaps as 'horn' (hollow, permanent, non-branching) vs. 'antler' (solid, shed annually, branching).

**chicken**

PAN *kuka* 'chicken, fowl': Paiwan *koka*, Rukai (Taramakau) *koka*, Siraya *kuka*.

Note: several Formosan languages have prefixed elements *ta-*, *tari-*, *taru-*, *toro-*: Siraya *takuka*, *tahuka*, Rukai (Maga) *torokuka*, Kanakanavu *tariku:ka*, Saaroa *torokooka*, etc.

Note: Li (1992: 271; 1993:305) reconstructed "Proto-Formosan" \*teRakuk, based on Bunun, Puyuma, Kavalan and Amis forms, and interpreting Tsou troʔua, Kan tarikuka and Saaroa turukuuka as containing a suffixed formative -a of no particular function. The forms reflecting teRakuk, without final -a, are found exclusively in languages of the East coast, a well-known diffusion zone. It is more natural to suppose that a word for 'chicken' something like \*teRakuka was reanalyzed as containing root -kuk 'sob, cackle', and was for that reason changed to Li's \*teRakuk in a language of the East coast; and that the word then spread to other East coast languages. The alternative is to suppose that a suffixed -a of unknown nature was added to teRakuk independently in proto-Tsouic, in Taramakau Rukai, in Siraya and in Paiwan.

**cave, hole**

PAN b[e]luŋ 'cave, hole'. Paiwan beruŋ 'hole', Tsou (Tung) feóŋo 'cave, hole', Pazeh warúŋ 'cave, hole'.

**cloud**

PAN (root) -qem 'cloud': Amis toʔəm 'clouds' (Fey 1986); Rukai (Budai) əmə:mə 'cloud' (Tsuchida ms); Bunun lohom (Ogawa and Asai 1935), luhum (Nihira 1983) 'cloud'; this root also includes a WMP word \*q-al-emqem reconstructed here on the basis of a cognate set first assembled by K. Wulff (1942, No 53): Sundanese halömhöm 'overcast', Ceb. ʔalumʔum 'for the sky to be overcast'.

**to carry**

PECL baba 'carry on back'. Dempwolff reconstructed baba 'to bring along' (incl. several items meaning 'to carry on back'). Add Amis *fafa* 'to carry on back' (child), Basai *baba* 'carry on back', Trobiawan *uvava* 'id.'.

**to cut off, short**

PAN [p]utul 'short'. Dempwolff reconstructed \*puTul 'break off, cut off'. Add Bunun ma-putul 'short' (ma- stative prefix), Seediq butul 'short' (Ferrell 1969:366; expect putul in Seediq).

**to drown, disappear**

PAN Nemes 'to drown, disappear'. Dempwolff reconstructed \*lemes 'to drown, immerse'. Add Puyuma (Cauquelin 1991) lemes 'disappear, destroy, to end'.

**to fall**

PAN (root) -luR 'to fall'. Dempwolff reconstructed quluR 'drop slowly' (Tg 'fall'). Add Atayal (Egerod) *tarui* < taluR 'to fall down', with prefixed *ta-* 'agentless action'.

**to follow**

PECL d[u]NuR 'to follow'. Blust (1980 #109) reconstructed (3) duluR 'accompany, go together with'. Add Siraya *dmyllough* 'to follow' (Adelaar 1999:321), equivalent to *d-m-ilux* (with short i) in Adelaar's restored notation.

**to put together**

PECL puluŋ 'to gather', consisting of Dempwolff's puluŋ 'to gather', plus Ami poloŋ 'all, all together' (Fey 1986; the examples include verbal uses as 'to gather, get together'.)

**to speak, say**

PAN kawaS<sub>1</sub>, kaw(a)kawaS<sub>1</sub> 'speak, say': Pazeh *ka:kawas* 'speak, say' (Ferrell 1969: 313), Basai *makaukawas* 'say', *kawakawase* 'story', Trobiawan *kawas* 'story'.

**to sleep**

PAN (root) -zem 'close the eyes, sleep'. Based on NW Formosan (ma)-qizem 'sleep' (Saisiat maʔerəm 'sleep', Pazeh ʔidəm, ma-idəm 'sleep': Ferrell 1968:90) plus WMP ke(zZ)em 'close the eyes' (Blust 1973) and WMP peZem 'close the eyes' (Blust 1973), dbl. of the preceding.

**to ruin**

PAN r[i]bas 'destroy, ruin'. Reconstructed as PWMP rebas 'to fall into ruin' by Blust (1983-1984 # 308). Add Puyuma ribas 'destroy in part' (Cauquelin 1991).

**broad**

PAN (root) -baŋ 'broad', consisting of 'candidate root' -baŋ 'broad' (Blust 1988:73), based on 3 WMP items (probably including Dempwolff's baŋbaŋ 'broad, wide' and Blust's PWMP lak(e)baŋ 'broad, wide'), plus Atayal (Egerod) labaŋ 'broad', Sediq (Li 1981) llaŋbaŋ 'wide'.

**hot**

PECL qaiŋet 'hot'. Dempwolff reconstructed qaiŋet 'hot' (Dempwolff 1929); 'warm breath' (Dempwolff 1938). Add Siraya (Matthew Gospel) *aiŋit* 'fever' (Adelaar, p.c., 1999).

**old**

PAN (root) -daŋ. Dempwolff reconstructed guDaŋ 'adult, grown-up'. add Puyuma *iDaŋ* 'old' (inferred from maranai*DaiDaŋ* 'oldest, Huang 2000a: 49); Rukai *marəDaŋ* 'old' (Ferrell 1969).

**thick**

PAN (root) -tul 'thick'. Thao *ma-kuStur* 'thick' (Huang 2000c:157), Taroko *q'tol* 'fat, thick, obese' (Pecoraro). Kavalan *Rutur* 'thick' (Zhang Yongli 2000:195), Amis *kifetol* 'thick' (Wu Jinglan 2000:195).

**loincloth**

PAN sabuk 'loincloth'. Dempwolff reconstructed sabuk 'loincloth'. Add Atayal (Egerod 1980) *habuk* 'loincloth'; Taroko (Pecoraro 1977) *xabuk* 'belt'. Cf also Paiwan *ibuk* 'man's upper garment', *m-ibuk* 'to wear' (Ferrell).

**to bury, tomb**

PAN (root) -buN 'to bury, cover with earth'. Blust (1988) reconstructed a root -bun 'heap, pile, cover with earth; collect, assemble', based on MP evidence, including Dempwolff's ta(m)bun 'heap of earth'. Add Atayal (Egerod) ?bul 'to bury; tomb'; Mayrinax *g-um-bul* 'to bury'. This Atayal evidence indicates that the root was -buN at PAN level, changing regularly to -bun in MP.

**Sino-Tibeto-Austronesian lexical comparisons**

In italics: words in Swadesh's 100-words list; in bold caps: words in Yakhontov's 33-words list.  
I! V! F! T! S! irregular Initial, Vowel, Final, Tone, Syllable type

basic vocabulary (personal pronouns and numerals will be discussed elsewhere)

	<i>PAN or PECL</i>	<i>Old Chinese</i>	<i>Tibeto-Burman</i>
1. body hair	gumuN	眉 <sup>b</sup> mu[r] (eyebrow)	mul (Moshang kemul)
2. <b>BONE</b>	kukut	骨 <sup>a</sup> kuʔ	
3. brain	punuq	腦 <sup>a</sup> nuʔ	(s-)nuk
4. elbow	siku(H <sub>2</sub> )	肘 <sup>b</sup> t-r-kuʔ	Gyarong tkru
5. <i>female breast</i>	nunuH <sub>1</sub>	乳 <sup>b</sup> noʔ	nuw
6. <i>foot</i>	kakay		kriy
7. <i>head</i>	quluH <sub>1</sub>	首 <sup>b</sup> hluʔ	Lushai lu
8. palm of hand	dapa	扶 <sup>b</sup> pa	pa
9. pus	nanaq		Tib. rmag
10. mother	ina(-q)	女 <sup>b</sup> nraʔ (woman)	m-na

11. <b>EGG</b>	qiCeluR	卯 <sup>a</sup> Cə-lo[r]?	twiy < t-l- ?
12. <b>HORN, ANTLER</b>	(q)uRung	角 <sup>a</sup> k-rok	rung=rwang
13. leech	Limatek	蛭 <sup>b</sup> tik	
14. snake	SulaR	蛇 <sup>b</sup> m-la[r]	P-Loloish lay <sub>1/2</sub> 'python'
15. worm	[ ]ulej	蚓 <sup>b</sup> lin? F?	
16. cloud, cloudy	-qem	陰 <sup>b</sup> ʔim	Bur. um'
17. <i>earth</i>	-taq	土 <sup>a</sup> tha?	Tib. 'dag pa 'mud'
18. <i>moon</i>	qiNaS		s-la
19. <b>SALT</b>	siRaH <sub>1</sub>	鹵 <sup>a</sup> ra? S!	la I!
20. sunlight	siNaŋ	陽 <sup>b</sup> lang	Bur. lang 'to be light'
21. water	daNum	瀋 <sup>b</sup> t-hlim? (liquid, juice)	
22. wind	bali		g-liy
23. cave, hole	b[e]lung	洞 <sup>a</sup> long S!	Jingpo kin <sub>31</sub> luŋ <sub>33</sub>
24. <b>YEAR</b>	kawaS	歲 <sup>b</sup> s-hwat-s S!	
25. carry	baba		ba
26. chew	paqpaq	哺 <sup>a</sup> m-pa?-s	? PS *waa F!
27. close, shut	kupit	閉 <sup>a</sup> pit	
28. cut off, short	[p,b]utul	斷 <sup>a</sup> to[r,n]?, 斷 <sup>a</sup> to[r,n]	Lepcha tultul
29. dig	-kut	掘 <sup>b</sup> khut, 掘 <sup>b</sup> m-k(h)ut	Jingpo kot
30. drown, disappear	Nemes	滅 <sup>b</sup> met	mit 'extinguish' (fire)
31. fall	-luR	墮 <sup>a</sup> lo[r]?	
32. flow > water, river	qaluR 'to flow'	水 <sup>b</sup> hlu[r]? (water, river) 水 <sup>b</sup> t-lu[r]? (water)	twiy < t-l-, lwiy 'to flow'
33. follow	duNuR	隨 <sup>b</sup> s-lo[r]	
34. grasp, embrace	-kep	夾 <sup>a</sup> m-kep, <sup>a</sup> s-kep, <sup>a</sup> k-r-ep	
35. hold sth in fist/mouth	gemgem (in fist)	含 <sup>a</sup> gim (in mouth)	gam 'put into mouth'
36. hunt	qaNup	獵 <sup>b</sup> Cə-lap	
37. lick	dilaq	舐 <sup>b</sup> m-le?	m-lyak
38. meet	Cebung	逢 <sup>b</sup> bung S!	? PS pung 'assemble'
39. open	-kaq	啓 <sup>a</sup> khe?	Jingpo kha? < -k 'parted, open'
40. put together	pulung	同 <sup>a</sup> long	
41. ruin, damage	r[i]bas	敝 <sup>b</sup> bet-s	
42. scrape I	kuSkuS	括 <sup>a</sup> k-r-ot	Tib. r-ko, Gyarong ka rkos Kuki-Naga d-kew
43. scrape II	ku[Ct]ku[Ct]	括 <sup>a</sup> k-r-ot	kut
44. sink	-neb		nup
45. sleep	-zem	寢 <sup>b</sup> tshim?	Tib. gzim, Dhimal dzim
46. <i>speak, say</i>	kawaS	話 <sup>a</sup> m-kw-r-at-s; 曰 <sup>b</sup> wat S!	Tib. s-go
47. think	nemnem	念 <sup>a</sup> nim-s	Tib. s-nyam-pa 'to think'
48. vomit, spit	utaq	吐 <sup>a</sup> tha?	(m-)tuk V!
49. wash	basuq	溲 <sup>b</sup> s(r)u?	Lushai shuk, Luoba çuk
50. wrap around (belt)	-kes	繫 <sup>a</sup> ket	
51. bent, crooked	-kuk	局 <sup>b</sup> (N-)kh(r)ok	kuk
52. broad	-bang	旁 <sup>a</sup> bang	
53. curled, bent	-kul	卷 <sup>b</sup> N-k(h)ro[r,n]	kuar (PS)
54. dark	-lem	黑+甚 <sup>a</sup> lim?, <sup>a</sup> hlim?	
55. far	ma-dawiN	遠 <sup>b</sup> wa[r,n] V!	BL wiy
56. high, tall	-kaw	高 <sup>a</sup> kaw	Bur. kaw: (heavy tone) 'rise up, swell, bulge'
57. <i>hot</i>	qa(i)nget	熱 <sup>b</sup> nget	
58. old, adult, grownup	-daŋ	長 <sup>b</sup> drang?	
59. sharp	Cazem	[660a] <sup>b</sup> tsim	

60. thick	-tul	敦 <sup>a</sup> tu[r,n]	tu:r (PS)
61. <b>THIS</b>	di	時 <sup>b</sup> dī I?	Tib. 'di 'this'
<u>cultural vocabulary</u>			
1. husked rice	beRas	糲 <sup>b</sup> rat-s	Tib. 'bras 'rice'
2. grain of cereal	-may	米 <sup>a</sup> mij?	B-G may 'cooked rice; rice; paddy'
			Gyarong sməj khri 'millet'
3. chicken	kuka	雞 <sup>a</sup> ke	
4. cage, enclosure	kurung	籠 <sup>a</sup> kə-rong	kru:ŋ
5. broom	CapuH <sub>1</sub>	帚 <sup>b</sup> t-pu?	
6. stopper, plug	seŋseŋ	塞 <sup>a</sup> sik	
7. to bury, tomb	-buN 'to bury'	墳 <sup>a</sup> bu[r] 'tomb, tumulus'	
8. loincloth, robe	sabuk	服 <sup>b</sup> buk	Tib. 'bog 'k. o. garment'
9. to plait, braid	-pid	編 <sup>a</sup> pin(?) F?	byar~pyar
10. to shoot	panaq	弩 <sup>a</sup> na? (crossbow)	

### sound correspondences

#### initial consonants (PAN final syllable initial : Chinese root initial : TB)

p- : p(h)- : p-	palm of hand, chew, plait, close, broom
t- : t(h)- : t-	leech, earth, vomit, thick, short
k- : k(h)- : k-	elbow, bone, chicken, dog, high, curled, crooked, dig, grasp, wrap around, scrape I, scrape II, open
q- : ?- : 0-	cloud(y)
b- : b- : (p-)	carry, broad, loincloth, meet, tomb, ruin
d- : d- : d-	old, this
g- : g- : g-	hold in fist or mouth
m- : (h)m- : m-	body hair, drown
n- : n- : n-	brain, breast, pus, mother, think, shoot, sink
ŋ- : ŋ- : ŋ-	hot,
N- : (h)l- : l-	hunt, water, follow, sunlight, moon
l- : (h)l- : l-	head, snake, head, flow, lick, put together, fall, wind, cave, worm
R- : r- : r-	horn, salt, husked rice
w- : (h)w- : w- (Tib. g-)	year, far, say
s- : s- : ?	wash, stopper
z- : ts- : ?	sharp, sleep, wink

#### final consonants (PAN final consonant: Chinese root final consonant : TB)

-0 : -0 : -0	palm of hand, chicken, carry, this
-k : -k : -k	leech, crooked, loincloth
-t : -t : -t	bone, hot, dig, close
-p : -p : ?	hunt, grasp
-ng : -ng : -ng	put together, broad, cage, meet, sunlight, cave, old
-ng : -k : -ng	horn, stopper
-m : -m : -m/-p	water, think, hold in fist or mouth, dark, cloud
-H <sub>1,2</sub> : -? : -0	head, female breast, elbow, salt, broom
-q : -? : -k	brain, pus, earth, lick, vomit, chew, shoot, wash, open
-l : [-r] : -r	curled, thick,
-R : [-r] : -y	dog, snake, egg, flame, flow, fall, follow
-S : -t : -0	say, year, scrape I, moon
-s : -t : -s (/a_) ~-t (else)	husked rice, drown, wrap around, ruin
-N : [-r] : -y~-l	body hair, far, tomb

#### vowels (PAN last vowel: Chinese root vowel)

STAN	PAN : Chinese	examples
u (before labials)	-u- : -i-	water
u (elsewhere)	-u- : -u-	head, brain, elbow, bone, body hair, dog, flow, thick, dig, meet, tomb
o (before labials)	-u- : -a-	hunt
o (elsewhere)	-u- : -o-	breast, egg, horn, fall, put together, curl, crooked, cut off, cage, cave
a (before y)	-a- : -i-	grain
a (elsewhere)	-a- : -a-	palm, mother, snake, year, salt, earth, vomit, shoot, speak, broad
æ	-a- : -e-	chicken, lick, ruin, open
e (after grave cons.)	-e- : -e-	grasp, wrap around, drown, hot
e (elsewhere)	-e- : -i-	think, leech, worm, sleep
i (open syll.)	-i- : -i-	this
i (closed syll.)	-i- : -i-	plait, close
ɔ	-e- : -i-	dark, sink, hold in fist, stopper, sharp

### syllable types

This applies to comparisons with polysyllabic AN members (excluding reduplications)

PAN penultimate syllable initial	Chinese syllable type	examples
voiceless stop (except q), or zero	<sup>a</sup> (non-division 3)	bone, brain, horn, close, put together, spit
other initials (including q)	<sup>b</sup> (division 3)	elbow, head, palm, leech, snake, water, drown

tones (PAN word ending : Chinese word ending/tone : TB word ending)

PSTAN	AN	Chinese	TB	examples
-0	-0	tone A	-0	palm of hand, chicken, carry, this
-m, -ng, -l, -N, -w, -R etc.	id.	tone A	id.	eyebrow, meet, put together, think, broad, curled, high, thick, needle, cage, follow, snake
-q	-q	? = tone B	-k	brain, pus, earth, lick, vomit, wash, open
-h, -ʔ	-H <sub>1</sub> , -H <sub>2</sub>	? = tone B	-0	elbow, female breast, head, broom, salt
-mh, -ŋh, -lh, -Nh, -wh, -jh, -rh, -Rh, -mʔ, ŋʔ, -lʔ, -Nʔ, -wʔ, -jʔ, -rʔ, -Rʔ	-h or -ʔ is lost	? = tone B	-h or -ʔ is lost (? > TB tonogenesis)	water, cut off, far, egg, flow
voiced stops: -b, -d, -j, -g	id.	nasals+ B	nasals, -r	worm, plait
-p, -t, -C, -k	id.	tone D (-p, -t, -t, -k)	-p, -t, -t, -k	bone, leech, close, dig, bent, etc.
-ç (?)	-s	tone D (-t)	-s (/a_) ~ -t	husked rice, drown, wrap around, ruin
-s	-S	tone D (-t)	-0	year, say, scrape I, moon

Chinese tone C (去聲) is secondary, from root+s suffix.

### morphology

Better preserved in TB than in Chinese.

	AN	Chinese	TB
sV-Verb valency increaser	+	+	+
pV-Verb causative	+		+

m- intransitive	+	+	+
pV-Noun > Verb	+	(?)	+
Verb-en > 'thing Verb-ed'	+		+
Sa-Verb > instrument of action	+	+	+
-ar- distributed action ~ object	+	+	+

Figure 1. shared morphological processes

**\*\*sV-Verb > valency increaser**

A prefix PAN Si- : OC s- : TB s- allows a verb stem to take into its argument structure a NP standing for a 'third' participant with situational roles such as causer, beneficiary, instrument, etc. The Austronesian Si-V construction is known as 'Instrument focus' but its semantics are considerably more complex. Huang (1991) characterizes the Si- construction in Atayal as 'circumstantial voice'. She notes (1991:45) that one characteristic of circumstantial voice is 'increased transitivity'. I cite here examples with a transitive/causative character, because the semantic difference between prefixed and non-prefixed forms can be apprehended directly through simple lexical glosses.

AN Si-Verb > 'transitive/causative'

Atayal            ɲunu? 'to be afraid' : s-ɲunu? 'to frighten'  
Paiwan            k/m/avuL 'beg' : si-kavuL 'cause someone to beg'  
Bunun            ma-bahliv 'to buy' : is-bahliv 'to sell'

Old Chinese s-Verb 'transitivizing'

順 \*<sup>b</sup>m-lun-s > zywinH 'to be pliant, obedient' : 馴 \*<sup>b</sup>s-lun > zwin 'to tame'  
食 \*<sup>b</sup>m-lik 'to eat' : 食 \*<sup>b</sup>s-lik-s 'to feed'

TB s-Verb 'transitivizing'

Tibetan            'bar 'to burn, catch fire, be ignited' : s-bar-pa 'to light, to kindle, to inflame'  
Gyarong            rong 'to see' : s-rong 'to show'  
Boro                gi 'be afraid of, fear' : si-gi 'frighten'  
Proto-Loloish<sup>1</sup> (C)-no<sub>2</sub> 'to awake' : sə-no<sub>2</sub> 'to awaken' (tr.)

**\*\*pV-Verb 'causative'**

A verbal prefix \*\*pV- making causatives out of noncausatives is widely attested in TB and in AN. It has not been observed in Chinese.

AN: pa-Verb 'causative'

Amis                kaən 'eat' : pa-kaən 'feed'  
Puyuma            kan 'to eat' : pa-kan 'to feed'  
Atayal            biru 'to write' : p-biru 'to let write'  
Thao                kan 'eat' : pa-kan 'cause to eat, feed'

TB: \*pV-Verb 'causative'

Jingpo:            ran 'be separated' : pə-ran 'to separate'  
Boro:                goŋ 'to bend' (intr.) : bo-khoŋ 'to make bent'

<sup>1</sup> Bradley 1979

Mikir: thi 'to die' : pe-thi 'to kill'  
 Angami Naga: vo 'to go' : pe-vo 'to cause to go'  
 Tib.: zu 'to dissolve' (intr.), b-zu 'cause to dissolve'  
 Yi-Wuding: dzi<sub>11</sub> 'to dissolve' : pe<sub>33</sub>-dzi<sub>11</sub> 'cause to dissolve'.  
 Gazhuo: kho<sub>53</sub> 'to become curved' : pɣ<sub>35</sub>-kho<sub>53</sub> 'to bend (trans.)'

**\*\*m- intransitive**

AN m-/-um- + transitive verb > intransitive verb

The Austronesian 'Actor Focus' (AF) marker is a nasal affix m- (prefix) or -um- (infix) depending on root shape; in Starosta's ergative interpretation of AN grammar (Starosta 1991, 1994), all verbs in Actor Focus are intransitive, and the function of m-/-um- is to derive intransitive verbs from transitive verbs. Constructions in which AF verbs (marked with m-/-um-) take both a patient and an agent are antipassive (pseudo-transitive): such sentences translate naturally into transitive sentences in accusative languages. For that reason, French or English translations fail to capture the intransitive character of verbs marked with m-/-um-. This intransitive character of AF verbs appears from the fact that their situational patient, if there is one, is encoded in an oblique case, genitive or locative.

TB m-Verb > intransitive

In Gyarong and Xide Yi, this prefix is a nasal which takes the place of articulation of the root initial. Examples (Lin Xiangrong 1993: 193 for Gyarong; Dai Qingxia 1998:86 for Xide Yi):

Gyarong ka-tʃop 'to set fire to' : kə-ndʒop 'to catch fire'<sup>2</sup>  
 kə-p'ək 'to split open' : kə-mbək 'to be rent'  
 kə-tɕ'op 'to break' : kə-ndʒop 'broken'  
 kə-klək 'to wipe off' : kə-ŋglək 'to fall'

Xide Yi ti<sub>55</sub> 'to suspend' (tr.) : ndi<sub>55</sub> 'to be suspended' (intr.)  
 tu<sub>55</sub> 'to burn' (tr.) : ndu<sub>55</sub> 'to burn' (intr.)  
 po<sub>31</sub> 'to roll' (tr.) : mbo<sub>31</sub> 'to roll' (intr.)  
 tɕhi<sub>55</sub> 'to pull off' (tr.) : ndzi<sub>55</sub> 'to fall off'  
 to<sub>33</sub> 'to give to drink' : ndo<sub>31</sub> 'to drink'

In these examples, the N- prefix has voiced a following voiceless stop. In many TB languages (such as Tibetan, Kiranti, Bahing, Vayu and Bodo-Garo), the nasal element has been lost and only voicing of the root initial remains. Preceding initials other than voiceless stops, however, the intransitive prefix maintains itself as m- (WT), ma- (Jingpo), mV- (Boro), and prefixed forms are easy to detect outside of minimal pairs. Examples (Wolfenden 1929:30 for WT and Jingpo, Bhattacharya 1977: 184, 328-330 for Boro):

WT m-gu-ba 'to rejoice, be glad'  
 m-nar-ba 'to suffer, be tormented'  
 m-nam-ba 'to smell (intr.), stink'  
 m-nal-ba 'to sleep'  
 m-nab-ba 'to dress oneself'

<sup>2</sup> Gyarong ka-, kə- and kə- are verb prefixes for controllable (ka-, kə-) and non-controllable (kə-) actions.

Kachin	ma-nam 'to smell' (intr.) ma-den 'to grow, to expand' ma-ni 'to laugh'
Boro	mō <sub>2</sub> -nam <sub>1</sub> 'to spread smell' mō <sub>2</sub> -zom <sub>1</sub> 'close the fist' mi <sub>2</sub> .ni <sub>2</sub> 'to laugh'

The original form of the intransitive prefix was therefore m- or ma-, with a variant N- before voiceless stops.

Chinese N-transitive verb > intransitive verb

Like Tibetan and other TB languages, Middle Chinese (mid-first millennium CE) has some contrasting pairs of transitive verbs with voiceless stop initials and intransitive verbs with voiced stop initials:

MC	khjowk 'to bend' (tr.) : gjowk < *Nkh- 'bent, curved; bend the body' trjuwngH 'to hit, place in the middle' : drjuwngH < Ntr- 'to be in the middle'
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That the voiced embers of these pairs earlier had prenasalized initials is shown by Miao-Yao. Proto-Miao-Yao (Wang and Mao 1995) borrowed some of these forms from Late Old Chinese (before MC), with prenasalization and no voicing: \*ŋkhok 'curved', \*ŋtɕɛŋ<sub>A</sub> 'middle'. Evidently Chinese had the same intransitive prefix N- as Gyarong and Xide Yi.

**\*\*pV-Noun > Verb**

AN: pa-Noun > Verb

Atayal:	suzit 'a whistle' : p-suzit 'to whistle, blow an instrument'
Taroko:	bais 'husband, wife, mate' : p-bais 'to form a pair'
Amis	sual 'words, speech' : pa-sual 'to tell, explain'
Paiwan	tutu 'milk' : pa-tutu 'to feed milk'
Puyuma	tigami 'letter' : pa-tigami 'write a letter'
Thao	apuy 'fire' : p-apuy 'start a fire'

TB: pV-Noun > Verb

Burm.	rum 'gathering place' : p-rum 'assemble, crowd together'
Tib.	žo 'milk' : b-žo-ba 'to milk'
Mikir	chor 'pair' : pa-chor 'to marry' (trans.)

Chinese p-Noun > Verb

Perhaps, from Wuxiang 武鄉 a Jin dialect of Shanxi:

pə-suɣ 'to card, comb'

Where suɣ is etymology the same word as 梳 *shu*<sub>1</sub> MC srjo 'a comb'.

**\*\*Verb-en > 'thing Verb-ed/'thing to be Verb-ed'**

PAN Verb-en > 'thing Verb-ed/'thing to be Verb-ed'

Atayal	niq 'eat' : niq-un 'eaten thing'
Paiwan	kan 'to at' : kan-en 'food'
Amis	aʃik 'to sweep' : aʃik-en 'place to sweep'

TB Verb-n > 'thing Verb-ed'

Tib.            za-ba 'to eat' : zan 'food, fodder, pap, porridge'.  
                   skyi-ba 'to borrow' : skyin-pa 'a thing borrowed, a loan'  
                   rdzu-ba 'to misrepresent, to delude, to falsify' : rdzun-pa 'falsehood, fiction,  
                   lie'

**\*\*Sa-Verb > instrument of action**

PAn Sa-Verb > instrument of action

Rukai           toʔtoʔ 'to peck' : sa-toʔtoʔ 'beak'  
 Amis            *senat* 'to harrow' : *sa-senat* 'a harrow'  
 Pazeh          *m-bazu* 'wash clothes' : *sa-bazu* 'soap, soapberry'

TB sa-Verb > instrument of action

Gyarong<sup>3</sup>      *ka-top* 'to hit' (*ka-* verb prefix) : *sa-top* 'instrument for hitting'  
 Tib.            *'bud* 'to blow' : *sbud-pa* 'bellows'  
 Kachin         *nan* 'to light, illumine, as with a torch' : *sha-nan* 'a torch'

Old Chinese s-Verb > instrument of action

Old Chinese  蒸 \*<sup>b</sup>tiŋ 'to steam' : 甗 \*<sup>b</sup>s-tiŋ-s 'earthen-ware pot for steaming rice'  
                   𠬪 \*<sup>b</sup>lat(-s) 'to pull' : 鞅 \*<sup>b</sup>s-hlat 'leading-string'  
                   齧 \*<sup>a</sup>ŋet 'bite, gnaw' : 楔 \*<sup>a</sup>s-ŋet 'wooden wedge between the teeth of a corpse'

**\*\* -ar- distributed action; distributed object.**

This infix was inserted between the root initial and first vowel of a stem. Attached to verbs of action it indicated that the action was distributed in time (occurring over several discrete occasions), or in space (involving several agents/patients/locations); attached to stative verbs it was simply intensive; attached to nouns it indicated a referent distributed in space, i.e. having double or multiple structure.

AN -ar- distributed action/object; intensive

Paiwan         k-ar-akim 'to search everywhere' (kim 'search')  
                   k-ar-apkap-an 'sole of foot'  
 Puyuma         D-ar-ukap 'palm of hand'  
 Bunun         d-al-apa 'sole of foot' (PAN \*dapa 'palm of hand')  
 Amis            p-ar-okpok 'to gallop'  
                   t-ar-odo 'fingers, toes'  
                   k-ar-ot 'harrow'  
 Pazeh          b-ar-anban 'urn'  
                   d-ar-uŋuduŋ 'gong, drum'  
 Rukai Budai   ma-D-ar-angDang 'hot' (weather)  
                   m-ar-eDang 'old' (compare Puyuma maidang 'old')  
 Tagalog         d-al-akdak 'sowing of rice seeds or seedlings for transplanting' (dakdak 'driving  
                   in of sharp end of stakes into soil')  
                   k-al-aykay 'rake'

<sup>3</sup> Gyarong has another prefix sə- expressing causative meaning in verbs (see above).

Malay            ketap 'to bite teeth' : k-er-etap 'to bite teeth repeatedly'

TB -r- distributed action/object

Burm.            *pok* 'a drop (of liquid)' : *prok* 'speckled, spotted'  
*phu*<sub>1</sub> 'to protuberate' : *pru*<sub>3</sub> 'to protuberate, as the eyes'  
*pwak* 'to boil up and break, as boiling liquid' : *prwak* 'id'  
*khwe*<sub>2</sub> 'curve, coil' : *khwrwe*<sub>2-</sub> 'surround, attend'

Kachin            *hpun* [p<sup>h</sup>un<sub>31</sub>] 'of pimples, to appear on the body' : *hprun* [p<sup>h</sup>ʒun<sub>31</sub>] 'pimples, on the body; to appear on the body, of pimples'

Chinese -r- distributed action/object; intensive.

Fuzhou            *nia*?<sub>13</sub> 'to blink' : *nia*?<sub>11</sub>-*lia*?<sub>13</sub> 'to blink repeatedly'  
*ts<sup>h</sup>ia*<sub>55</sub> 'to turn, rotate, as a machine' : *ts<sup>h</sup>ia*<sub>31</sub>-*lia*<sub>55</sub> 'to rotate in alternating directions, as an electric fan'  
*pau*<sub>213</sub> 'to protrude' : *pa*<sub>11</sub>-*lau*<sub>213</sub> 'to protrude much'  
*tsiŋ*<sub>55</sub> 'to stare' : *tsi*<sub>31</sub>-*liŋ*<sub>55</sub> 'to stare fixedly'  
*t<sup>h</sup>a*?<sub>55</sub> 'pile or stack of (paper)' : *t<sup>h</sup>a*<sub>11</sub>-*la*?<sub>353</sub> 'a pile of paper, irregularly stacked'

**references**

- Adelaar, K. Alexander (1999) Retrieving Siraya phonology: a new spelling for a dead language. In: Elizabeth Zeitoun and Paul Jen-kui Li (eds.) *Selected papers from the Eighth International Conference on Austronesian Linguistics*, pp. 313-354.
- Bhattacharya (1977) *A descriptive analysis of the Boro language*. Gauhati: Gauhati University Dept. of Publications.
- Blust, R. (1973) Additions to 'Proto-Austronesian addenda' and 'proto-Oceanic Addenda with cognates in non-Oceanic Austronesian languages', N°2. *Working Papers in Linguistics* 4/8.1-43. Honolulu: University of Hawaii
- Blust, R. (1980) Austronesian Etymologies. *Oceanic Linguistics Vol. XIX numbers 1 and 2*, 1-181.
- Blust, R. (1983-84) Austronesian Etymologies II. *Oceanic Linguistics Vol. XXII-XXIII, numbers 1 and 2*, 29-149.
- Blust, R. (1985) Austronesian Etymologies III. *Oceanic Linguistics Vol. XXV, numbers 1 and 2*, 1-123.
- Blust, R. (1988) *Austronesian root theory*. Amsterdam: John Benjamins.
- Blust, R. (1988) *Austronesian root theory*. Amsterdam: John Benjamins.
- Blust, R. (1989) Austronesian Etymologies IV. *Oceanic Linguistics Vol. XXVIII number 2*, 111-80.
- Bradley, D. (1979) *Proto-Loloish*. Scandinavian Institute Monograph series N° 39. London and Malmö: Curzon.
- Cauquelin, J. (1991) *Dictionnaire puyuma-français*. Paris, Jakarta: Ecole Française d'Extrême-Orient.
- Dai Qingxia 1998
- Dempwolff 1929
- Dempwolff, O. (1938) *Vergleichende Lautlehre des Austronesischen Wortschatzes*. Band 3: Woerterverzeichnis. Beihefte zur Zeitschrift für Eingeborenensprachen, 19. Berlin: Dietrich Reimer.

- Egerod, Søren (1980) *Atayal-English Dictionary*. Scandinavian Institute of Asian Studies monograph 35. London and Malmö: Curzon Press.
- Ferrell, R. (1968) The Pazeh-Kahabu language. *Bulletin of the Dept. of Archaeology and Anthropology, National Taiwan University, No. 31-32*: 73-96.
- Ferrell, R. (1969) *Taiwan Aboriginal groups: problems in cultural and linguistic classification*. Monograph No. 17, Institute of Ethnology, Academia Sinica. Nankang: Academia Sinica.
- Fey, V. (1986) *Amis dictionary*. The Bible Society in the Republic of China.
- Ho Dah-an (1998) Taiwan Nandaoyu de Yuyan Guanxi. *Chinese Studies* 16, 2 :141-171.
- Huang, Lillian (2000a) *Beinan yu cankao yufa*. Taiwan Nandao yuyan #10. Taipei: Yuanliou.
- Huang, Lillian (2000b) *Shao yu cankao yufa*. Taiwan Nandao yuyan #4. Taipei: Yuanliou.
- Huang, Lillian (2000c) *Taiya yu cankao yufa*. Taiwan Nandao yuyan #1. Taipei: Yuanliou.
- Huang, Lillian M. (1991) The semantics of s- in Atayal. *Studies in English Literature & Linguistics* 17 (May 1991), 37-50. Taipei: Department of English, National Taiwan Normal University.
- Li, P. J.-K. (1981) Reconstruction of Proto-Atayalic Phonology. *Bulletin of the Institute of History and Philology, Academia Sinica* 52, 2: 235-301.
- Li, P. J.-K. (1992) Formosan vs. non-Formosan features in some Austronesian languages in Taiwan. in: *Papers for International Symposium on Austronesian studies relating to Taiwan*.
- Li, P. J.-K. (1993) New data on three extinct Formosan languages. *BIHP* 63: 2: 301-322
- Lin Xiangrong (1993) *Jiarong yu yanjiu* [researches on the Gyarong language]. Chengdu: Sichuan Minzu Chubanshe.
- Nihira, Y. (1983) *A Bunun Vocabulary* (2nd edition). Privately published.
- Ogawa, Naoyoshi, and Erin Asai (1935) *The myths and traditions of the Formosan native tribes*. Taipei.
- Pecoraro, F. (1977) Essai de dictionnaire taroko-français. Cahier d'Archipel 7. Paris: S.E.C.M.I.
- Sagart, L. (1993) Chinese and Austronesian: evidence for a genetic relationship. *Journal of Chinese Linguistics* 21, 1 : 1-62.
- Sagart, L. (1994) "Old Chinese and Proto-Austronesian evidence for Sino-Austronesian". *Oceanic Linguistics* 33 (2): 271-308.
- Starosta, S. (1991) Ergativity, transitivity, and clitic coreference in four Western Austronesian languages. Symposium on Grammatical Relations in Austronesian, Sixth International Conference on Austronesian Linguistics. Honolulu: University of Hawai'i.
- Starosta, S. (1994) *Formosan clause structure: transitivity, ergativity, and case marking*. Revised version (18 October 1994) of a paper presented at the parasession on Typological studies of languages in China, Fourth International Symposium on Chinese languages and Linguistics, Academia Sinica, Taipei, Taiwan, 18-20 July 1994.
- Starosta, S. (2001) Reduplication and the subgrouping of Formosan languages. Paper presented at *International Symposium on Austronesian cultures: Issues relating to Taiwan*. Taipei, December 2001.
- Tsuchida, S. (1976) *Reconstruction of Proto-Tsouic phonology*. Study of languages and cultures of Asia and Africa monograph series 5. Tokyo.
- Tsuchida, S. (ms.) *List of words of Formosan Languages*. Manuscript, dated 1971.
- Wang Fushi and Mao Zongwu (1995) *Miao-yao yu guyin gouni* [a reconstruction of the sound system of Proto-Miao-Yao]. Beijing: Zhongguo Shehui Kexue.
- Wolfenden, S. (1929) *Outlines of Tibeto-Burman Linguistic Morphology*. London, Royal Asiatic Society.
- Wu Jinglan (2000) *Amei yu cankao yufa*. Taiwan Nandao yuyan #11. Taipei: Yuanliou.
- Wulff, K. (1942) *Ueber das Verhaeltnis des Malayo-Polynesischen zum Indochinesischen. Det Kgl. Danske Videnskabernes Selskab. Historisk-filologiske Meddelser XXVII, 2*. København: Ejnar Munksgaard. 157 p.
- Zhang Yongli (2000) *Gemalan yu cankao yufa*. Taiwan Nandao yuyan #12. Taipei: Yuanliou.