

INITIAL CONSONANT CLUSTERS KL- IN MODERN CHINESE DIALECTS
AND PROTO-CHINESE

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0. Introduction

There are at least five methods for the reconstruction of Proto-Chinese initial consonant clusters: (1) through "hsieh-sheng" characters; (2) through cognate words of the same word-family; (3) through comparing ancient and modern dialects; (4) through comparing related languages; and (5) through foreign transcriptions and loan-words. During the past half-century, linguists in the fields of Sinitic and Sino-Tibetan languages have adopted these methods either separately or in combination in their reconstructions of Archaic and Proto-Chinese. The results are very promising and encouraging. The existence of initial consonant clusters in Proto-Chinese has thus become a linguistic fact accepted by many scholars.

Since the beginning of the Sino-Tibetan conferences, I have delivered three papers, one at Princeton University in 1968, and two others at this conference in 1971, and 1972 (see Yang 1968, 1971, 1972). I have always emphasized the importance of modern dialect data, especially polysyllabic words and binomes, which might contain traces of Archaic and Proto-Chinese consonant clusters. In these papers I have studied single words separately without touching upon the problem of their cognates. In the present paper, however, I shall, whenever possible, make use of the five methods mentioned above in studying a group of words probably belonging to the same word-family. My "hsieh-sheng" characters, could be and should be reconstructed by a combination of certain significant insights concerning Proto-Chinese may be brought to light for consideration and discussion.

The words studied here all share the basic meaning 'empty' and 'hollow'. Many of them, but not all, have been grouped and listed in Karlgren's "Word families in Chinese" (WFC) (Karlgren 1933: A 35-37; 206-227), and Tōdō's Kanji gogen jiten (Tōdō 1965: Nos. 74:1-33; Nos. 104:1-16). Karlgren's reconstructions of Archaic and Ancient Chinese are taken from his Grammata Serica Recensa (GSR) (Karlgren 1957); Li Fangkuei's reconstructions are taken from his "Shang-ku yin yen-chiu" (Li) (Li 1971). For Sino-Tibetan (ST) and Proto-Tibeto-Burman (TB), reconstructions made by Benedict (1972), and by Forrest (1956) are adopted. The Proto-Chinese (PC) and Proto-dialect (PD) forms are my own reconstructions. For Chinese written sources, the Shuo-wen chieh-tzu (SW), Kuang-yūn as rearranged in the Kuang-yūn sheng-hsi (KYSH) (Shen 1945), and other dictionaries are cited. Modern Chinese dialect data have been collected by myself from spoken and written sources (for bibliography

see Yang 1968). The order of presentation will be: first, a listing of the earliest written data, including monosyllabic words and binomes, with their reconstructions; second, a listing of modern dialect data with Chinese characters, whenever available, but without tone marks; third, linguistic data from other Sino-Tibetan languages; and finally, tentative reconstructions of PC and PD forms followed by remarks and discussion, when necessary.

I. Reconstruction of *kl-* type Clusters

1. Words sharing the meanings 'empty', 'hollow', 'hole', 'cave', 'pit'

A Written data

- (1) 空 (GSR 1172 h) *k'ung / k'ung hollow, empty (Shih); *k'ung / k'ung- exhaust (Shih); *k'ung / k'ung: hole (Chou-li). (SW) hole, opening.
- (2) 孔 (GSR 1174 a-b) *k'ung / k'ung: very, greatly (Shih); empty (Lao). (KYSH 174) cave, hole, empty; (Huai-nan tzu) a hole.
- (3) 竅 (GSR 116 h) *k'ioŋ / k'ieu- hole, opening (Li); Li *khiagwh.
- (4) 窖 (GSR 1039 o) *kôŋ / kau- cave, cellar (Li); Li *kragwh.
- (5) 窈 (GSR 1114 i) *p'lôŋ / p'au-, and *klôŋ / kau- cave, cellar (Chou-li); Li *phragwh, *kragwh.
- (6) 杓 (GSR 1041 s) *xiog / xiâu empty, spacious (Chuang).
- (7) 口 (GSR 110 a-c) *k'u / k'əu: mouth (Chih); Li *khugx.
- (8) 穹 (GSR 901 e) *k'iũŋ / k'iũŋ hollow, hole (Shih); high and vaulted, vault (Shih); loan for *k'ung (1) (Chou-li); Li *khjəngw.
- (9) 穹隆 *k'iũŋ-gliôŋ (Erh-ya Commentary) arched firmament; Li *khjəng-gljəngw.
- (10) 隆 (GSR 1015 f) *gliôŋ / liung high (Kuots'e); ample (Li).
- (11) 窕 (KYSH 251) 孔窕 k'ung-lung cave, hole.
- (12) 坑 (GSR 698 h) *k'ǎŋ / k'əng pit (Ch'u-tz'u); Li *khrang.
- (13) 阮 (GSR 698 i) *k'ang / k'əng pit, hole (Chuang).
- (14) 腋 (GSR 766 d) *klâk / kâk armpit (Li ap. Shihwen); Li *klak.
- (15) 袷 (GSR 766 e) *klâk / kâk armpit-seam (of a coat) (Li).
- (16) 宕 (GSR 701 a) *d'âŋ / d'âŋ- cave-dwelling (SW).
- (17) 洞 (GSR 1176 h) *d'ung / d'ung- to flow rapidly (SW); mountain cave (Cheng tzu t'ung); mountain cave (Han texts).

(18) 峒 (Chi-yün) d'ung < *d'ung: cave in a mountain.

(19) 竇 (GSR 1023 s) *d'ug / d'au- and *d'uk / d'uk hole (Li).

B. dialect data

1. 窟窿, 窟窿, 窟窿, 窟窿, 窟窿, 窟窿, 窟窿.

khu.luŋ (Peking, Shenyang, Chinan, Loyang, etc.) hole, opening.

khu.luŋ (Sian) hole, opening.

khu? loŋ (Wenshuei and Shansi) hole, debt.

khuə? loŋ (Soochow and many Wu dialects) hole, opening.

khy [loŋ] (Wenchow, also doŋ, see below) hole, opening.

khæ [khou?] løyŋ (Foochow) pit, hole.

koʔ e laŋ or koʔ e khaŋ [膝下空] (Amoy) ampit.

珂塹 kha laŋ (Chünan, Shantung) pit, hole.

2. 坎 khaŋ (Swatow) empty, cavity, hole, hollow.

坑 khaŋ (Kienyang) hole, pit.

khaŋ (Amoy) hollow, empty; 山坎 suā khaŋ
a cave or hollow in the hills.

3. 窟 luŋ (Canton, Yangchiang) hole, hollow.

luŋ (Hakka) an opening in the earth, mine or
cave, a hole.

laŋ (Amoy) pit, trap, snare: as in khui laŋ 開窟 to set
a trap or a pit (for catching animals, etc.)

løyŋ (Foochow) an interval, space between.

4. 洞 tuŋ (Peking) hole, opening.

toŋ (Ch'engt'u, Kunming, Yangchou) hole, opening.

taŋ (Hofei) hole, opening.

thuŋ (Nanch'ang) hole, opening.

taŋ (Ch'angsha) hole, opening.

doŋ (Shanghai, Soochow, Wenchow) hole, opening.

C. Sino-Tibetan data

kloŋ⁴⁴ (Wuming) cave, hole.

kloŋ⁵⁵ (Wuming) beehive.

khunŋ (Tibetan) hole, pit, hollow, cavity.

khunŋs (Tibetan) mine, pit.

khjuŋ, gjuŋ from *khruiŋ, *gruiŋ (Old Burmese) armpit.

khroŋ (Old Burmese) windpipe. a-khoŋ (Old Burmese) hollow, cavity.

stoŋ-pa (Tibetan) empty, clear, hollow.

stoŋs-pa (Tibetan) to make empty, to be empty.

thủŋ or lỗŋ (Vietnamese) having a hole.

*dwa:ŋ (TB) hole, pit.

D. Reconstructions

PC **khlunŋ (2) ~ khlug (7); **khljog (9) ~ khljog (3) ~
klog (5) ~ xljog (6); **phlog (5); **khlaj (12, 13) ~
klak (14, 15); **dhlunŋ (17, 18) ~ dhluk (19) ~ dhlung (19)

PD **khlunŋ ~ khloŋ ~ glunŋ; **khlaj ~ glaj

E. Remarks and discussion

In Ancient Chinese the character 空 has three tonemes: ping tone for the adjective or stative verb 'empty', 'be empty'; shang tone for the noun 'a hole', 'an opening', later represented by the character 孔; and ch'ü tone for the verb 'cause to empty, empty'. Many modern dialects have kept this triple tonal distinction, but only the noun form reflects an earlier consonant cluster. This is true also for other words studied in this paper. This phenomenon might lead us to think that PC probably had some kind of morphological distinctions among these words. One possibility would be as follows:

1. **khuŋ (ping tone) adjective/stative verb
2. **khlunŋ (shang tone) noun
3. **khuŋ-s (?) (ch'ü tone) causative verb

Here the -l- would have served as a nominalizing infix. This would favor Wulff's (1934) and Pulleyblank's (1962-63, 1973) -l- or -r- infix theory for PC. However, this theory would lead us into difficulties in the interpretation of the Cantonese/Hakka lunŋ and Amoy lanŋ. It would be easier to interpret the lunŋ as a reflex of a PC root **lunŋ rather than a reflex of an earlier infix + the second half of the PC root **khuŋ. An alternative interpretation would be that the dialectal forms lunŋ and lanŋ came from earlier forms **glunŋ and **glaj (with the loss of the initial g-). If **lunŋ is a PC root, then the initial *kh- would have been a prefix, which is more common among ST languages than an infix -l- (see Yang 1972; Benedict 1973). The variants lanŋ and klanŋ of the Amoy dialect (in the word 'armpit') strongly suggest a PD form **khlaj.

Certain Mandarin dialects and a few of the Wu dialects reflect a PD form ****dhun** in contrast with the PD form ****khlun**. We are not sure whether they are cognates or not. If they are, then we would have to reconstruct a PD ****dhlun** to parallel this ****khlun**. Another possible reconstruction of the PC would then be as follows:

1. ****kun** (ping tone) adjective/stative verb
2. ****khlun** (shang tone) and ****dhlun** (ch'ü tone) noun
3. ****khun-s** (?) (ch'ü tone) causative verb

If we assume that ****lun** was a root, then the initial ****kh-** and ****dh-** should have been prefixes, and the latter might be a dialectal variant of the former. The coappearance of velar and dental prefixes before the same root is quite common among TB languages (see Benedict 1972:116 *passim*). At any rate, our reconstruction of the PC initial consonant clusters ****KL-** is safe due to other evidence, including the Wuming (Thai) loan-words **klog** from Chinese. If we deny the genetic relationship between ****dhun** and ****khlun** we could then relate ****dhun** to the TB ***dwa:ŋ** (Benedict 1972:45).

Tibetan **stog-pa** and **stons-pa** might be related to Chinese. We could reconstruct an earlier form ***s-t-roŋ** or ***s-k-roŋ** parallel to the PC ****dhlun** and ****khlun**; however, there is another pair of Tibetan words, namely **khun** and **khuns**, which are closer to the Archaic Chinese ***khun** but without a medial **-l-** or **-r-**. If we relate these to the PC ****khlun**, their proto-form should be either ***khlun** or ***khrun**. Burmese **khuin**, **gjuin** derived from ***khruin**, ***gruin** are probably related to PC ****khlun**. Forrest (1956:16) has reconstructed a TB form ***gruak** for 'empty', citing Chin **ruak** and Lepcha **fok** from ***prak**. We could also reconstruct a hypothetical form **gruan** parallel to the PC ****khlun** or PT ***khlun** or ***khrun**. There is an interesting parallel between TB ***gruak** and PC ****klog** and between Lepcha ***prak** and PC ****phlog**. These are probably reflexes either of earlier dialectal variations or of different prefixes.

The Vietnamese **thủ** or **lủ** 'having a hole' (borrowed from Chinese?) allow us to reconstruct an earlier form ***thlun**, which could be related to PC ****dhlun**.

The binome ***k'iũng- *gliông** (9) for ***k'iuŋ** (8) suggests an earlier dialectal form ****khljõŋ** or ****khlõŋ**, still existing at the time of Kuo P'u (276-324 A.D.), who made a commentary on the Erh-ya.

Both the written and the dialect data show that in PC there have been vocalic alternations between the back vowels **u** and **a** (as in ****khlun** and ****khlãŋ**), and consonantal alternations between the final velar nasal **-ŋ** and the final velar stops **-k** and **-g** (see PC reconstructions listed under D).

2. Words sharing the meaning 'empty and hollow part of the human body': 'chest', 'breast'

A. Written data

- (20) 腔 (WFC A-215) ***k'iũng** / **k'zng** chest; (SW) empty inside; Li ***khrung**.
- (21) 胸 (GSR 1183 e-f) ***xiung** / **xiwong** breast (Meng); Li ***hjung**.
- (22) 膺 (GSR 890 e) ***iãŋ** / **iãŋ** breast (Shih); breast-plate (Shih).
- (23) 揆 (GSR 1172 b') ***k'iũng** / **k'zũng** a hollow wooden beaten

instrument of music (Li).

(24) 臆 (GSR 957i) *ɨək / ɨək bosom (Lie).

B. Dialect data

- 心壳郎兒 qin khə laŋr (Liaoch'eng) the lower part of the chest.
- 肺壳郎子 fei khə laŋ tsɿ (Liaoch'eng) chest.
- 圪廊 khə laŋ (Fengch'iu, Mihsien) chest.
- 呵籠子 khəʔ laŋ tsə (N. Shansi) chest.
- 划囊 khə naŋ < *laŋ (Wenhsih sien, W. Shansi) chest.

C. Sino-Tibetan data

- klaŋ (Wuming) the middle. kləŋ (Thai) tube.
- kluoŋ (Thai) hole, interior. braŋ (Tibetan) chest, breast.
- mthoŋ-pa (Tibetan) chest, breast. groŋ (Miju) chest, breast.
- raŋ (Old Burmese) chest, breast.

D. Reconstructions

PC **khlun (20,23) ~ xluŋ (21) ~ ʔləŋ < gləŋ (22) ~ ʔlək < glək (24)

PD **klaŋ

E. Remarks and Discussion

The Archaic words (21), (22), and (24) for 'chest' and 'bosom' were probably dialectal variations. Walter Simon (1929) first compared the Chinese (21) ***xjuŋ** with Tibetan **braŋ**. Forrest (1956:13) added Burmese **raŋ** and Miju **groŋ** to this comparison and reconstructed the TB as ***ʔryuŋ**. From our dialect data, however, PC forms like ****kluŋ**, ****xluŋ**, and ***ʔləŋ** seem to be more plausible. Here again, the velar initials were probably prefixes. The reconstruction of (22) as ***ʔləŋ** is parallel to that of 鷹 'eagle', having the same phonetic 雁. Benedict (1972:72, n. 225) reconstructed its earlier form as ***ʔliəŋ**, and also a doublet root for ST, ***g-ləŋ** ~ ***g-lək** ('eagle, vulture'). These reconstructions are exactly parallel to the PC ***ʔləŋ** < ****gləŋ** ('chest') and ***ʔlək** < ****glək** ('bosom'), with the alternation between -ŋ and -k.

We could also relate Tibetan **mthoŋ** to the PC ****khlun** by reconstructing its earlier form as **m-throŋ** or ***m-khroŋ**, parallel to the ***s-troŋ** or ***s-kroŋ** ('empty') discussed above. The Thai words **klaŋ**, **kləŋ**, etc. might be cognate with or loan-words from Chinese.

3. Words sharing the meaning 'emptied pig': 'gelded pig'

A. Written data

- (25) 彘 (SW; KYSH 189) b'äk < *b'ük and xuk little pig.
 (26) 豨 (KYSH 1024) liu < *gliu and lau < *glu an old sow.
 (27) 豮 (Liu Shu t'ung 六畜統) k'äng < *k'üŋ fat-free pork.

B. Dialect data

鬮郎子	khə? laŋ tsə (N. Shansi) adult pig without fat.
猪鬮郎子	tsu khə? laŋ tsə (N. Shansi) 3 or 4 month old pig.
狷郎	khə laŋ (Ch'angli, Jehol) lean gelded pig.
刻郎	khə laŋ (Kaoyang) little pig.
殼彘	khə naŋ (N.W. Shansi) pig.
猓拉	khə la (Hsienhsien) little pig.
客婁	khə lou (Hsüanhua, Ch'engan) young pig.
猪猪	khə lou (Ansai, Anting, Yülin) little pig.
克猓	khə lou (Michih) gelded little lean pig.
客婁, 可郎	khə lou or khə laŋ (Loch'uan) young pig.

C. Sino-Tibetan data (not available)

D. Reconstructions

PC **khlaj (27) ~ *glug (26) PD **khlaj ~ **khlug

4. Words sharing the meanings 'emptied and hollowed objects': 'husk', 'shell'

A. Written data

- (28) 康 (GSR 746 h) *k'âŋ / k'âŋ empty husk (Kuliang).
 (29) 糠 (GSR 746 o) *k'âŋ / k'âŋ husk of grain (Chuang)
 (30) 窳 (GSR 746 k) *k'âŋ / k'âŋ empty (Han text)
 (31) 濼窳 (Fang-yen Commentary) *k'âŋ-*lâŋ empty.
 (32) 窳窳 (SW; KYSH 533) *k'âŋ-*lâŋ empty room, empty.
 (33) 崖窳 (KYSH 534) *k'âŋ-*lâŋ empty mountain.
 (34) 罔窳 (Huai-nan tzu) *k'âŋ-*lâŋ empty (wilderness).
 (35) 殼 (GSR 1226 a) *k'ük / k'äk hollow shell, hollow (Liehtzu);
 Li khruk.

- (36) 殼 (KYSH 186) k'uk < *k'uk; k'āk < *k'ūk empty egg-shell, shell; also written as 殼 and 殼 in Chi-yün.

B. Dialect data

- 壳牢兒 khə lau-r (Liaoch'eng) egg-shell, husk (of sorgum, etc.).
 (鞋)窠兒兒 (p̄ie) khə lar (Peking, Paoting) interior (of a shoe).
 空 khaŋ (Amoy) empty; khaŋ-khak hollow, empty.
 殼 khak and khək (literary reading) (Amoy) shell, husk.
 糠 khəŋ (Hakka) husk, chaff.
 殼 khək (Hakka) shell.
 糠 həŋ (Canton) husk (as of rice).
 殼 hək (Canton) husk (as of beans, peas, etc.)

C. Sino-Tibetan data

- pluk (Wuming) shell.
 lgaŋ-bu or gaŋ-bu (Tibetan) pod, shell, husk; lgaŋ-pa urinary bladder.
 *kroy (TB) shellfish, shell.

D. Reconstructions

- PC ****khləŋ** (28-34) ~ khlūk (35-36) ~ khlak
 PD ****khləŋ** ~ khlak

E. Remarks and discussion

The binomes (31-34) are clearly reflexes of an earlier ****khləŋ**. The Tibetan lgaŋ- probably came from *glaŋ- and might be cognate with the PC ****khləŋ**.

The word for 'husk' or 'shell' ****khlak** in proto-dialect form is reflected in the dialect word khə laur (-r is a modern suffix), following the general pattern of sound change from final -ak to -au. Wuming pluk could be cognate with PC ****khlūk**, with a prefix (?) p-, similar to the PC ****phlog** discussed above (1.E.); it might be also related to Chinese 剝 (GSR 1229 a) *pūk from ****plūk** 'cut, flay, peel'.

5. Words sharing the meaning 'empty space between': 'crack, 'fissure'

A. Written data

- (37) 窠 (GSR 787 a) ***k'iak** / **k'ik** light through a crevice (SW).

- (38) 隙 (GSR 787 c) *k'ak / k'iak crack, crevice (Tso); space between (Tso); interval (Tso).
- (39) 蟻 (KYSH 188) liak < **gliak: 渠蟻, 蟻 蟻 g'iwō-liak Ephēmera strigata (SW).
- (40) 谷 (GSR 776 a) *g'iak / g'iak interior of the mouth (SW).
- (41) 罅 (KYSH 988) xa < *xlag crack, hole.
- (42) 虛 (GSR 78a) *k'io / k'iwō abandoned city, ruins, waste (Shih); site (Tso); loan for id. *xio / xiwō empty (Li); Li *khjag; *hjag.

B. Dialect data

- 格喇 kə la (Hsüanhua) crack.
- 吉吉 kə la (Ansai, Anting, Loch'uan, Michih, Yülin) crack.
- 圪拉 kə la (Ningsiang, Linhsien) crack.
- (腿)合拉 (thui) xa.la (N. Hopei) crotch (between legs).
- 合拉兒 xə la-r (Liaoch'eng) crack.
- 黑窟子 xə? la tsə (N. Shansi) space, interval.
- 隙 khia? and khiek (literary reading) (Amoy, Swatow) crevice, aperture, notch.
- 罅 xia (Foochow) crack, to come open.
- 罅 la (Canton) crevice, crack, fissure.
- 罅 la (Hakka) crack, rent, rift, pretext.

C. Sino-Tibetan data (not available)

D. Reconstructions

PC **khlak (37-39) ~ xlag (41-42) PD **khlag ~ xlag

E. Remarks and discussion

The word 'crack' (38) was reconstructed as *khlāk by Pulleyblank (1962-3:113) because of (39) liak, which has the same phonetic as *k'iak. The binomes listed under (39) also confirm this reconstruction. This could be further proved by the comparison of the Chinese word for 'fear': 驚 *xiak with TB *grok ~ *krok or *grāk ~ *krāk 'fear' (Benedict 1972:127). The Chinese character has the same phonetic (37) as in (38).

6. Words sharing the meaning 'low empty space between': 'river', 'valley'

A. Written data

- (43) 江 (GSR 1172 v) *kǎŋ / kǎŋ The River (Yangtze); river (Shu);
Li *krung.
- (44) 隴 (SW; KYSH 250) lung < *lung big and long valley
- (45) 豁 (KYSH 8) xung < *xung and xǎŋ < *xǎŋ empty valley.
- (46) 谷 (GSR 1202 a) kuk / kuk valley (Shih).
- (47) 溝 (GSR 109 h) *ku / kǎu drain, irrigation canal (Lunyü);
Li *kug.
- (48) 壕 (GSR 1129 y) *g'ôg / Y'âu moat (Mo); Li *gagw.
- (49) 罅 (SW) *gliôg / lieu empty valley; (Kuang-ya) deep, empty;
Li gliagw.
- (50) 罅 (Chi-yün) lâu- < *lôg empty valley.
- (51) 罅 (KYSH 1044) xâu-lâu < *xôg-lôg deep valley.
- (52) 壑 (GSR 767 a) *xâk / xâk moat (Shih); canal, ditch (Meng);
valley (Tso).

B. Dialect data

- 圪塹 (略勞) kə lau (Chinghsien, Hsüanhua, Ansai, Anting, Loch'uan,
Michih, Tengch'eng, Yülin, Yungshou) valley.
- (山)谷落 (suã) kok lok (Swatow) (mountain) valley.
- 山邊谷落縫 suã pǐ kok phaj (Amoy) in deep valley or glen far among
the mountains.
- 山空仔 suã lan-a (Amoy) a narrow valley.

C. Sino-Tibetan data

khloŋ (Thai) canal.	khloŋ (Old Burmese) stream.
krong (Muong, Bahnar) river.	krung (Old Mon) river.
gyanj (Lepcha) stream.	gyun (Miju) stream.
klun (Tibetan) river.	krung (Kachin) valley, dale.
khyuŋ < *khruiŋ (Bur.) valley.	thun lûŋ (Vietnamese) valley.
luŋ-pa (Tibetan) valley, hollow.	ron (Tibetan) narrow passage, valley, ravine.
ldzong < *lyon (Tib.) large	luŋ-pa (Tib.) valley, furrow.

valley.

luak (Wuming) valley.

groŋ-po (Tib.) lateral valley

*laŋ (Proto-Lolo-Burmese) river.

*klu:ŋ (TB) river.

*gryūk ~ grūk (TB) valley.

D. Reconstructions

PC **klūŋ (43) ~ glūŋ (44) ~ xluŋ (44-45)
 **kluk ~ klug ~ glog ~ xlog (46-51)
 **xlak (52)
 **klak ~ klok ~ gluŋ

E. Remarks and discussion

All evidence favors the reconstruction **klūŋ for 'river'. Tibetan roŋ, luŋ, Proto-Lolo-Burmese *laŋ, and Archaic Chinese *lung indicate that the velar initials *k-, *g- and *x- were probably prefixes. The counterpart of **klūŋ is **kluk with its dialectal (?) variations **klug, **glog, and **xlog, which are cognate words with the Tibetan groŋ-. Wuming (Thai) luak might be cognate with PC **kluk. TB **klu:ŋ by Benedict (1972:127) corresponds to PC **klūŋ.

Modern Mandarin dialect forms favor an earlier form **klak for 'valley'. The sound changes from **klak to kə-lau are similar to **khlak > khə-lau 'husk', 'shell'), discussed above (4.E.).

II. Summary and conclusion

From this study we may draw the following conclusions: (1) Proto-Chinese cognate words sharing the basic meaning 'empty' and 'hollow' probably have had the common forms luŋ ~ laŋ and luk ~ lak; the initials **kh- and **k- were probably prefixes with a nominalizing function. Other velar initials such as **g-, **x-, and dental **dh- could be dialectal variations of either the same prefix, or different prefixes. If our root theory later proves to be wrong, our reconstruction of the consonant clusters, at least for the nouns, still could be valid because of the large amount of evidence cited. (2) As Karlgren has pointed out in his "Word families in Chinese" (Karlgrén 1933), there have been certain "laws of alternations" in Archaic and Proto-Chinese for consonants and vowels among the members of a word family. In our examples, there are vocalic alternations between the vowels u, ŭ, and a; and alternations between the final velar nasal and final velar stops; -ŋ, -k, and -g, as can be seen from the following groupings of cognate words:

空 khlūŋ (1)		口 khlug (7)
江 klūŋ (43)	谷 klug (46)	溝 klug (47)
腔 khlūŋ (20)	穀 khlūk (35)	[糶] khlug (PD)
胸 xluŋ (21)		
膚 gləŋ (22)	蕨 glək (24)	

康 khlanj (28)

陳 khlak (38)

鱗 xlag (41)

峒 dhlunj (18)

賈 dhlu (19)

賈 dhlu (19)

(3) If we apply Benedict's (1972:157-9) suffix theory to our cognate words, namely taking ****khlu-** as a root and the final consonant endings **-n** and **-k** as suffixes, we could then have the following possible examples:

□ khlu 空 khlu-ŋ 殼 khlu-k 賈 dhlu 峒 dhlun-ŋ 賈 dhlu-k

We next have to find out the nature and functions of these suffixes. (4) The genetic relationship between the Proto-Chinese ****khluŋ** (and its cognates) and words with similar sounds and meanings among other Sino-Tibetan languages needs further exploration and refinement. One of the questions is whether Proto-Chinese and its related languages had a distinction between medial **-l-** and **-r-**, which would have served as the initial consonants after a prefix, according to our root theory. Li Fang-kuei's reconstructions of Archaic Chinese included both **-l-** and **-r-**, and both of them could be an initial consonant. But he treated them only from the phonological point of view, namely as a part of consonant clusters (**-l-**), or as a medial (**-r-**), without touching upon their possible morphological functions.

To sum up, the purpose of this paper is to point out some of the problems and tentative interpretations involved in the reconstruction of the Proto-Chinese, and to bring to light some interesting but unsolved questions for consideration and discussion. I would appreciate any comments, additional information, and suggestions.

List of Place Names

Ansai (安塞), Anting (安定), Ch'angli (昌黎), Ch'angsha (長沙), Ch'aouchou (潮州), Ch'engan (成安), Chinan (濟南), Fengch'iu (封邱), Hofei (河肥), Hsienhsien (獻縣), Hsüanhua (宣化), Kaoyang (高陽), Kienyang (建陽), Liaoch'eng (聊城), Linhsien (臨縣), Loch'uan (洛川), Michih (米脂), Mishien (密縣), Ninghsiang (寧鄉), Paoting (保定), Sheyang (瀋陽), Tench'eng (澄城), Wenchou (温州), Wenhsien (聞喜縣), Wenshuei (文水), Yanchiang (陽江), Yülin (榆林), Yangchou (揚州), Yungshou (永壽).