

GENESIS OF THE LONG VOWELS IN SINO-TIBETAN

External connections of Sino-Tibetan with North Caucasian may give us a clue to the origin of the Sino-Tibetan long vowels (tentatively reconstructed on the basis of *deng* distinction in Middle Chinese and the length contrast in Kuki-Chin).

In Proto-North-Caucasian the opposition “long–short” is reconstructed both in medial and in final position (the root is usually disyllabic). It turns out that the medial length does not correspond to anything in Sino-Tibetan. However, if one takes into consideration the length of the final vowel (reconstructed on the basis of accent features in some West Daghestan languages, and reflected in the development of the root structure and adjacent consonants, see [NCED: 79–86]), the following tendency seems to be observed:

- 1) PNC roots with final short vowels tend to correspond to PST roots with short vowels;
- 2) PNC roots with final long vowels tend to correspond to PST roots with long vowels.

In both cases we have about 30 examples demonstrating the formulated rule and about 10 exceptions (unfortunately, in a lot of cases there is simply not enough Caucasian evidence to reconstruct the final vowel length, which explains the relatively small number of relevant cognates).

Thus in the prehistory of Sino-Tibetan there could have occurred a shift of final vowel length to the preceding syllable, after which all the final vowels were shortened and ultimately dropped — resulting in the well known monosyllabism of the PST root.

Consider the following examples:

A. short : short

1. PNC *ʔlɛ̃ã 'night' (Av. *relé-da* 'at night', Akhv. *raʎa*, And. *reʎo* 'night', Tsakh. *exa* 'evening', Rut. *ixə* 'late'. The correspondence of PL *ʔel̃a < *ʔel̃a to PAnd. *riʎo, Av. *rele-* (regularly < *l-) points to the PEC root structure *HRVCṼ [NCED: 216].

PST *rjāk 'evening; 24 hours' (OC 夕 *lhiak 'evening', Lush. *riak* 'to stay the night', etc. ([IST: 136]; STC № 203 *ryak).

2. PNC *ʔw(i)nřcĚ 'a k. of insect, moth' (Chech. *neca*, Av. *ic*, PA *risV, Lak *nuwca*, PL *ʔIwĩns / *ʔIwĩrs etc. [NCED: 231]; shortness of the final vowel is indicated by the root structure correspondence between PA *risV and PL *ʔIwĩrs / *ʔIwĩns).

PST *nüt (OC 蚋 *n(h)ot-s 'mosquito, gnat', Kach. *ma-nut* 'moth').

3. PNC *ʔwĩncṼ 'spring, source' [NCED: 232–233]. The more correct protoform should be perhaps reconstructed as *ʔwĩjṽVnṼ, to account for the development *-jṽ- > *-st- in Nakh (Chech., Ing. *ħast*), with subsequent dropping of the final -nV (reinterpreted as an oblique stem marker) or its metathesis into Inlaut (as in And. *inci*, Darg. *ʕiniz* etc.). Shortness of the final vowel is indicated by the Avar paradigm C (*ic*, *icú-l*, *icá-l*).

PST *cěŋ (~ ʒh-) (OC 井 *cenʔ 'well', Tib. *r-ʒiŋ* 'pond').

4. PNC *bhãʎwĩ 'small cattle': Av. *burúʔ* 'kid' (par. C: *burʔi-l*, *búrʔa-l*), dial. *bulʔur*, Tsez. *beʎ* 'sheep', Btsb. *bʂoʔ* 'he-goat', Ad. -*bya*, Kab. -*bʒa* (PWC *bãʎwa) 'a flock of sheep or goats', etc. [NCED: 293].

PST *Pjǎk > Tib. *phjug* 'cattle; rich'; OC 富 *pǎk-s 'rich'.

5. PNC *bĩmtṼ 'hoof, foot' (Av. *mal*, *malá-l*, *mála-l* 'foot', Tsez. *bula* 'hoof' [NCED: 307]).

PST *Pǒl (~ -ua-) > OC 腓 *b(h)əj 'calf of leg', Tib. *bol* 'upper part of the foot', PK *pǎl 'calf of leg'.

6. PNC *bVnṽwA 'belly, stomach' (Av. *baṽwá-li*, PWC *mǎṽwA [NCED: 318]).

PST *pǔk (OC 腹 *puk etc.); [IST: 49, 69, 409]; STC № 358 *puk.

7. PNC *cṽwǎjmě 'gall' (Av. *cin* : Darg. *sumi : PL *sǎm:a [NCED: 329–330]).

PST *chĩŋ 'liver, bitter' (OC 辛 *s(h)ĩn; [IST: 52]; STC № 234 *m-sin).

8. PNC *cǎǎqṽwǎ 'scoop, wooden vessel' (PWC *c̣(w)ǎqṽwV [NCED: 332–333]).

PST *C̣ekṽw (OC 爵 *cekṽw 'cup', *cekṽw-s 'to empty a cup', Lush. *suak* 'to ladle, ladle out').

9. PNC *dṽwǎṽṽ 'pit' (Av. *donṽó*, *dónṽa-l* [NCED: 408]).

PST *Tuāñ (OC 罟 *thrūñ, *dhrūñ ‘empty’, Tib. *don* ‘hole, pit’, etc.; [IST: 51]; STC № 74).

10. PNC *Ghāmçǎ (~ -ǎ) ‘tongs, pincers’ (Av. *veç*, *voçó-l*, *kúç-dul* [NCED: 461]).

PST *Kām ‘tongs’ (OC 鉗 *g(h)ām, Tib. *s-kam*).

11. PNC *hwoněřǫ ‘meat soup, broth’ (PA *ʔA(n)ǫi : Darg. *nerb : PL *riǫ [NCED: 499]).

OC 肉 *nūk ‘meat’.

12. PNC *HluĶĬ / *ĶulHĬ ‘arm’ (Av. *ruĶ*, *ruĶál-zul*, *ruĶa-l* [NCED: 588]).

PST *Ķū (OC 手 *Ķhū? ‘hand’, perhaps also Tib. *śog* ‘wing’).

13. PNC *Hrēmķwǐ ‘dirt; dust’ (Av. *rak* : PL *ruk, *rukǐ-* [NCED: 603]).

OC 陸 *ruk ‘ground, dry land’.

14. PNC *jērķwǐ ‘heart’ (Av. *raķ*, *reķé-l*, *rāķa-l*; PWC *ǫʷǎ [NCED: 678]).

PST *ʔrǎk / *ʔrǎñ (OC 臆 *ʔ(r)ǎk, Lush. *eñ*, Tib. *b-rañ*, Brm. *rañ*).

15. PNC *jVcwĬ ‘mouse’ (Darg. *waca*, PWC *jašʷV [NCED: 685]).

PST *jū(s) (OC 鼬 *lu-s ‘weasel’ etc. [IST: 42, 134, 430]; STC № 93 *b-yuw).

16. PNC *lHīqǫǎ ‘a k. of bird’ (WC *la(r)qʷǎ; [NCED: 748–749]).

PST *lǎk / *lǎñ (OC 弋 *lǎk ‘bird of prey’).

17. PNC *mēbV ‘tail’ (Av. *maḅ*, *maḅí-l*, *máḅa-l*; [NCED: 801]).

PST *mäj (OC 尾 *mäj?; [IST: 38, 408, 430]; STC № 282 *r-may).

18. PNC *mēlčǐ ‘tongue’ (Av. *maç*, *maçǐ-l*, *máça-l*, PWC *bǎža [NCED: 802–803]).

PST *m-lǎj / *m-lǎt (OC 舌 *lǎt; [IST: 40, 121] etc.; STC № 231 *m-lay / *s-lay).

19. PNC *mhewĶū (/ n-) ‘sleep, dream’ (Av. *móĶu*, *maĶí-l*, *máĶa-bi*, PWC *Ķʷǎ [NCED: 619–620]).

PST *mǎk / *mǎñ (OC 夢 *mǎñ-s ‘dream’, Lush. *mañ*, Brm. *mak* etc. [IST: 38, 139] etc.; STC № 82 *mañ).

20. PNC *mīlǫǎ (~ -ē-, -ī-) ‘sun, day’ (PWC *maλwV [NCED: 822]).

PST *mō ‘sky; rain, fog’ (OC 霧 *mo-s ‘fog’; [IST: 124]; STC № 72, 110) (or else = PNC *mūsi ‘fog, smoke’).

21. PNC *nēķwǐ ‘oath; to swear’ (PWC *kʷV; [NCED: 846]).

PST *ñǎkʷ (OC 虐 *ñǎkʷ ‘oppress, maltreat’, Brm. *ñauk* ‘to swear’ etc.).

22. PNC *nfiǎĶwV / *ĶfiwǎnV ‘a k. of insect’ (Av. *niķ*, *niķǐ-l*, *niķa-l* [NCED: 850]).

PST *Ķūñ ‘insect’ (OC 蟲 *Ķūñ; [IST: 435]; STC № 34).

23. PNC *ǫǎmq(w)ǎ (~ -ǎ) ‘knee’ (PWC *ǫʷǎqʷǎ; [NCED: 907–908]).

PST *Kūk ‘bent, curved’ (OC 鞠 *kūk; cf. also *Kjǫk, OC 曲 *khǫk).

24. PNC *ǫʷǐndǎ ‘wall, fence’ (Av. *ǫed*, *ǫadá-l*, *ǫáda-l* [NCED: 940]).

PST **Quǎn* (OC 園 **wan* ‘garden’, Lush. *huan* id.).

25. PNC **rǎǎǎ* ‘intestines; meat’ (PWC **LA*; [NCED: 945]).

OC 力 **rǎk* (*‘sinew’) > ‘strength’.

26. PNC **rěnywǎ* ‘butter, oil’ (Av. *naχ*, *naχú-l*, *náχa-l* [NCED: 948]).

PST **rjǎk* (OC 液 **liǎk*, Lush. *hriak* ‘oil, grease’; IST № 204 **ryak*) (or else cf. PNC **rǎǎǎwǎ* ‘milk, butter’, PWC **λə* [NCED: 949]).

27. PNC **wǎmçö* ‘moon’ (Av. *moç*, *moçró-l*, *móça-l*, PWC **mVza* [NCED: 1044–1045]).

OC 月 **ǎǎt*.

28. PNC **wirǎǎǎ* ‘sun’ (PWC *(*mV*)*rǎba* [NCED: 1051–1052]).

PST **Xrǎk* (OC 旭 **x(r)ǎk* ‘rising sun’, Tib. *b-krag* ‘brightness’).

29. PNC **zǎwěrhǎ* ‘name’ (Av. *çar*, *çarú-l*, *çára-l* [NCED: 1098]).

OC 姓 **sě-ŋ*.

B. long : long

1. PNC **?χwirǎ* (also metathesized: **?rǎχwirǎ*) ‘bridle, reins’ (Chech. *urχ*, Cham. *raǎi-r*, Lak *χuri*, Rut. *rix-nǎ*, etc. [NCED: 234–235]). Length of the final vowel is here indicated by the root structure correspondence (PN **?urχ* : PA **roǎi-r* : PL **λwirV-* / **rǎǎwV-*).

OC 鞴 **rǎk* ‘bridle’.

2. PNC **bǎǎǎǎ* ‘back’ (Btsb. *buǎ*, Av. *moǎ*; PWC **baǎIwǎ* [NCED: 310]).

OC 北 **pǎk* ‘North’, 背 **pǎk-s* ‘back’ (*‘back side’).

3. PNC **bǎǎǎwǎ* ‘stall, shed; tower’ (Akhv. *beǎwa*, dial. *borǎo*, PWC **baǎIV* [NCED: 311]).

PST **bǎǎk* (Lush. *bǎk* ‘a temporary house’, etc.).

4. PNC **bǎǎǎǎwǎ* ‘funeral stretcher; ladder’ (Chech. *baram*, Av. *malǎ*, *molǎ-l*, *malǎ-l*, PWC **bǎǎ*, etc. [NCED: 317–318]).

PST *(*P*)-*ǎǎǎ* > Lush. *hlǎǎ* ‘a support made to keep a corpse in a sitting position’, Kach. *mǎ-grǎǎ* ‘a grating’, Tib. *ldǎǎ* ‘frame, trestle’. OC, however, has 棧 **Lǎǎ* with short vowel (‘horizontal pieces in a frame for silk-worms’).

5. PNC **cǎǎǎǎ* (~ -ǎ, -ǎ) ‘weasel, marten’ (Av. *caǎǎ*, *caǎǎ-bi* [NCED: 322]).

PST **srǎǎǎ* (OC 鼬 **srǎǎ-s*; [STC: 79]).

6. PNC **çǎǎǎ* ‘carpet’ (Lak *çiqǎ*, PWC **qǎǎ* [NCED: 366]).

OC 簣 **çrǎk* ‘mat’.

7. PNC **çǎǎǎ* (~ -ç, -ç) ‘neighbour’ (Av. *çuǎǎ*, *çuǎǎ-bi* [NCED: 389–390]).

PST **çǎǎk* (~ -ǎ, -ǎ) ‘bandit’ (OC 賊 **çǎk*, Tib. *çǎǎ*).

8. PNC **çǎǎǎǎ* ‘flea, nit’ (Av. *çe-ç*, *çǎ-çǎ-l*, *çǎ-çǎ-l* [NCED: 394–395]).

PST **çǎ* (OC 蚤 **çǎ*? ‘flea’, Tib. *ǎǎu-bǎ*).

9. PNC **dǎǎǎ(w)* ‘log, stump’ (PWC **t(w)ǎǎ* [NCED: 408]).

- PST *Tūη (OC 棟 *tōη-s ‘ridge-pole’, Tib. *g-duη* ‘beam’ etc.).
10. PNC *farnē ‘horse, mare’ (Av. *xwáni*, pl. *xunú-l* [NCED: 425-426]).
 PST *mrāη (OC 馬 *mrā? [IST: 121, 135 etc.]; STC № 145 **m-ran*).
11. PNC *Gwāā ‘doe, hornless goat’ (Av. *ʷalá*, *ʷul-bí* [NCED: 465]).
 PST *Kēl ‘wild goat’ (Lush. *kēl*; [IST: 409, 427]; STC № 339 **kyīl*).
12. PNC *hrēǵwē ‘comb’ (Av. *horǵó*, *harǵá-l* [NCED: 494-495]).
 PST *P-rōk (OC 剝 *prōk ‘to flay, peel, scrape off’, Tib. *āphrug* ‘to scratch oneself’ etc.; STC № 391 **pruk*).
13. PNC *hǎnχwā (~ -ǎ-, -ǒ-) ‘wood-grouse’ (Av. *ʃanχwá*, *ʃunχ-bí* [NCED: 511]).
 PST *Gōη ‘white grouse, wild goose’ (OC 鴻 *g(h)ōη ‘wild goose’, Tib. *goη* ‘white grouse’).
14. PNC *h̄nār̄kw̄V ‘urine’ (Av. *ħorok* : PAnd. **hin̄ku-r* : PL **nV̄k̄wV* [NCED: 524]).
 PST *nēk^w (OC 尿 *nēk^w-s ‘urine’, Tib. *ńog* ‘dirt’ etc.).
15. PNC *HkǎĭV̄ (/ *HǎĭkV̄) ‘dirt’ (PN **j(h)olk* : PAnd **kilA* : PL **lak(a)* [NCED: 584]).
 PST *K-lǎk (OC 澤 *Lǎk ‘marsh’, Tib. *ka-lag* ‘mud’, etc.)
16. PNC *HmVḠV̄ ‘thirst, thirsty’ (PA **hanq̄-* : PL **muq̄V-* [NCED: 593]).
 PST *māk (OC 慕 *māk-s ‘think longingly of’, Brm. *mak* ‘to long’).
17. PNC *kǃwēç(w)V̄ ‘bundle, bunch’ (PWC **k^wǎç^wV* [NCED: 687]).
 PST *K^wāt ‘to tie, bind’ (OC 括 **k^wāt*, etc.)
18. PNC *kirhē ‘luck, virtue’ (Lak *čiri*, Darg. *kiri* [NCED: 692-693]).
 PST *Kā (OC 祐 *g(h)ā? ‘blessing’ etc.)
19. PNC *linχwē ‘pigeon’ (Av. *miķí*, pl. *maķá-l* [NCED: 750]).
 PST *χāik^w (OC 翟 *Lēk^w ‘pheasant’, Tib. *lóg* ‘lark’).
20. PNC *mǎh̄nī (~ -ū) ‘brain’ (PL **mahl*, **mahlī-* : PDarg **meħa* [NCED: 797-798]).
 PST *nū / *nū-k (OC 腦 *nū?; STC № 483 **nuk*).
21. PNC *mfiǎžnē ‘door’ (Av. -*maħi* [NCED: 813]).
 OC 門 **mān* ‘gate’.
22. PNC *mōwχē ‘wool’ (Av. *nuχí* [NCED: 832]).
 PST *māw ‘hair’ (OC 毛 **māw*, LB **maw?*).
23. PNC *nHīwḠĀ / *ḠHwīnĀ ‘arm, shoulder’ (WC **naqlə* [NCED: 853]).
 OC 肩 **kēn* ‘shoulder’.
24. PNC *qā(w)qā ‘dirt’ (Av. *ʃaʃá* [NCED: 910-911]).
 PST *Qjāk / *Qjāη (Lush. *ēk*; STC № 146).
25. PNC *qəm̄fō ‘trough, wooden vessel’ (Lak *aImu*, PL **qIam:*, **qIam:a-* [NCED: 914]).
 PST *Qām (OC 函 **gām*, Lush. *ēm*).

26. PNC **q̣wVrVq̣V̄* ‘frog’ (Av. *q̣werq̣, q̣orq̣ó-l, q̣urq̣-bí* [NCED: 942]).
OC 𪛗 **k^wrāk* id.
27. PNC **swīrā* (~ -ī-, -ā) ‘a k. of milk product’ (Av. *surá, surá-dul* [NCED: 970]).
PST **sūr* (OC 酸 **sōr*, Lush. *thūr* [IST: 52, 181]; STC N^o 42 **sūr*).
28. PNC **śwānq̣ī* ‘gum, ink’ (PWC **ś^wəq̣l:a* [NCED: 976]).
PST *(s)-*māk* (OC 墨 **māk* etc.).
29. PNC **ẓwāhrī* ‘star’ (Av. *ẓ^wa, ẓ^wajī-l, ẓ^wa-bí* [NCED: 1098–1099]).
PST **chāj* (OC 瑤 **shāj*, 星 **shē-ŋ*).

C. Exceptions

a) short : long

1. PNC **?rǝǝwĒ* ‘yoke’ (Av. *ruχ, ruχál-zul, rúχal* — par. C, PA **ruχV*, PL **?ärχ^w*, etc.; [NCED: 220]).
OC 𪛗 **rēk* ‘yoke-ring’ (but cf. also PNC **riḳwV* ‘yoke stick’).
2. PNC **bḥǝrcī* (~ -ē) ‘wolf; jackal’ (Btsb. *bḥorc*, Av. *baç*, And. *boço*, Tsez. *boçi* ‘wolf’, PWC *(*bVgV*)-*bVẓV* ‘jackal, hyena’; [NCED: 294–295]).
OC **prāt-s* ‘mythical predator’.
3. PNC **bHǝrgǎ* ‘a beast of prey’ (Chech. *-berg*, PWC **bIaga* ‘jackal, fox’ [NCED: 302]).
OC **prāk* ‘mythical predator’.
4. PNC **bōlčwī* ‘millet’ (Btsb. *borc*, Av. *muč, mučó-l, múča-l*, PWC **mVčV* [NCED: 309]).
PST **bhriā(s)* > OC 粳 **bhrē-s* ‘fine rice’, Tib. *ābras* ‘rice’.
5. PNC **mǎrχwǎ* ‘cloud’ (PWC **pəχa* [NCED: 795–796]).
PST **mūk* (OC 沐 **mōk* ‘drizzle’, etc.).
6. PNC **nǝwq̣ū* ‘tear, pus’ (Av. *máŋu, máŋi-l, máŋa-bi* [NCED: 848–849]).
PST **nōk* / **nōŋ* (OC 膿 **nōŋ* [IST: 134]).
7. PNC **ṭHǎnḳǝ* ‘drop’ (PWC **ṭəḳ^wə* [NCED: 1000–1001]).
PST **Tēk* (OC 滴 **tēk* etc.).
8. PNC **Gw[ǔ]ṭǝ* ‘side’ (Av. *ḅ^wel, ḅoló-l, ḅúl-dul* [NCED: 472–473]).
PST **Qāl* ‘back’ (OC 荷 **g(h)āj?* ‘carry on back’, Lush. *ēl* ‘part of the back behind the abdomen’, see STC N^o 18 **s-gāl*).
9. PNC **ǧalǝ* ‘step’ (Av. *gáli, galú-l, gála-bi* [NCED: 474]).
PST **Kāl* (OC 河 **g(h)āj* ‘river’, Tib. *rgal* ‘ford, to ford, to step over’).
10. PNC **Hrēmǧī* ‘road’ (PAnd. **miǧi* : PL **rǎǧl*, PWC **mḅ^wa* [NCED: 603–604]).
PST **rōk* / **rōŋ* (OC 路 **rāk-s* ‘road’, Tib. *s-ran* ‘street’, etc.).

b) long : short

1. PNC **kułē* 'lock' (Av. *kuł*, pl. *kułá-l*; Abkh. *-lak^w* [NCED: 726–727]).

PST **Kāl* (OC 榧 **g(h)ar?*, Lush. *kal?*).

2. PNC **kwēmī* (~ -ō) 'lip' (Av. *kwet*, *kuł-bí* [NCED: 733–734]).

PST **kām* (Lush. *kam* 'mouth').

3. PNC **lāwqV* 'many, enough' (PWC **qV* [NCED: 754–755]).

PST **lōk* (OC 裕 **lok-s* 'ample, abundant', etc.).

4. PNC **nēqwē* 'chaff' (Av. *nakú*, *nak-dál*; PWC **maq^wə* [NCED: 847–848]).

PST **nāik^w* (OC 蒭 **nēk^w* 'rush used for making mats'; [IST: 67], STC

№ 237 **s-m(y)ik*).

5. PNC **qwāqwV* 'trough; basket' (Av. *heh*, *hahí-l*, *hahá-l* [NCED: 899]).

PST **Qhuāk* (OC 扃 **kok* 'tray, barrow'; STC № 393 **kuk*).

6. PNC **twīhV* 'foot, forefoot' (Av. *het(é)*, *hałí-l*, *hałá-l* [NCED: 1007]).

PST **Tā* (OC 趾 **ta?*).

7. PNC **χīnkī* 'dumpling' (Av. *χink*, *χinkí-l*, *χinká-l* [NCED: 1075]).

PST **Xāñ* (OC 腳 **xāñ* 'beef soup').

8. PNC **dān?ī* (~ -ū) 'cheek; gum' (Av. *da*, pl. *da-bí* [NCED: 398]).

PST **Tāñ* (OC 掌 **tañ?* 'palm of the hand' etc.).

9. PNC **HtuLV* 'sleeve, wing' (Darg. **dulk^wa* : PL **loλ(a)* [NCED: 589]).

PST **lāk* 'hand, arm, wing' (OC 翼 **lak*; [IST: 138, 409], STC № 86 **g-lak*).

10. PNC **Hλwīmā* (~ -ē) (PN **m(h)ox* : PA **x^wonHi* : PL **λuma* [NCED: 590]).

PST **λuāñ* 'air, wind' (OC 融 **Lūñ*, MC *jūñ* 'hot air, steam', Tib. *r-luñ* 'breeze, wind', Brm. *luwañ?* 'to be blown by the wind').

D. Dubious cases

1. PNC **rānλE* 'six'. Here EC forms point to *-*V* (cf. the root structure: PA **inλi-* > Akhv. *īλi-* etc., Av. *ánλ-*, but PL **riλi-* > Arch. *diλ*, Lezg. *ruqu-* etc.), but the WC protoform is **λ^wV* (Abkh. *f-*, Abaz. *c-*, Ad. *xa* etc.) where absence of gemination points to a final short vowel. See [NCED: 219].

PST **rūk* 'six' (OC 六 **rhuk*, Lush. *pa-ruk*, etc. [IST: 22, 124, 135, 433]; STC № 94–95 **d-ruk*).

2. PNC **bhānqV* 'pole, post': Ing. *beqa*, Av. *moq*; PWC **bāqV-wə* [NCED: 295].

PST **phVk*: OC 杵 **phōk* 'rod, stick', Tib. *phog* 'beam, rafter', Kach. *lāpa?* 'rafter'. Here Tib. also has *dbjug*, *dbjig* 'stick', and in OC there is also **b(h)uk* 'carriage box support resting on axle', so we probably deal with a merger of two roots.

3. PNC **kiŭ* ‘farmstead, hut’ (Av. *kulí*, *kuló-l*, *kulá-l* [NCED: 692]).
 PST **g(h)ual* (OC 郡 **gur-s* ‘district’, Lush. *khual* ‘village other than one’s own’; the Chinese word is irregular in all respects).
4. PNC **lhēmŁwi* ‘earth’ (Av. *raχ*, *raχú-l*, *ráχa-l*, PWC **χ^wA* [NCED: 747]).
 PST **Līŋ* (OC 田 **Ł(H)īn* etc.). The PNC form can be alternatively compared with PST **luanŋ* ‘field, cultivated land’.
5. PNC **χamŋV̄* ‘roof, top’ (Av. *tom*, *tomó-l*, *tóma-l* [NCED: 777]).
 PST **χōŋ* (OC 揚 **Łanŋ*, but Lush. *hlāŋ*, *tlāŋ*).
6. PNC **ŁētV̄* ‘war’ (Av. *χal*, *χalú-l*, *χála-l* [NCED: 788]).
 PST **rāl* (Lush. *rāl* ‘enemy, foe’). A contamination is possible with another root, PNC **ŁōlV* ‘neighbour, enemy’.
7. PNC **dHāqwĀ* ‘back of the head, neck’ (PWC **t^wəqa* [NCED: 399]).
 PST **Tūk* (OC 脰 **d(h)ōk-s* ‘neck’, but Lush. *tuk* ‘knot of hair on the nape of the neck’; [IST: 48, 409]; STC № 392 **tuk*).
8. PNC **Gwānmē* ‘heap, stack’ (Av. *kuní*, *kunó-l*, *kuná-l* [NCED: 467]).
 PST **q(h)^wV̄ŋ* (~ *χ^{w-}*) ‘heap’: Lush. *vūŋ* ‘a mound (of loose earth)’, but OC 冢 **g(h)ōŋ*, MC *gōuŋ* ‘mound’ (perhaps a merger of two roots).
9. PNC **hwVmVlī* ‘face’ (Av. *humér*, *hurmá-l*, *húrma-l* [NCED: 499]).
 PST **měł* (OC 面 **měn-s*, but Lush. *hměl*).
10. PNC **čāhŋwā* ‘whey; home-brewed beer’ (Av. *čašá*; plural form not attested, but the form *čašá* points rather to a long final vowel; [NCED: 384]).
 OC 酒 **ču* ‘wine’.
11. PNC **həlŋwě* ‘roof’ (PWC **b-śa*; but Av. *ṭ-oqó*, pl. *ṭ-oqá-bi* points rather to a long final vowel [NCED: 489]).
 PST **Hōk* (OC 屋 **?ōk* ‘house, room’, Kach. *gok* ‘room’).
12. PNC **hřeχwě* ‘bone’ (Av. *raχá*, *roχó-l*, *ruχ-bi* [NCED: 528]).
 PST **rāk* / **rāŋ* ‘bone’ (OC 髀 **k-rāk* ‘animals’ bone’, etc.).
 The root may reflect a merger with PNC **rōχā* (/ **χōrā*) ‘hand-bone’ (Av. *račá*, *ročó-l*, *ruč-bí* [NCED: 779–780]).