APPENDIX

A Dictionary of Proto-Philippine Morphemes
Consuelo J. Paz

The glosses after the reconstructed morphemes cover the different meanings of the cognates within a set. These glosses are not reconstructed forms. When there is more than one meaning to the cognates within a set, the meaning found in the majority of languages is indicated first in the gloss after the reconstructed form. The cognates having this meaning are not glossed in the list. The subsequent meanings listed in the gloss after the semi-colon are those found in only one or a few languages. The cognates having these meanings are glossed in the list.

Since all the morphemes on this list start with a, **C** the entries starting with a **ʔ** should all be entered under *ʔ, but for convenience and due to tradition, the entries are alphabetized accordingly and the vowels are entered I these positions with the **ʔ**. Hence morphemes starting withthis consonanar are entered under **ʔa**, **ʔə**, **ʔi**, **ʔu** according tot he position of the vowel in thealphabet. **-ʔ-** is listed after **k** and the symbols **ḍ, g, ḷ**, and **ŋ** are listed after **d**, **g**, **l**, and **n** respectively.

*ʔa

1. *ʔabága̰ 'shoulder'
Tag Ilk Ibg Nag Vir Seb Akl Tbw Tau ʔabága, Png ʔabála, Itw ʔabáha, Iba ʔabáya, Kal ʔabʸála, Sub gbága, Yak báha, Bla ʔábal, Mar wága, Bag bwállo, Isi ʔabEyá.

2. *ʔábay 'companion, be beside'
Tag Iba Png Ilk Itw Ibg Vir War Seb Akl Mar Sub Buk ʔábay, Sub gabay, Kam ʔabáy, Kap ʔábe, Tbw ʔibá.

3. *ʔabiŋ 'child'
Ibg ʔabbíŋ, Itw ʔábbiŋ, Kal ʔabʸíŋ, Ilk ʔubíŋ.

4. *ʔabmiyán 'northeast wind; north'
Aft kambiyán, Ilk ʔamiʔan, Tag Png Vir Nag War Seb Akl Bah ʔamíhan, Kam ʔamián, Itb hamyán, Itw ʔámyan, Iba ʔamyán Ilk 'north' ʔamyanan, Kap ʔamyam.

5. *ʔabúʔ 'ashes; stove'
Agt kábuʔ, Itb ʔávuʔ, Tag Kap Iba Png Nag War Akl Tau, Seb 'stove' ʔabú, Ibg ʔabú, Tbw Bla Bukid 'stove' ʔábo, Sub gabu, Itw ʔáhu, Bag ʔow.

6. *ʔabút 'reach, hand over; give, arrive, late comers to a meal, catch up with'
Tag Kam Png Ilk Nag Vir, Kap 'give' War Seb 'arrive' ʔabút Bon ʔárfut, Bag ʔápput, Iba Tau, Akl 'late comers to any meal' ʔábut, Agt kábut, Yak 'catch up with' ʔábut.

7. *ʔádal̥ 'learn, instruction'
Ilk Nag ʔádal, Kap Agt ʔadál, Igt sEʔádal, Buh gadál, Tag Iba Png ʔáral, Vir ʔádaY, Kal ʔáčeL, Bon ʔáčor, Yak ʔŋáǰi.

8. *ʔadupáŋ 'front'
Mar ʔadápan, Ibg ʔarubáŋ, War Akl Itw ʔatúbaŋ, Vir ʔatúbaŋan, Bah ʔatubaŋán, Kam ʔatubáʔŋan, Igt tupaŋ, Ilk 'in front of someone' ʔádap, Png Kap Iba ʔaráp, Tau hádap, Tag[1] harápan, Tag[2] haráp, Yak harápan, Itb 'front' sarapán.

9. *ádgiw̰ 'cobweb, soot'
Agt ʔágyaw, Tag Iba Akl, War[1] 'soot' ʔágiw, Kap ʔágiʔ, Itb Kam War[2] 'soot' ʔáriw, Isi ʔáhiw, Kal ʔáweL.

10. *ʔad̥ípən 'slave'
Ilk Bah ʔadípən, Tag ʔalípin, Kap ʔalípan, Iba ʔalípən , Ibg ʔaripán, Sub gulípən, Png

ʔarípən, Tau ʔiípun, Kam War ʔurípun.

11.   *águŋ 'chinese bell; muslim brass drum, brass gong'
War Seb 'bell', Tag Akl Tbw Tau Buh Agt Yak, Buk 'muslim brass drum' ʔáguŋ, Mar 'brass gong' ʔágoŋ, Seb 'brass gong' gáguŋ, Vir ʔagúŋ, Bah ʔæguŋ, Iba Png Ilk guŋ.

12.   *ʔágus 'current, flow of water; drip'
Tag Kap Png Ilk[1] War Akl Mar, Seb id. 'drip' ʔágus, Iba ʔáguh, Ibg ʔági, Ilk[2] ʔayús, Tau ʔhaús, Buh ʔágas.

13.   *ʔakúʔ 'I' / *sáʔhun
Tag Itb Nag Vir Seb Akl ʔaku/o, Kap Tbw Yak ʔáku, Tau ʔákuu, Bag ʔagoʔ, Bon sákʔən, Mar sákən, Kal sák̥on, Ibg sákaŋ, Bah siʔʌk, Png Buk[1] siák, Igt siʔák, Iba hikú, Buk[2] ʔa, Buh ʔahú, Agt yuʔ, Ibg suʔ, Isi ʔaʔun, Sub ʔinan.

14.   *ʔaʔnəm 'six'
Itb ʔaʔnəm, Iba ʔáʔnəm, Png ʔanə́m, Ibg ʔannám, Kap ʔánam, Bla nam, Akl ʔánʔum, Nag Vir ʔanúm, Bah War Seb ʔunúm, Tau ʔúnum, Bag ʔɔnnom, Kal ʔɔlɔ́m, Isi ʔonóm, Bon Agt ʔənə́m, Tbw Bah ʔə́nəm, Buk haʔənəm, Yak ʔə́nnəm, Sub gənəm, Igt ʔə́nim, Ilk ʔinnəm, Mar nəm, Tag ʔánim.

15.   *ʔaʔruŋ 'nose'
Iba ʔaʔlúŋ, Ilk ʔagúŋ, Kap ʔáruŋ, Isi ʔEyóŋ, Png Bon ʔəlɔ́ŋ, Tag Seb Akl Tau Bla ʔilúŋ, Igt ʔəgɔ́ŋ, Nag Tbw Kam ʔurúŋ Buh ʔuyúŋ, Yak ʔuŋ, Sub sʰúŋ, Ibg ʔigúŋ, Itw[1] ʔíyuŋ, Itw[2] ʔíhuŋ, Mar ŋíruŋ, War Agt ʔirúŋ, Buk ʔíruŋ.

16.   *ʔalagád 'follower; slave, servant'
Tag Kap Iba Seb 'slave' Nag 'servant' ʔalagád, Akl ʔalágad, Png ʔalagár.

17.   *ʔalikalbúk 'dust'
Tag Kap Igt ʔalikabúk, Buk ʔalyábuk, Bah ʔalintabú, Itb[1] ʔaxbə́k, Itb[2] kuxbə́k, Nag talbú, Sub[1] dúnək, Ilk lapúk, Tbw rapukrapúk, Sub[2] kʰáput, Bag blúbuk, Seb Mar ʔabúg, Png[1] ʔabók, Agt ʔapúk, Iba gabúk, Ibg gabúʔ, Itw gahúk, Tau Kal Bon bagókbuk, Ilk tápuk, Png[2] tapúk, Akl taputapʔú, Vir tapʔóg, Ilk dapú, Png[3] dabúk, War taputapó.

18.   *alíŋaw 'shadow'
Kap ʔalínu, Bon ʔalínʔəw, Kal ʔallílwan, Png ʔanínaw, Ilk ʔanniníwan, Sub líŋyaw, Yak líŋYaw, Bag líŋŋo, Mar Bla ʔáloŋ, Buk ʔáluŋ, Isi ʔáʔaw.

19.   *álnud 'drift with current, float; sink, drown'
Bon[1] 'sink, drown' ʔáʔnud, Itb ʔáhnəd, Kap ʔanyúd, Bag lánud, Tag Ilk Itw Bon[2] Igt
Nag Vir War Seb Akl Mar Tau Sub Buk Bah ʔánud, Png ʔánur, Kal maʔálud, Iba ʔánol,
Ibg mánug, Bla lal, Isi nEyánor.

20.   *ʔal̥búk 'smoke'
Itb ʔaʔxúb, Igt ʔabúk, Bag ʔɔbbʔɔ, Bla buk, Buk ʔəbəl, Mar bəl, Bah ʔʌ́bi, Yak
húmbu.

21.   *al̥imátək 'leech'
Png Agt ʔalimatə́k, Ilk ʔalimátək, Seb ʔalimatúk, Isi ʔalimatoʔ, Buh ʔalmátuk, Bla
ʔalmaták, Sub dlimátək, Tag Yak limátik, Kap limátak, Nag[1] Seb limátuk, Vir Yimátuk,
Bah limátʌk, Buk limátək, Kal mátɔk, Bon matík, Bag máttok.

22.   *ʔal̥sə́m 'sour; saltiness'
Agt kaʔlə́m, Png ʔaksə́ŋ, Bon ʔal̥sə́m, Ilk ʔalsə́m, Iba ʔalhə́m, Nag ʔalsúm, Vir
ʔaYsúm, Itw ʔalsám, Kap maslám, War Seb Akl ʔaslúm, Tau[1] ʔáslum, Tau[2] ʔásum,
Ibg massúʔ, Yak lessə́m, Sub məsə́m, Bag mási, Mar másəm, Tag, Tau 'saltiness' ʔásim,
Isi ʔÉsom.

23.   *ʔamáy 'father'
War ʔamáy, Buk ʔámay, Bah ʔáməy, Igt Kal Isi ʔáma, Ibg yáma, Seb ʔamahán, Tau
ʔámaʔ, Sub gámaʔ, Tag Ilk Png Itw Bon Akl Mar Buh Iba Nag Vir Kam Itb ʔamá, Yak
ʔámmaʔ, Bag ʔúmu, Bla maʔ.

24.   *ʔámut 'contribution, buy part of what another has bought; save money'
Tag Akl War 'buy part of what another has bought' Seb Kap 'contribution' Vir 'save
money' ʔámut, Png ʔamút, Mar ʔámot, Bla ʔamní 'contribution'.

25.   *ʔanák 'child, offspring'
Tag Kap Iba Png Ilk Itb Bon War Buh Tbw ʔanák, Igt Tau Yak Bah ʔának, Agt Ibg Isi
ʔanáʔ, Kal ʔalák, Akl ʔuŋáʔ, Bag ʔáŋŋaʔ, Bla ŋaʔ.

26.   *ʔanáʔəy 'termite(s)'
Buk ʔanaʔay, Tag Iba Ilk Itw Itb Seb Akl Nag Vir War Buh Tbw Tau ʔánay, Sub gánay,
Ibg Igt Kam Agt ʔanáy, Yak Png Bon ʔanəy, Bah ʔánʌy, Isi ʔánoy, Bag ʔánnuy, Kap
ʔáne.

27.   *ʔaninuʔ 'shadow'
Itb anínuʔ, Tag Kap Iba Ibg Igt Nag Kam Akl Buh Tbw ʔanínu, Agt kanínuʔ.

145

28. *ʔanituʔ 'idol, evil spirit in magic; demon'
Itb ʔanitúʔ, Tag Kap Iba Png Ilk Iba Ibg Bon Nag Vir War Seb Akl ʔanítu, Tbw ʔánituʔ, Bag nittú, Tau 'demon, evil spirit in magic' hántu.

29. *ʔantáʔ 'rancid; raw, unripe'
Nag Kam ʔantáʔ, Tag Iba Kap Ilk Vir Akl ʔantá, War ʔántat, Ibg banaʔ, Itb hataʔ, Ilk 'raw, unripe' ʔáta, Png ʔətá.

30. *ʔántut 'flatulence; foul odor'
Yak ʔántut, Tag[1] 'foul odor' ʔantút, Itb ʔaʔtút, Ibg ʔattúʔ, Ilk ʔuttut, Bag ʔottut, Tag[2] Iba Isi Bon Nag Kam War Seb Akl Tbw Buh ʔutút, Buk ʔútut, Kap ʔátut, Png Vir ʔatút, Agt kútot, Igt Bah ʔətut, Sub gətút, Mar tot.

31. *ʔaŋpúʔ 'grandchild'
Agt ʔaŋpuʔ, Yak ʔámpu, Tag Png Ilk Isi Kal Bon War Seb Akl Tau Bah ʔapú, Kap Iba Vir ʔapúʔ, Buk ʔápuʔ, Mar ʔápo?, Igt ʔápo, Itb inapúʔ, Sub gápuʔ, Bag óppu, Itw ʔafoku, Ibg ʔafúʔ, Bah fufufúfu, Kam makoʔapoʔ.

32. *ʔapdúʔ 'bile'
Tag Nag Vir War Seb Akl Tbw Agt ʔapdú, Tau ʔápduʔ, Iba ʔaplú, Kal ʔápču, Ilk ʔaprú, Kap ʔatdú, Itw ʔáʔdu, Bla ʔafdú, Ibg ʔágu, Png ʔapgú, Bon akkú, Bag podú, Mar pəddú, Buk appə́ru, Sub pʰərú, Yak pədúnə, Buh fúna.

33. *ʔápug 'lime'
Tag Ilk Iba Nag Vir Seb War Akl Agt Mar Buk Bah ʔápug, Tbw Kam ʔapúg, Sub gápug, Itw Ibg Buh ʔáfug, Bla ʔáful, Kal ʔápuL, Yak hápu, Kap ʔápiʔ, Isi ʔÉpu.

34. *ʔapúlid 'one of the serge family'
Tag Kap Nag Png Vir Akl ʔapúlid, Buh infúlid, Iba ʔapələ́l.

35. *ʔapúy 'fire'
Tag Iba Png Ilk Kal Bon Isi Igt Nag Agt Mar Tbw ʔapúy, Sub gápuy, Itb hápuy, Itw Buh ʔafúy, Ibg ʔafí, Kap ʔapíʔ, Tau ʔápi, Bag ʔópuy, Bla lifó.

36. *ʔárak 'wine; strong drink'
Ilk Nag Mar Tau 'strong drink' ʔarák, Tbw ʔarák, Tag Kap Iba Png Bon Buh ʔálak, Kam ʔalák, Akl ʔág̠ak, Vir ʔáYak, Isi ʔálaɦ, Sub gálak.

37. *ʔardáw 'sun, day'
Ilk Nag[1] 'day' ʔaldáw, Vir ʔaYdáw, Kap ʔaldó, Iba ʔawló, Nag[2] Seb Akl ʔadláw, Yak

ʔélləw, Sub gə́ndaw, Buk ʔánlaw, Ibg ʔággaw, Itw ʔalgáw, Png ʔágəw, Bon ʔák̥əw, Igt mágu, Isi ʔÉhaw, Buh ʔædəw, Bag ʔɔ́ddow, Tag Itb ʔáraw, Agt aráw, Bla du.

38.   *ʔásal 'custom; source, beginning, formerly, former status, origin as to heredity'
Tag Kap Png, Tau 'source, beginning', Mar 'formerly, former status' ʔásal, Iba ʔáhal, Sub 'origin as to heredity' gásal.

39.   *ʔasáwaʔ 'spouse; wife'
Tag Kap Ilk Kal Bon Nag Akl Tbw Buk Seb Tau 'wife' ʔasáwa, Png ʔasawá, Iba ʔaháwa, Itw Ibg ʔatáwa, Agt Katáwaʔ, Sub sʰáwa.

40.   *ʔasípəs 'cockroach'
Png ʔasípət, Bla sisíf, Tag ʔípis, Kap ʔípas, Ilk Itb Tbw ʔípəs, Iba ʔípəɦi, Nag ʔípus, Buh ʔífus, Isi sípot.

41.   *ʔásu 'dog'
Tag Kap Ilk Kal Bon Isi Mar Yak Buk ʔásu, Png ʔasú, Bag ʔásso, Iba ʔáho, Igt ʔáto.

42.   *ʔasúk 'smoke'
Kap Ilk Bon Kal ʔasúk, Tag ʔúsuk, Itw ʔátuk, Iba ʔahúk, Png ʔasəwə́k, Agt[1] kasúʔ, Agt[2] katuʔ, Tag Nag Seb Akl Vir ʔasú, Tau ʔásu, Ibg ʔatúʔ.

43.   *ʔatə́p 'roof'
Iba Ilk Png Itb Bon Tbw Bah ʔatə́p, Igt Mar Buk ʔátəp, Sub gátəp, Agt kátəp, Tag ʔatíp, Nag War Seb Akl Buh Vir ʔatúp, Tau ʔátup, Ibg ʔatúʔ, Itw ʔatók, Kap ʔatáp, Bla ʔatáf, Bag ʔɔtɔ́p, Isi ʔatóp.

44.   *ʔáyam 'dog, animal; reptile, insects that crawl, animal to tame, drive dog to chase someone'
Tag (obs) Kal Nag War, Seb 'dog', Itw Ibg 'animal', Ilk 'reptile, insects that crawl', Mar 'animal to tame', Agt 'drive dog to chase someone' ʔáyam, Vir ʔáyam, Bla ʔáyəm, Sub ŋáyam.

        *b

45.   *babáyi 'woman; grandmother, term of respect for old woman'
Kap Iba War Vir Seb Akl babáyi, Isi baɓáyi, Tag Nag Ilk Tau babáʔi, Kam babáe, Agt babái, Bon fafáʔi, Kal bibʸáʔi, Itw bábay, Tbw Ibg babáy, Mar bə́bay, Sub gbáʔi, Png[1], bií, Png[2] 'grandmother, term of respect for old woman' bay, Buk báhi.

147

46.   *bábuy 'pig'

Tag Iba Ilk War Seb Akl Agt Buh Tbw Tau Bah Buk bábuy, Png babúy, Sub gbábuy, Isi báɓuy, Mar bə́buy, Itw báhuy, Kap bábiʔ, Yak báwi, Ibg báɓi.

47.   *báduʔ 'upper garment or dress'

Nag Vir Seb báduʔ, War Ilk Igt bádu, Tag Kap báruʔ, Tbw bádyuʔ, Yak bájuʔ, Bon fáču.

48.   *bága̰ʔ 'embers, hot coal; red hot, fire made to give warmth or light'

War bágaʔ, Tag Nag Akl Seb Buh Tau Buk Bah bága, Sub gbága, Tbw bagá, Mar wága, Ilk[1] 'red hot, fire made to give warmth or light' bága, Ilk[2] 'heat' bára, Kap báya, Igt mabúya, Itb hinmayáʔ, Yak bálə, Bag bállo, Bla ambalá, Isi bÉya.

49.   *bagĩ́kəs 'bundle, belt'

Ilk 'belt' baríkəs, Bon 'belt' falíkəs, Tag Kap War Bla 'belt' bigkís, Nag Vir bugkús, Akl bágkus, Png balkə́s, Bah bágkəs, Kam Buk bəgkə́s, Itb bikís, Mar bəkə́s, Bag bɔ́kkos, Agt bə́ʔkət, Tbw bətə́k, Isi baɓát, Yak pə́kkəs, Itw pattət.

50.   *baksə́n 'sneeze'

Agt bákən, Tbw bakə́n, Png básis, Igt bə́sit, Ilk baʔə́n/ŋ, Tag bahín/ŋ, Mar mbə́ʔən, Bag báʔu, Kal ɓɔʔɔn, Akl bahaʔón, Buk Bah bahaʔən, Tau baháʔnun, Seb mamaghún.

51.   *bakukúl 'turtle'

Png bakukúl, Nag Vir Isi Bah Buk baʔúʔu, Mar baʔóʔo, Buh faʔúʔu, Sub gbuʔú, Seb Akl Kam baúʔ, Kap paúʔ.

52.   *baʔgṹʔ 'new; newcomer'

Nag Vir Tbw Tau Kam baʔgú, Itb vaʔyúʔ, Agt báʔluʔ, Iba báʔyu, War Bah bágʔu, Buk Seb Akl bagʔú, Tag Buh Ilk[1] 'newcomer' bágu, Ilk[2] barú, Ibg bagú, Kap báyu, Png bálo, Itw báhu, Yak baháʔu, Bon falú, Sub gbə́gu, Igt bə́go, Mar bə́go, Isi biyú.

53.   *baliskád 'inside out'

Akl baliskád, Buh balískad, Yak baliskát, Agt baliʔkád, War balikád, Tbw baliswaʔ, Buh básad, Tag Kap[1] Kam baliktád, Bon faliktád, Png[1] baliktár, Kap[2] Png[2] Nag baligtád, Ibg balittág, Itw balíttag, Iba balintáʔ, Vir barintúk, Itb valiɲtád, Bag bálliŋ, Isi nabalín, Bla gabblakə́ʔ.

54.   *balíw 'demented'

Tag War balíw, Seb báliw, Kal bʸáliw, Sub gbəliw, Yak b(in)ə́ləw, Vir bua.

55.   *balúguʔ 'a large woody tendril-bearing vine, the bark of which is extensively used as

substitute for soap and hair shampoo (entada scadens Bonth)'
Tbw Buk balúgu, Bah bayúgu, Tag Kap Nag Vir gúguʔ, Png Ilk War Seb gúgu, Akl gúʔguʔ, Bag gúllu.

56.   *balúk 'rotten; foul odor, rotten egg'
Bla[1] baluk, Tag[1] Kap Iba Png Akl[1] War Kam bulúk, Bon fulúk, Igt boyúk, Itb 'foul odor' vuyúk, Ilk 'foul odor' buyúk, Isi naƀyuʔ, Yak búhuk, Tau búgbuk, Tag[2] Kap Iba Vir Bla[2] 'rotten egg' bugúk.

57.   *bḁləy 'house'
Ilk Itw Ibg Kam Seb Tbw Agt baláy, Buk bálay, Sub gbálay, Png balaybáy, Akl bágay, Itb vaxáy, Mar walay, Bah báyəy, Tag báhay, Bag bolúy, Isi bEyóy, Kap Iba balé, Kal pʸekóy.

58.   *bḁkút 'wrapping; bundle, bind'
Isi 'bundle' balkót, Png balkút, Tag Kap Ilk Tau bálut, Itb 'bind' vaxúd.

59.   *bḁ́lun 'provisions'
Iba Ilk Itw Nag Buh Tbw bálun, Ibg báluŋ, War bálun, Vir baYun, Akl bágun, Bon fálon, Itb vaxún, Sub gbálun, Png Agt Kam balún, Kal pʸáLun, Isi biyún, Tag báʔun, Seb báun, Igt bə́ʔon, Bag bálu.

60.   *banaháw 'a species of palm with rounded leaves'
Tbw banaʔáw, Ilk[1] ʔanáʔaw, Tag Iba Png Bon Nag Vir Kam War Seb Akl Buh Agt Mar Bag Buk Bah ʔanáhaw, Kal ʔaláʔaw, Itw Igt ʔanáw, Ilk[2] Ibg ʔanáw, Kap ʔanó.

61.   *bḁndút 'pull out'
Bal ʔandút, Nag[1] bunlút, Nag[2] balnút, Kam bulnút, Akl búgnut, Itw baʔdút, Sub Tbw[1] bárut, Yak báʔut, Bag bálot, Seb gibuntán, Mar bə́dət, Bon kafútən, Iba ʔulbút, Itb vurnút, Isi báfinut, Tag Kap Ilk Vir búnut.

62.   *banhíʔ 'seedling'
Nag Vir banhiʔ, Tag Bah binhíʔ, Seb Akl Tau Buk bínhiʔ, Ilk binʔi, Bag bínniʔ, Yak biníhiʔ, Tbw bíʔniʔ, Bla ʔabnéʔ, Agt bínik, Kap Iba Png Kam biníʔ.

63.   *baníg 'mat; rug, floor covering'
Tag Nag Vir Kam Seb Akl Buh baníg, Tau id. 'rug, floor covering' hánig.

64.   *bantíʔis 'calf of leg; foot'
Akl batiʔis, Tag bintíʔ, War Bah bitíʔis, Tau bíʔtis, Agt bisít, Nag 'foot' bitís, Kap butít, Iba bití.

65.   *báŋun 'rise up; to rise, erect structure, able to raise'
Tag Kap Iba Ilk Itw Isi Nag Vir Seb Akl Tau Bah Buk Mar 'to rise, erect structure', Sub 'able to raise' báŋun, Png Agt baŋún, Bon fáŋun, Itb vaŋún, Igt bə́yon, Buh baŋúnwan, Kal p^yúŋun.

66.   *barahíbuʔ 'body hair, wooly hair'
Tag Seb⁽¹⁾ balahíbu, Seb⁽²⁾ balahíbo, Nag War barahíbu, Mar baraíbon, Kam baríbu, Vir baYahíbuʔ, Akl baǥahíbu, Tau báahibu, Yak bahibu, Sub dləlúbu.

67.   *basúg̃ 'satiated'
Nag Vir basúg, Tag Seb Akl Kam War busúg, Kal ƀusúg, Sub bəsúg, Mar ʔúsog, Ilk bussúg, Buh napsúg, Bla ʔabsúl, Png ʔapsəl, Itb ʔabsúy, Kap ʔabsí, Iba buhúy, Tbw bəyág, Ibg Itw battúg, Bon fút^yug, Igt nabtóg̃, Bag wɔ́ssu, Yak ʔɔ́ssu.

68.   *bátaʔ 'child'
Tag Seb Tau Akl Bah Buk bátaʔ, Sub gbátaʔ, Mar wáta.

69.   *bataŋ 'floating lumber; beam, trees, erect, stalk, stem, log, fell a tree, truss, logs piled up to dam water'
Tag Iba Ibg Vir Seb Yak Bag Buk Nag 'beam, trees', Mar 'erect', Tau 'stalk, stem, log' bátaŋ, Png 'fell a tree' batáŋ, Itb ʔabtáŋ, Sub 'log' gbátaŋ, Ilk 'beam, truss' batáŋan, Buh batáŋan, Kap 'logs piled up to dam water' ʔátaŋ, Isi patáŋaw.

70.   *batúr 'stone'
Tag Kap Iba Ilk Png Itw Ibg Isi Nag Kam Vir Seb Akl Buh Agt Tbw batú, Itb vatúʔ, Bon fatú, Kal b^yatú, Tau Yak Bla Buk bátu, Bag bótu, Sub gbátu, Mar⁽¹⁾ wátor, Mar⁽²⁾ ʔátor.

71.   *báyad 'pay, payment'
Tag Kap⁽¹⁾ Png⁽¹⁾ Ilk Igt Nag Vir War Akl Mar Tau Bla Bag Buk báyad, Tbw Kam bayád, Buh igbáyad, Sub gbáyad, Bon fáyad, Yak báyəd, Kal b^yáyed, Igt bəyád, Png⁽²⁾ báyar, Bah báǰad.

72.   *bayáw 'brother-in-law; sister-in-law'
Tag Iba Png Ilk Igt Nag Vir War Akl Agt Tbw Bag Kam, Seb also 'sister-in-law' bayáw, Kap also 'sister-in-law' bayó, Bah báǰəw.

73.   *bayú 'pound'
Tag Kap Png Itw Nag Vir Akl Kam bayú, Ilk Tau Yak Sub Ibg Isi báyu, Bon fáyu, Igt bə́yo, Mar boáyo, Bah báǰu.

74.   *bayúg 'species of small bamboo'
Tag Iba Ilk Png Itw Vir Tbw Bla Buk bayúg, Tau báyug, Sub gbáyug, Itb vayúg, Mar báyog, Isi bóyoɦ.

75. *bəbíg̣ 'mouth; lips, teeth'

Tag Ilk Ibg Buh Tbw 'lips' bibíg, Itw Akl Tau bíbig, Itb vivíh, Png bibíl, Iba bəbə́y, Yak bə́hə, Igt 'teeth' bə́be, Sub gbíbig, Isi biƀíl.

76. *bədbád 'twine and spool; hemp fibers attached to end of rattan, tie, whip, loosen, unroll, untwist, divide'

Tag bidbíd, Png 'hemp fibers attached to end of rattan whip', Ilk id. 'tie', Tbw bədbə́d, Itb vədvə́d, Bon fadfád, Vir Akl, Nag 'hemp fibers attached to end of rattan whip' budbúd, Seb 'loosen', Tau 'unroll, untwist as rope' badbád, Bla labə́d, Sub 'divide' gbad, Bah bilibídən.

77. *bəgás 'uncooked rice; cooked rice'

Tbw Bah bəgás, Buk bə́gas, Sub gbəgás, Png bəlás, Agt bəlád, Tag bigás, Ilk Nag Vir bagás, Itw bággat, Ibg baggá, Bon fakʰás, Bag ballás, Kap ʔabyás, Iba búyah, War Seb Akl, Mar 'cooked rice' bugás, Tau búgas, Isi bohás, Yak búwas.

78. *bəkŋág 'deaf; feign deafness'

Kam buʔŋúg, Buh bunkúk, Nag Vir bunúg, Ibg Itw baŋŋág, Ilk[1] 'feign deafness' baŋág, Ilk[2] bəŋŋə́g'

79. *bəʔgát 'heavy'

Tbw Kam bə́ʔgat, Bah bəgʔát, War Seb Akl bugʔát, Tau buggát, Buh habyát, Bla ʔablát, Buk bəgát, Png bəlát, Nag Vir gabát, Tag bigát, Iba biyát, Kap bayát, Sub gbəgát, Yak bóhat.

80. *bə́ʔkaʔ 'chin'

Mar Buk bákaʔ, Iba Akl Seb baʔbáʔ, Tbw báʔbaʔ, Tag Kap Png bábaʔ, Tbw gbáʔbaʔ, Vir Kúʔkuʔ, Kam kukúʔ, Bah kə́ʔkə, Bla kə́kə.

81. *bəlíʔ 'buy; price, expensive'

Bah bəlí, Tag Png, Akl 'price' bilí, Kap ʔablíʔ, Bag bólli, Iba 'expensive' mablí, Yak mə́lli, Bla ʔamlí, Tau bii.

82. *bíg̣nat 'relapse'

Ilk bígnat, Igt bə́gnat, Png bə́lnat, Akl Tau búghat, Seb nabúghat, Kal búglat, Vir bughát, Bah bə́ghat, Buk bəghát, Nag bághat, War búgʔat, Bon fə́gnat, Isi bifiñát, Tag bínat, Kam bə́gat, Kam bə́gat, Yak binánta, Bag hénnat, Ibg bannaʔ, Kap bénat, Itw gunát.

83. *bilág 'life'

151

Png biláy, Ilk biyág, Kal ɓiyég, Buh buyág, Isi bilÉy, Itb viháy, Sub gbiláy, Igt[(1)] bélay, Igt[(2)] biáy, Tag Nag búhay, Vir buháy, Seb Tau búhiʔ, Akl kabúhiʔ, War kinabuhiʔ, Agt[(1)] buwi, Agt[(2)] bwiʔ.

84.   *bílaŋ 'count; consider'
Tag Kap Iba Ilk Itw Nag Vir Mar Tau Sub Akl 'consider' bílaŋ, Png Ibg Agt Tbw Kam biláŋ, Buh bilaŋán, Itb viláŋ, Kal ɓílaŋ, Bon fîlaŋ.

85.   *bilúg 'round; a dug-out, crooked, bent'
Vir Agt Tbw Kam Ilk 'a dugout' bilúg, Tag Kap Nag Akl, Tau 'crooked, bent' bílug, Buh mabílug, Kal tipɓulúg, Bag təbulúg.

86.   *biŋə́l̥ 'deaf'
Agt bəŋə́l, Sub gbəŋə́l, Bla tambəŋə́l, Tag Iba biŋí, Bah bəŋí, Bag iŋŋú, War Seb buŋúl, Akl buŋúɓ, Tau búlug'.

87.   *bitukə́n 'star'
Agt bitúkun, Bah bitúʔən, Iba Kam Vir Seb Tau Mar Buk bitúʔun, War Akl bitúun, Tag Tbw bituwín, Kal bitúwɔn, Png bitəwə́n, Ilk bitwə́n, Itb vitwə́n, Isi bitwón, Itw bitwán, Ibg bitún, Sub gbitún, Kap batwín, Bla blátik, Bon tukfifí, Yak putə́ʔan.

88.   *buhák 'hair'
Kap bwák, Agt buwá, bwa, Bla wak, Png bwək, Tag Nag Vir War Seb Akl Buk buhúk, Tau búhuk, Itb vuhúk, Kal ɓuʔúk, Ilk Tbw buʔúk, Bon fuʔúk, Itw ʔahúk, Bag ʔɔ́bbuk, Iba habút, Mar boók, Buh Kam buk, Sub gbuk, Ibg buʔ, Yak buú, Isi buʔ.

89.   *buʔáyaʔ 'crocodile'
Agt bukayáʔ, Nag War Vir Buk buʔáya, Bah buʔáǰa, Tag Ilk Isi Igt Seb Buh Kam buwáya, Kal ɓuwáya, Bon fuwáya, Ibg ɓwáya, Itb vwáya, Tbw Bla bwáya, Sub gbwáya, Yak bwáyə, Bag báyyo.

90.   *bulág 'blind; cataract'
Tag Kap Iba Png Akl Buh bulág, Tau 'cataract', Yak búlag, Bon fulág, Ibg ɓulág, Bag bɔ́log, Agt buráy, Tbw bəlɔ́g, Mar lópaʔ, Kal kúlap, Vir War butáʔ, Itb vutáʔ, Bla butəʔ, Seb Bah Kam butá, Sub gbúta.

91.   *búlig 'cluster of fruits esp. bananas'
Ilk Nag War Seb Akl Buh Tau Tbw búlig, Sub gbúlig, Kap Agt Buh Bah bulíg, Kal ɓúlig, Ibg ɓulíg, Bag búliʔ, Isi búlifi, Vir búYig, Iba bə́ləy, Tbw húlig, Png buwə́g, Tag buwíg, Mar ʔólig.

92.   *bul̥al̥áŋaw 'rainbow'

Kam bulalaŋáw, Vir buYaYáŋaw, Iba kabulaláŋaw, Png bulláyaw, Ilk bullaláyaw, Bon fallaŋáw, Tag War balaŋáw, Nag Buh baláŋaw, Akl baǥáŋaw, Seb báŋaw, Bag baŋŋáw, Tau baáŋaw, Bah bǽŋəw, Ibg ɓulaŋún, Itw vuláŋan.

93. *búḷan 'month, moon'
Kap Ilk Nag Agt Tau Yak Buk Seb War 'moon' búlan, Sub gbúlan, Itw húlan, Itb vúxan, Akl búǥan, Bla búlən, Bag búla, Bon fúwan, Seb 'month' búwan, Tag Igt buwán, Isi buwɛ́n, Mar ʔólan, Iba Png Tbw bulán, Ibg ɓulán, Kal ɓuLán, Vir buYán, Bah búyan, Buk 'moon' bútan.

94. *buḷbúḷ 'body hair; pubic hair'
Agt Tag Seb 'pubic hair' bulbúl, Itb vuxbúx, Bag bubbú, Akl buǥbuǥ, Bla buúl, Bah búbu, Buk búlbul.

95. *búŋaʔ 'fruit, the areca palm; betel nut'
Tag Kap Isi Igt Nag Vir War Seb Akl Tau Buk Ilk[1] 'fruit', Yak 'betel nut' búŋa, Sub gbúŋa, Iba Png Kam buŋa, Ibg ɓuŋá, Itw húŋa, Itb 'betel nut' vúwaʔ, Ilk[2] 'betel nut' buwá, Yak[2] 'fruit' búwaʔ, Kal ᵽúŋa, Bla baŋú, Bag búŋŋo, Mar 'fruit' ʔóŋa, Tbw 'fruit' búaʔ, Buh ʔúfi.

96. *buŋláw 'rinse'
Yak buŋlə́w, Agt Bah bunláw, Tag Buh banláw, Akl bánlaw, Bon fánlaw, Ibg bánnaʔ, Kap ʔanlawán, Png bəlnáw, Ilk bálnaw, Kam balnáw, Itw bárnaw, Itb ʔahnáw, Vir baYnáw 'rinse'.

97. *burák 'foam'
Bla bulak, Png burá, War buráʔ, Yak búkal, Akl bukáǥ, Bag bɔ́laʔ, Tbw buraʔburáʔ, Itw hulá, Sub gbúlaʔ, Tag Iba Kap buláʔ, Bah buyáʔ, Buk bulaʔbúlaʔ.

*d

98. *daḍíʔ 'no'
Nag daʔí, Seb díliʔ, Mar diʔí, Kal laʔí, Kap ʔalí, Ibg ʔarí, Isi maríʔ, Vir daí, Yak gáʔi.

99. *daǵámiʔ 'hay; dried stalks of palay'
Seb Akl Tbw Bah dagámi, Kam dagamí, Agt dalámi, Tag[1] Kap Iba Png Nag Buh dayámi, Tag[2] War diyámi, Kal čegámmi, Bon čakʰámi, Mar ragámi, Bla 'dried stalks of palay' lámi, Bag lámiʔ, Sub dIəgámi, Ilk garámi, Buk lagámi.

100. *dáǵat 'sea'
Tag Png[1] Isi Nag War Seb Akl Buh Kam Buk dágat, Tbw dagát, Ilk dárat, Mar rágat,

153

Kap Png[2] dáyat, Bag láyat, Ibg dagá.

101. *dagṵ́ʔ 'blood'
Tag Nag[1] Vir Akl War Seb Agt dugúʔ, Ibg dága, Sub Tau dúguʔ, Tbw dugú, Bag dúloʔ, Nag[2] rugúʔ, Mar rogó, Kap Iba dáyaʔ, Ilk dára, Png dalá, Bon čála, Kal ǰáLa, Itb rayáʔ, Isi dEyá, Yak láha, Itw dáha.

102. *dáhun 'leaf; a small bamboo twig'
Tag Png Nag Vir War Seb Akl Tau Buk dáhun, Bah dəhün, Bla dáʔon, Bag dáʔo, Yak dáwən, Isi dáwun, Tbw daun, Kam Agt daon, Mar ráon, Itw don, Sub gdon, Ibg doŋ, Kap 'a small bamboo twig' dáwe.

103. *dakə́l̥aʔ 'big; much, many, abundant'
Nag[1] Tau Tbw dakúlaʔ, Kam dakə́ləʔ, Vir dakuYá, Mar kalaʔ, War Seb dakúʔ, Kap[1] 'much' Ibg Itw dakál, Kap[2] 'big' dagúl, Nag[2] 'many' dakúl, Png 'abundant' dakə́l, Ilk dakkə́l, Kal čakə́l, Bon čakʰə́, Itb rakúx, Seb dakúʔ, Yak háǰə , Tag lakí.

104. *dakə́p 'catch, apprehend; elope, abduct, wrestle'
Png Iba Tbw Bah dakə́p, Nag Kam Vir War Akl dakúp, Tau 'elope, abduct' dákup, Tag dakíp, Kap dakáp, Igt dək̥áp, Sub dáhup, Itb 'wrestle' rakə́p, Ilk arákup, Seb gidakpán, Agt dəə́p.

105. *dáʔmug 'dew; vapor'
Akl hámʔug, Bah dámhug, Tag Buh hamúg, Tau dámug, Bag dámɔw, Sub gámug, Nag Seb yamúg, Iba yámug, Ilk 'vapor' ʔámug, Igt ʔamúg, Bla ʔámuʔ, Mar námog, Buh namúg.

106. *dal̥an 'road, way; wake'
Kap Iba Ilk Itw Nag War Buh Agt Sub Buk dálan, Tag daʔán, Bon čálan, Kal čáLan, Vir dáYan, Akl dágan, Itb also 'wake' ráxan, Bag dála, Ibg dálaŋ, Mar lálan, Png Tbw Bla dalán, Bah dayán, Isi dEyán, Tau daán, Yak laán.

107. *danúm 'water'
Ilk Kap Itw Ibg Isi danúm, Tbw dánum, Igt dÉnum, Kal čélum, Bon čanúm, Itb ranúm, Iba lanúm.

108. *daŋə́g 'hear; fame, tell on, listen'
Vir Nag also 'fame' daŋúg, Itw 'tell on' dáŋug, Buh nadúg, Itb 'listen' ʔadŋə́y, Tag diníg, Ilk dəŋŋə́g, Png dəŋə́l, Igt dəŋə́, Kal čɔŋéL, Tbw Kam Sub dəŋə́g, Iba leŋə́, Mar ŋəg, Bah dinʌ́g, Isi narŋÉ.

109.   *dapúg̣ 'stove; ashes, burn to ashes'
Tag Kap Iba Nag Vir Seb Akl Agt Bag dapúg, Itw Buh dafúg, Png dápol, Yak Tau[1] dapulán, Mar datóla, Sub 'to be burned to ashes' dápug, Igt dEpóg, Tau[2] 'burn to ashes' dáʔpug, Bon 'ashes' čapó.

110.   *darága 'unmarried woman; animal at puberty'
Nag War Tbw darága, Tag Kap Iba Seb dalága, Vir daYága, Akl dag̣ága, Buh dayága, Sub dəlága, Png Ilk 'animal at puberty' dumalága, Bah[1] dəyægʌ, Bah[2] dæǽgʌ, Mar rága, Buk lága.

111.   *daruwáʔ 'two'
Buk daruwá, Bah daduwá, Tag dalawá, Agt durwá, Akl dáywa, Iba luwá, Igt dEvá, Png Ilk Itw Ibg Nag Buh Kam duwá, Seb War duhá, Itb duháʔ, Kal Bon čuwá, Sub dwaʔ, Isi Tbw dwa, Tau dúa, Yak duwə́, Vir dúaw, Kap ʔadwáʔ, Bla ʔalwú, Bag ʔúwə.

112.   *dəkdúk 'pound; well ground, ground rice, to shift'
Iba Buh Buk Ilk 'well ground', Png 'ground rice' dəkdək, Itb rukdúk, Tag Akl 'to shift' dikdík, Nag Vir dukdúk, Seb dúkduk, Buh dugdúg, Bag mə́dək, Bla ʔandák, War tudtúd.

113.   *dəkún 'press with hand or weight'
Mar də́kən, Kam dəʔún, Yak nəkkən, Tbw Bah dəʔə́n, Tag dikín, Nag duʔún, Vir dúʔun, War Akl duón, Agt dəən, Ibg doŋ.

114.   *dəpaʔ 'fathom'
Igt Agt Tbw Sub dəpá, Itb hadpáʔ, Tag dipá, Iba Nag Vir War Seb Akl dupá, Png Buk də́pa, Buh dufá, Bla sdífə, Kal čupá, Bon čəppa, Ibg dappá, Ilk dəppa, Yak də́ppa, Mar rə́ppa, Kap ʔabpá, Kap ʔagpá, Bag lÉppo.

115.   *dikə́t 'stick, adhere; closeness of letters causing difficulty in reading, intimate, sticky rice or corn'
Tag Kap 'closeness of letters causing difficulty in reading' dikít, Mar Ilk also 'intimate' dəkə́t, Ilk 'sticky rice or corn' díkət, Agt dət, Nag Akl Vir War dukút, Ibg zikkóʔ, Bag dikkót, Itw síkkat, Sub dəhə́t.

116.   *dílaʔ 'tongue'
Tag Kap Iba Nag Vir War Seb Akl Mar Tau Tbw Bla Buk dílaʔ, Ilk Buh díla, Png dilá, Itb rílaʔ, Itw híla, Ibg zilá, Kal Bon číla, Agt dilák, Bag dÉlaʔ, Yak də́llaʔ.

117.   *diŋdíŋ 'wall; room'
Tag Kap Png Ilk Isi Akl Tbw Buk diŋdíŋ, Ilk didíŋ, Tau dídiŋ, Yak dindíŋ, Iba liŋlíŋ, Itb riñdíñ, Itw ziŋzíŋ, Ibg 'room' zizzíŋ, Kal Bon čiŋčíŋ, Bla diríŋ, Sub də́ndiŋ.

118. *diraʔmús 'wash the face'
Ilk diramʔús, Tbw Kam ráʔmus, Itb ráʔmun, Png dilamús, Bon čilamʔús, Kal čéLʔup, Isi diyúp, Tag hilámus, Nag[1] hirámus, Bah Nag[2] hilamʔús, Seb Akl Buk hilámʔus, Iba ʔiláʔməh, Buh yamusán, War hiramʔús, Sub ŋilámus, Tau lámus, Kap ʔímuʔ, Ibg magammá, Itw mammát, Agt mandámut.

119. *diwátaʔ 'goddess; idol, god, good fairy without eyebrows'
Tag Kap Bag Bah Buh diwátaʔ, Akl Sub diwáta, Tau 'idol', Buk 'good fairy without eyebrows' diwáta, Tbw diwatá, Bla 'god' ʔadwatá.

120. *duʔŋáw 'look out of the window; visit'
Kam dúʔŋaw, Vir Seb dúŋʔaw, Tag Iba Nag Akl Sub, Ibg 'visit' dúŋaw, Png duŋáw, Itb ruŋáw, Mar róŋaw, Tbw Bah ʔúŋaw.

   *ḍ̥

121. ḍ̥áḷəm 'depth; liver, deep water, bottom'
Sub Ilk 'liver' dáləm, Mar kadáləm, Png daĺəm, Agt ʔadáləm, Nag[1] dálum, Bon čáʔləm, Kal čeLá, Isi dEyóm, Bah madáyəm, Ibg ʔalarəm, War hilárum, Buk ráləm, Nag[2] 'deep water, depth' harárum, Tbw ʔarárəm, Itb 'bottom' hiraxə́m, Tag lálim, Kap lálam, Yak láləm, Bag lálləm, Iba láləʔ, Seb láwum, Vir halaYám, Tau laúm, Bla ʔamŋalám.

122. *ḍanaʔ 'pus'
Mar dánaʔ, Ibg dannú, Bag lánaʔ, Kal lɔlá, Tag Kap Iba Ilk Itw Ibg Itb Seb Nag Vir Akl[1] Tau Yak Sub Buk Bah nánaʔ, Bla Tbw nanáʔ, Buh nána, Akl[2] naʔnáʔ, Agt nának, Png nənná, Isi nóna.

123. *ḍayús 'far'
Tag Tau[1] Sub láyuʔ, Vir layaʔ, Akl ɡayúʔ, Itb harawís, Isi ʔaddáwt, Iba dayúʔ, Kap dáyuʔ, Ilk ʔadayú, Itw ʔarayyú, Bon ʔačayú, Png ʔarawí, Buh ʔayayú, Tau[2] laǰú, Nag harayúʔ, Ibg kárayuʔ, Kam ráyuʔ, Mar ráyo, Bag mláyyu, Seb gilayʔún, Bah madiyúʔ, Buk kariyúʔ, Bla layúl.

124. *ḍigus 'bath'
Ilk dígus, Agt digúʔ, Igt díɡuy, Kap díluʔ, Bon čiʔkʰu, Tag Sub líguʔ, Akl lígus, Nag ʔarígus, Kam parigús, Vir karigús, Mar pəygúʔ, Iba palyúʔ, Itb ryús, Ibg zigúʔ, Itw zigút, Bah padígus, War ríguʔ, Buh fiyágus, Bla ʔadyók.

156

*ʔə

125. *ʔəʔsáʔ 'one'
Iba ʔaʔsá, Itb ʔaʔsáʔ, Tag Kal Sub ʔisá, Kap ʔisáʔ, Itw Mar Tau ʔísa, Akl ʔisága, Igt siít, Ibg ʔíttEʔ, Kam ʔəsad, Tbw ʔə́sa, Bon ʔə́saŋ, Isi ʔosa, War Seb ʔusá, Ilk meysá, Buh sadi, Png sakəy, Nag sarúʔ, Vir saYúʔ, Bla satu, Bah səbəʔu, Bag hɔtu, Agt tata.

126. *ʔə́mpat 'four
Yak ʔámpat, Bag ʔáppEt, Iba Itb ʔáʔpat, Akl ʔápʔat, Tag Kap ʔápat, Png Igt Vir ʔapát, Ibg ʔáppaʔ, Bah ʔə́ppat, Bon Tbw Kam ʔəpát, Agt ʔə́pat, Buk haʔə́pat, Kal ʔɔpát, Isi ʔopát, Ilk ʔuppát, Seb War ʔupát, Tau ʔúpat, Buh ʔnfát, Sub pʰat, Mar pat, Bla fat.

127. *ʔənus 'strong wind; squall'
Bag ʔónnus, Mar ʔónos, Tag Png Vir War Tbw Seb Nag 'squall' ʔunús, Akl ʔúnos.

128. *ʔəpák 'chaff of palay; bagasse of chewed food especially betel nut'
Buk ʔúkap, Mar ʔókap, Akl Seb id. 'bagasse of chewed food esp. betel nut' ʔupá, Tag ʔipá, Kap Png Bah ʔapá, Bla ʔafá, Bag ʔɔpɔ́, Agt kəpá, Tau Yak hápa, Sub dləpáʔ.

129. *ʔətá 'chaff of palay'
Ilk ʔittá, Bon ʔətá, Isi ʔotá, Kal ʔɔtá, Nag Vir ʔatá, Itw ʔattá.

*g

130. *gakə́p 'embrace'
Igt gákap, Iba yakə́p, Tag yákap, Png lakáp, Itb Buk kəpkə́p, Bag kɔ́kkɔp, Akl kukkúp, War hánkup, Isi ʔopʔóp, Sub həp, Itw gaggáp, Ibg gakkuʔ, Seb gakús, Mar gakəs, Bla ʔalkáf, Kam kapə́ʔ.

131. *galíŋ 'grind; mill'
Seb Akl Mar Buk galíŋ, Agt gáliŋ, Itb ʔagələŋ, Bag máliŋ, Bon kʰíliŋ, Ibg Kam War gilíŋ, Tag Kap Iba Png Ilk Itw Kal Nag Vir Sub Yak Buh Bah gíliŋ.

132. *galumáy 'love charm or phiffer'
Tag Kap Iba Png Vir Igt gayúma, Bon kʰayúma, Nag War Seb Kam lumáy, Akl ɠumáy, Isi ʔamayá.

133. *galúŋ 'wheel; roll as rattan, kind of bracelet, wooden roller for leveling ground'
Tau 'bundle, roll as of rattan' gáluŋ, Itb ʔalulúg, Tag Iba Igt War Nag gulúŋ, Ilk 'kind of bracelet', Png 'wooden roller for leveling ground' guluŋgúluŋ, Kap Buh gúluŋ.

134. *gaḷapúŋ 'rice powder, rice flour'
Tag Ilk Iba Agt galapúŋ, Nag ginalapúŋ, Vir ginaYapúŋ, Kap Png tapúŋ, Tau Yak Mar tápuŋ, Sub thápuŋ.

135. *ganít 'fibers of the sheath of the coconut palm; fibrous tissue of tubers'
Tag Kap Seb Mar gínit, Png gənə́t, War Akl gúnut, Ilk gunnút, Itb 'fibrous tissue of tubers' kanút, Buh fiyanít.

136. *gapúk 'decayed at the root or trunk'
Bah gápuʔ, Akl gahúk, Tag Vir Kam Kap gipúʔ, War gupúd, Buh hípu.

137. *gásaʔ 'whet, sharpen'
Buh gása, Tag Nag War Tau Buk hásaʔ, Tbw Sub ʔásaʔ, Ilk Kal ʔása, Iba ʔáhaʔ.

138. *gatə́ḷ 'itching'
Png Ilk gatə́l, Mar gátəl, Kap gatál, Kal getéL, Iba gatə́ʔ, Igt gəʔtə́, Buk gáttɔ, Vir gatúY, Nag Buh gatúl, Isi gatÉ, Tag katí, Tbw Buk katə́l, Itw Ibg Bla katál, War Seb katúl, Akl katúg̱, Itb katə́x, Bon kʰátə, Yak kátəl Tau kátul.

139. *gátuŋ 'firewood, fuel; floor'
Kam Agt gatúŋ, Tag Nag Vir Akl, Seb 'floor' gátuŋ, Mar ʔitágun, Bah təmə́g, Ibg gáŋu.

140. *gawgáw 'starch; wash by shaking in water, tool used to mix or stir things, give with the hand'
Tag Iba Igt Itb Agt Vir Kam Buh Bag Ilk also 'wash by shaking in water' gawgáw, Itw War Akl, Png 'tool used to mix or stir things', Nag also 'give with the hand' gáwgaw, Kal gewgéw, Bon kʰawkʰaw, Kap gógo.

141. *gawíʔ 'custom, habit native; object, purpose'
Tag Kap gawíʔ, Iba Vir Kam Nag War Akl gáwiʔ, Ilk gawí, Tau 'object, errand, purpose' gáwi, Sub 'purpose' gáway, Itw ʔaŋwá, War kiwá.

142. *gəták 'coconut milk; milk'
Itw 'milk' gatták, Vir taguk, Tag Kap Iba Itb Isi Agt Tbw Bag Bla Buk Bah gatáʔ, Sub Tau Yak Mar gátaʔ, Igt Buh Png(1) gatá, Nag gutáʔ, Ilk Png(2) gətá, Bon kʰətá, Ibg 'milk' gattúʔ.

143. *ginháwaʔ 'ease, convenience, relief; breathe, health, vitality, inhale'
Tag Nag(1) Akl Seb War 'relief, breathe', Tau 'health, vitality' ginháwa, Bah gínhawaʔa, Ilk ginʔáwa, Nag(2) Kam gináwa, Mar 'inhale' ginnáwa, Kap manáwaʔ, Isi Kal linʔáwa, Png ʔináwa, Iba 'breathe' ʔinnáwa, Itb hinawáʔ, Bon kʰinʔáwa, Bag bənnáwwɔ.

144.   *gipít 'lacking in space or time or means'
Tag Kap Iba Ilk Igt Vir Kam War Akl Agt gipít, Png gəpə́t.

145.   *giragə́s 'gums'
Tag[1] Kap gilágid, Bag War lagús, Seb lágus, Mar gus, Iba Ilk gúgut, Bah gəʔús, Itb Kam ŋarə́s, Png ŋárəs, Vir ŋaYús, Ibg ŋarúg, Buk núʔus, Tag[2] ŋidŋid.

146.   *gísiʔ 'small tear or rent; break'
Kap 'torn', War Kam Akl gisíʔ, Tag Vir Tau Seb Mar, Nag also 'break' gísiʔ, Agt gisí, Bah kísiʔ, Bla kisíʔ.

147.   *gitgə́t 'press tightly at same time rubbing and effecting friction; tight, cleanse'
Tag Iba Akl Buh Kap 'tight' gitgít, Vir gítgit, Png Ilk Itb gətgə́t, Itw 'to cleanse' giʔgít, Ibg giggíʔ, War gutgút, Kal gidyágid.

148.   *giwáŋ 'gap, breach, hollow; door'
Ilk giwáŋ, Tag Iba guwáŋ, Seb, Agt 'gap' gáwaŋ, Bah, Akl 'door' gawáŋ, Nag Vir gúʔaŋ, Kap 'hollow in a tree' guáŋ, War guháŋ.

149.   *guláman 'agar-agar'
Tag Kap Iba Itw Png Ilk Isi Nag Vir War Seb Akl Buh Sub Tbw guláman, Agt guramán, Tau gulláman, Bon kʰuláman.

150.   *gúlay 'vegetables; prepare vegetables for cooking, salad, vegetable dish cooked in coconut milk'
Tag Iba Itw Ibg Nag Buh Ilk 'prepare vegetables for cooking, salad' gúlay, Agt Kam also 'a certain vegetable dish cooked in coconut milk' guláy, Kap gúle.

151.   *gulú 'disorder, confusion; revolution, tangle, trouble'
Tag Iba Png Itw Isi Igt Akl Agt Ilk 'revolution', Kap 'tangled, troubled' gulú, Nag 'tangled as fibers and strings' gúlu.

152.   *guntíŋ 'scissors'
Tag Kap Igt Nag Vir Kam War Seb Akl Buh guntíŋ, Tbw Tau Sub Yak Bag Buk Bah gúntiŋ, Mar góntiŋ, Agt gúnsiŋ, Ilk gəttə́ŋ.

153.   *guráŋ 'age, maturity; old man, woman'
War Tbw Kam Nag 'old man or woman' guráŋ, Tag Tau Buk gúlaŋ, Bah magúlaŋ, Seb tigúlaŋ, Sub gməgulán, Vir guYáŋ, Buh magúyaŋ, Akl magúɡaŋ.

154.   *gurít 'slice especially of fish; tear up'
Tag Iba Kap Png gilít, Nag Buh War gurút, Vir guYút, Akl guɡút, Tau 'tear up' gírit, Agt gərə́t, Sub gə́rit, Ilk gərrə́t, Yak daŋkə́hət.

*g̃

155. *g̃ambíʔi 'night; afternoon, evening'
Sub Akl gabíʔi, Nag baŋgí, Kap béŋi, Bag buli, Tag Itw Ibg gabí, War gábʔi, Iba Buh yabí, Png lábi, Kal Isi laƀí, Ilk rabíʔi, Tau 'last night' kaabíʔi, Mar 'afternoon, gə́bi, Mar 'evening' gawíʔi, Sub gəbí.

156. *g̃amút 'medicine, root; poison herb, poison'
Tag Ibg 'medicine', Itw Nag Vir Seb 'root', Kap[1] 'poison herb', Ilk 'poison' gamút, Igt Tau Mar 'poison' gámot, Kap[2] 'root', Itb 'medicine' yamút, Png, Isi 'root' lamút, Ilk 'root' ramút, Igt g̃ámut.

157. *g̃atús 'million; hundred, hundred thousand, debt'
Nag Vir Seb War Agt Bah Kam Akl 'hundred' gatús, Tag (obs) Tau Seb 'hundred', Kap 'hundred thousand' gátus, Mar 'hundred' gátos, Buk naŋgátus, Iba yátus, Itb yatús, Ibg, Itw 'debt' gatút, Ilk 'hundred' gasút, Bon kʰasút, Png 'hundred' lasús, Isi 'hundred' lasút.

158. *g̃imbáʔ 'demolish; move from vertical to horizontal position'
Tbw gimbáʔ, Seb gíbaŋ, Ilk[1] gibbá, Ilk[2] ribbá, Itw gabbá, Mar gəbbaʔ, Tag gibáʔ, Nag Vir gabáʔ, Akl gubáʔ, Png gə́ba, Buk Bah gəbáʔ, Iba yubáʔ, Bla ʔalbáʔ, Itb 'move from vertical to horizontal position' ʔarbáʔ, Ibg dabbáʔ, War rubáʔ.

159. *g̃úsuk 'rib; stomach'
Seb Nag Vir War Akl Buk Sub Tau Bah gúsuk, Mar gósək, Agt gúsuk, Itw, gútuk, Png 'stomach' lúsok, Kal lúsuk, Bag lúhuk, Ilk rúsuk.

160. *g̃útəm 'hunger'
Sub gútəm, Tag Nag War Seb Akl Tau gútum, Vir gutúm, Tbw gə́təm, Agt lətə́m.

*h

161. *habágat 'south wind; west wind, wind, strong wind'
Tag War Akl Buh Bah Nag Tau Tbw 'west wind' habágat, Itb 'westerly wind' havayát, Kap 'wind', Png 'strong wind', Ilk Kam ʔabágat, Agt ʔabagát, Iba 'south wind' ləpətbagatán.

162. *hábuŋ 'shed; hut, cottage'
Tag hábuŋ, Akl War hábuŋhábuŋ, Ilk Png Isi 'hut, cottage' ʔábuŋ, Itb havúŋ.

163. *had̥ək 'kiss'
Bah hadə́k, Nag[1] Vir hadúk, Kam ʔadə́k, War harúk, Akl harúʔ, Buk Itb harə́k, Nag[2]

160

ʔáruʔ, Tbw Mar ʔárək, Tag halík, Iba ʔalɔ́k, Bag ʔɔlɔk, Sub gáⱡək, Ilk ʔagɔ́k, Seb hawúk.

164. *haḑigiʔ 'post
Tag Seb Akl Buk halígi, Png Kam ʔalígi, Kap ʔalígiʔ, Bon ʔalíkʰi, Nag Vir War harígi, Ilk hadígi, Tbw ʔárigi, Ibg ʔarígi, Itw ʔaríhi, Tau haág, Agt ʔadíli.

165. *hagə̥daŋ 'stairs'
Buk hagəráŋ, Akl Tau hágdaŋ, Seb Tag War Bah hagdán, Nag hagyán, Vir hagYán, Ibg ʔáddaŋ, Igt ʔádaŋ, Itw ʔaddán, Kam ʔagdanán, Buh Ilk ʔagdán, Tbw ʔágdan, Bon ʔagčán, Bag ʔádda, Agt ʔáldan, Sub gəddán, Kal ʔéčen, Kap ʔéran, Yak hárən.

166. *hagúnuy 'medicinal plant, tea made from leaves and roots which is said to be a remedy for stomach trouble (Wedelia Biffora L. D. S)'
Tag Png Vir War Seb Akl Buh Bah hagúnuy, Itb hanuyúy, Kap Tbw ʔagúnuy, Agt ʔagunúy.

167. *háklu̥ŋ 'pestle'
Ilk⁽¹⁾ ʔáklu, Iba ʔáʔhuŋ, Nag⁽¹⁾ Tau háʔlu, Nag⁽²⁾ Buk hálʔu, Agt kálu, Vir haʔYú, Akl hágʔu, Tag hálu, Yak hə̥llu, Seb ʔálhu, Ilk⁽²⁾ ʔáḷʔu, Itb ʔahxúʔ, Bon ʔáḷʔu, Itw ʔállu, Kam ʔáʔlu, Kap Png ʔálu, Bag ʔɔllu, Kal ʔéLʔu, Sub gə̥lu, Bah ʔæ̌hu, Tbw láʔluʔ, Isi Éʔu.

168. *halagáʔ 'price'
Tag Png Nag Buh halagá, Tau háragaʔ, Yak hágaʔ, Kap Iba Kam ʔalagá, Isi ʔalága, Igt ʔalágga, Mar ʔáragaʔ, Sub dlágaʔ.

169. *háḷas 'snake; mating season of snakes, wild'
Nag War hálas, Vir háYas, Kam ʔalás, Tag ʔáhas, Tau haás, Sub 'mating season of snakes' dlə̥halás, Seb 'wild' ʔihálas, Akl 'wild' ʔiláhas.

170. *halayháy 'file, row, dry in air; disorder, scatter around, fly'
Tag Nag Buk halayháy, Vir 'disorder', Seb 'dry in air' hayháy, Tau 'scatter around' háyhay, Akl 'fly' hayáhay, Kam ʔayaháy.

171. *haḷimbawáʔ 'example'
Tag Nag War Akl halimbáwaʔ, Buh halimbáwaʔ, Vir haYimbáwaʔ, Iba Kap Kam ʔalimbáwaʔ, Png Agt Isi Tbw ʔalimbáwa.

172. *hambúg 'vain, presumptuous, boastful'
Tag Kap Iba Ilk Akl Vir War hambúg, Tau 'stoutness, healthy' hámbug, Agt ʔambúg,

161

Mar ʔámbug, Itw Ibg ʔúpug.

173. *handáʔ 'preparation; intention, purpose'
Tag Vir Iba handáʔ, Png Akl handá, Buh ʔighandá, Tau 'intention, purpose' hándak, War Buk ʔádam, Kam ʔandáʔ, Bah nándaʔ, Isi mandarán, Mar ʔándəʔ.

174. *handíʔ 'no'
Tag[1] hindíʔ, Png ʔandíʔ, Iba ʔandəʔ, Sub[1] ndíʔ, Sub[2] ndáʔ, Tag[2] Ilk Tau Itw Akl diʔ.

175. *haŋə́s 'gasp, pant; breath, speak through nose, whine'
Bah háŋəs, Tag Vir Nag War Akl háŋus, Kam[1] 'breath' ʔaŋə́s, Ilk 'breath' ʔáŋəs, Itb haŋút, Kal ʔáŋɔs, Png 'speak through nose' ʔaŋás, Agt ʔanús, Sub 'whine' gəŋə́s, Kam[2] ʔaŋák.

176. *háŋin 'wind, air; typhoon, storm'
Tag Vir Nag War Seb Akl Tau Bah háŋin, Itb 'typhoon, storm' háñin, Kap Ilk Itw Kal ʔáŋin, Kam ʔaŋín.

177. *hápay 'bankrupt, demolish, incline; blowing down of crops'
Tag Akl Ilk 'bankrupt', Nag War Seb 'blowing down of crops by wind' hápay, Agt ʔapáy, Mar 'bankrupt' ʔápay.

178. *hásaŋ 'gills'
Tag Nag War Seb Akl Buh Buk Bah hásaŋ, Vir hasáŋ, Kap Ilk Ibg Tbw Mar Tau[1] Yak ʔásaŋ, Png Kam ʔasáŋ, Tau[2] ʔáhaŋ.

179. *hatə́d 'accompany, escort'
Tag hatíd, Vir Nag Seb War Akl hatúd, Tau hátud, Bah hatʌ́d, Bag gétɔd, Buk hatʔón, Agt ʔatə́d, Sub ʔátəd, Kap Bla ʔatád, Iba ʔatə́l.

180. *hátpun 'afetrnoon, roasting of chicken'
Bah táphun, Tag Nag Vir Seb Akl Buk Tau Bah 'afternoon' hápun, Itb hapún, Iba Tbw Agt Kam 'afternoon', Ilk Sub 'roosting of chicken' ʔápun, Yak póhap.

181. *hátul̥ 'sentence, decision; arrange, sort'
Tag Nag Buh Tau 'arrange, sort' hátul, Vir hátuY, Akl hátuɡ, Kap Png Isi ʔátul, Bla nátul.

182. *háyup 'beast, animal; bird'
Tag Nag Vir Akl Tau Buh háyup, Kap 'bird', Iba Isi Igt Agt ʔáyup, Ilk ʔayúp, Png ʔáyəp, Yak hayp.

183. *hígup 'gulp, sip'

Tag Nag Vir War Akl Bah Buk Bag Seb 'sip' hígup, Kam ʔígup, Ilk Sub ʔígup, Kal ʔígup, Bon ʔíkʰup, Iba ʔiyúp, Png 'sip' ʔilúp, Igt ʔotóp, Isi ʔíhup.

184. *húʔən 'yes'

Tau ʔúʔun, Akl Bah húʔu, Bla⁽¹⁾ həʔə́, Buk hə́ʔə, Ibg huʔú, Vir ʔuhúʔ, Tag War Yak ʔúʔu, Igt ʔon, Itw Png ʔun, Seb ʔu, Bla⁽²⁾ ʔəʔə́, Agt ʔəə, Tbw ʔə, Bag ʔÉʔE, Itb ʔúwən, Ilk wən, Kap wa, Mar ʔowáy, Isi ʔuw, Sub waá, Iba ya.

185. *hul̥águk 'snore, pant'

Akl⁽¹⁾ huǵáguk, Akl⁽²⁾ huráguk, Kal ʔuLúk, Agt ʔalagək, Igt ʔalÉguk, Kap ʔalakák, Tag Nag Seb Tau háguk, Bah hagúk, Vir hagug, War háguŋ, Kam ʔagúŋ, Ilk ʔurúk.

186. *hútak 'brain'

Vir hutak, Itb hutə́k, Bla ʔuták, Tag Kap Itw Kam ʔútak, Agt ʔutá, Kal War Buh Akl Tbw Buk ʔutúk, Nag Seb ʔutúk, Isi Ibg utóʔ, Ilk Yak Bah ʔútək, Png Igt Bon ʔutək, Sub gutə́k, Mar ʔótək, Iba ʔətə́k, Bag ʔottók.

*ʔi

187. *ʔiklúg̃ 'egg'

Ilk⁽¹⁾ ʔiklúg, Tau ʔíklug, Png ʔiknól, Isi ʔiklúfi, Tag Ilk⁽²⁾ Bon Seb ʔitlúg, Akl ʔítlug, Ibg ʔillúg, Itw ʔíʔlug, Kal ʔipLúg, Ilk⁽³⁾ ʔiplúg, Itb ʔittíyuy, Agt kiʔyuy.

188. *ʔinúm 'drink; irrigate'

Tag Ilk Png Itw Ibg Bon Igt Nag Vir War Seb Akl Bah ʔinúm, Agt ʔinə́m, Itb Tbw Sub Buk ʔínum, Mar ʔínom, Buh ginúm, Iba Kap Bla minúm, Bag mínom, Yak ŋínom, Igt 'irrigate' manénom, Kal ʔilúm.

189. *ʔisəd̥áʔ 'fish; viand, meat'

Itw Isi 'viand' ʔisirá, Tag War Seb Tau ʔisdáʔ, Akl Bah ʔísdaʔ, Kal, Bon 'meat' ʔiscá, Png 'fish, viand' sirá, Nag siráʔ, Buk səráʔ, Sub šəráʔ, Vir siláʔ, Tbw sə́laʔ, Ilk 'viand' sidá, Mar sədáʔ.

190. *ʔitəm 'black'

Tbw Mar ʔitəm, Sub gmitə́m, Yak ʔíttəm, Vir Akl Kam War ʔitúm, Tag ʔitím, Bla fitám, Bag míttəm, Ibg ŋisíʔ, Ilk ŋísit.

*k

191. *kadáĝum 'needle'
Kap Tag karáyum, Iba karáyəm, Png Ilk Ibg Nag Vir War Akl Buh Tbw Buk Kam dágum, Bon čákʰum, Itw dáhum, Tau ǰaúm, Yak Bla dálum, Igt dEóm, Mar rágom, Itb rayə́m, Bah dágəm.

192. *kádlit 'line'
Bah kádlit, Itw kallít, Agt Vir kurít, Sub kʰúlit, Itb rurít, Iba gúʔlit, Igt gúʔit, Tag War Seb Akl Buh Yak gúhit, Bla kúlis, Kap Png Isi gúlis.

193. *kagtə́y 'liver; bowl'
Png ʔaltə́y, Iba ʔagtáy, Igt ʔágsE, Kal ʔogtúy, Nag Vir katúy, Sub gátay, Yak hátəy, Tag Itb Seb Akl War Tbw Agt Mar Tau Bla Itw 'bowel' ʔatáy, Buk ʔátay, Bon ʔátəy, Bah ʔatəy, Isi ʔEtóy, Bag ʔutúy, Kap ʔaté.

194. *kaláŋ 'stove'
Kap kaláŋ, Tag Iba Itw Nag Seb Agt Kam kalán, Akl kaĝán.

195. *kal̩ábaʔ 'length; wide'
Nag halábaʔ, War halabáʔ, Vir haYábaʔ, Ilk Itw 'wide' ʔakába, Kap kábaʔ, Buh ʔába, Tag Akl Tau hábaʔ, Bah mahabáʔ, Kam labaʔ, Sub dʸábaʔ, Yak táhaʔ, Bla tahaʔ.

196. *kalə́kaʔ 'raucousness of voice'
Mar kalə́kaʔ, Kam kaláka, Bon kʰálək, Tag Iba War halák, Png hálak, Kap ʔalák.

197. *kalimpurús 'cowlick, whirl, eddy'
Bla klifús, Isi ʔalimpurús, Vir ʔaYimpúro, Nag War ʔalimpupúro, Seb ʔalimpuús, Tau ʔalímpuus, Kap ʔalimpúyuʔ, Png Tag 'whirl, eddy' alimpuyú, Akl ʔalimpúĝos, Ibg ʔalifurúʔ, Ilk Bon Kal alipuspús, Buk púluʔ, Iba puyúʔ, Tag puyú.

198. *kámbar 'twins'
Tbw kámbar, Yak Tau kámbal, Tag Kap Iba Ilk Nag Kam kambál, Vir kambáY.

199. *kamí 'we'
Tag Kap Png Iba Itw Itb Nag Vir Akl Tbw Kam kamí, Tau kámi, Bon kaní, Isi dáʔmi, Ilk dakamí, Kal čikamí, Png Ibg sikamí, Igt šikammí, Bah sikámi, Mar sukámi, Buk sikáy, Bla gámi, Agt Sub yámi, Bag ʔámmo.

200. *kamúʔ 'your (pl.)
Iba Itb Nag Vir War Seb Akl Kam Tbw kamú, Tau kámu, Yak kaʔám, Ibg sikamú, Bah

164

sikúna, Bla gámu, Sub yámu, Agt yámuʔ, Bag hɔ́mmu, Tag Ilk Bon Itw kayú, Png si kayú, Kap ʔi kayú, Ilk da kayú, Isi daʔyú, Kal či kayú, Bon ča kayú, Buk si kyú, Mar səká, Igt SÉka.

201.   *kánmus 'crumple'
Bla kanmás, Bag kómmos, Seb kúmʔus, Buk kumuskumús, Tbw kunuskumús, Tag kúmus, Vir kumús, Iba kúmuh, Mar[(1)] kósom, Mar[(2)] kómo, Yak ginʔúmuk, War kurúmus.

202.   *kapúkap 'feel; frisk, grope in the dark, stroke gently'
Bon Kal kapúkap, Tag 'frisk, grope in the dark', Seb 'stroke gently' ʔapúhap, Nag Vir Akl Bah hapúhap, Mar ʔapúʔap, Sub 'stroke gently' pwap, Bag ŋákap, Yak kákap, Ibg ʔappágaŋ.

203.   *karabáw 'carabao'
Agt Nag Vir Kam War karabáw, Mar karábaw, Buh harabáw, Tag Bla Buk kalabáw, Sub kʰəlábaw, Tbw kárbaw, Seb kábaw, Tau káabaw, Bag klóbɔw, Yak kábəw, Bah kæbüw.

204.   *karámut 'scratch; hand, eat with fingers, handful'
Ilk karámut, Akl kágot, Tag kámut, Itb Kam 'hand' kamə́t, Sub 'hand' kʰamə́t, Nag War 'hand', Vir Seb Png 'eat with fingers' kamút, Kap Buh 'hand' gámat, Bon kumút, Ibg 'handful' kamúk, Kam kamúg, Buk káhus.

205.   *kartíb 'scissors'
Bon kál̥tib, Ibg garasíg, Itw garsíb, Itb kurtíb, Png katlí.

206.   *kasín 'salt'
Agt kásin, Bla kahíʔ, Tag Kap Png Ilk Isi Kal Bon Nag Vir War Seb Akl Buh Tbw Buk Bah ʔasín, Tau Yak ʔásin, Sub gmásin, Iba ʔáhin, Bag ʔɔ́hi, Ibg ʔasíŋ.

207.   *katnú 'what'
Png ʔantú, Mar ʔantonáʔa, Buh kaná, Bla kan, Bon nag, Ibg ʔanní, Itw ʔanná, Itb Ilk ʔanyá, Seb ʔunsá, Tau ʔúnu, Tbw Kam ʔunú, Agt ʔunú pa, Tag Nag Vir ʔanú, Kap Akl nánu, Isi andyE, Buk ʔínu, Buh nəkə́y.

208.   *kawíl̥ 'fishing line; hang, large fishing hook, hang nail'
Png Iba Akl War kawíl, Tag Kap, Nag 'hang', Tau 'large fishing hook' káwil, Igt káɓil, Seb 'hang nail' kawilkawíl, Vir káwiY.

209.   *káyuw 'wood'
Iba Ilk Itw Ibg Kal Yak Tbw Bla Buk káyu, Mar káyo, Bag káyyu, Bon káʔəw, Png kiə́w, Tag Nag Vir War Akl Seb Tau káhuy, Sub gáyu, Buh háyu, Isi Agt ʔáyu, Igt kážo.

210. *kəmkúm 'hold in clenched fist; a handful, massage, embrace'
Buk, Itb 'a handful' kəmkə́m, Png 'massage' kə́mkəm, Tag kimkím, Seb War Akl Kam Nag 'embrace' kumkúm, Vir kúmkum, Kap kamkám, Bon kʰəmkʰə́m, Kap gamgám, Ilk 'a handful', Tbw gəmgə́m, Kal gumgom, Buh gumgúm, Isi gomgóm, Mar gə́mak, Bla ankám, Yak kəŋkə́man, Bah kə́mə, Sub həm.

211. *kíḓay 'eyebrow; wink, twinle, forehead, eyelash'
Tag Nag Vir Seb Akl Tau Buk kílay, Iba Yak Bah kíləy, Kap kíle, Bon kíʔčay, Itw War kíray, Ilk[1] 'wink, twinkle', Ibg kiráy, Mar kiraíʔ, Itb čiráy, Kal 'forehead' kíjay, Sub gílay, Agt 'eyelash' kikiláyn, Ilk[2] kíday.

212. *kíg̱lat 'scare, fright'
Ilk Png kigtút, Tbw kíʔdat, Yak kə́ddut, Bag kətəkíddot, Kal kúgyat, Bon ʔə́gyat, Vir kaYág, Mar kálək, Tag gúlat, Itw laʔgát, Ibg kaddág, Akl hádluh, War hádluk, Buk hanlə́k, War kálas.

213. *kilád 'edge, border; side flank'
Akl Mar Buk Bag kílid, Yak hígad, Itw ʔaggíd, Bla kilíl, Kal ʔikid, Tau 'side flank' kid, War lígid, Ilk ʔígid, Tag Kap Vir Nag Sub Buh Bah gílid, Kam gilíd, Png gilíg, Iba liglíg, Bon ʔikʰid, Agt sílid.

214. *kimdát 'wink'
Nag[1] kimlat, Tag Kap Png Iba Igt Nag[2] Akl Buh Tbw kindát, Tau kundát, Itw kimát, Itb čimít, Nag[3] kihát, Yak kinírat, Mar kərát, Bah kə́ǰat.

215. *kimlát 'lightning'
Png kirmát, Iba Bon kimát, Tag War kidlát, Kap kildáp, Agt kuldáp, Akl Tau Tbw Bag Bah Buk kílat, Itw Seb kilát, Nag Vir Kam kikilát, Mar kilakilát, Ibg kilakiláʔ, Yak lalát, Sub gilát, Buh hílat, Igt kəyát, Itb čilát, Isi ʔílat.

216. *kináʔ 'fish; viand'
Yak kənná, Iba kunáʔ, Ilk, Ibg 'viand' ʔikán, Isi ʔíʔan.

217. *kítuʔ 'dog'
Ibg kítu, Buh ʔídu, Bah ʔidú, Seb ʔirú, Sub gítuʔ, Agt kinúʔ, Ibt čitúʔ.

218. *kiwín 'twisted lips; lips, corner of mouth'
Ilk[1] kiwín, Agt kiwíʔ, Iba kíwi, Seb híwiʔ, Tag Png Nag Vir, Kam 'lips' ŋiwíʔ, Akl ŋíwiʔ, Ibg ŋiwí, Ilk[2] Bag 'corner of mouth' ŋíwŋiw.

166

219. *kúbur 'a temporary shed; grave, tomb'
Mar Tau 'grave, tomb' kúbur, Kap kúbul, Tag kúbuʔ, Vir kubúY.

220. *kumíŋ 'beard; antennae of shrimps, whole of ear of corn'
Bag kúmi, Buh húmi, Png 'antennae of shrimps' gumí, Tag Sub Kap 'antennae of shrimps', Ilk 'whole ear of corn' gúmi, Kal ʔímiŋ, Igt ʔomyáŋ, Ibg ʔimíŋ.

221. *kurə́ŋ 'curly hair'
Nag Vir War kurúŋ, Tau kúluŋ, Akl kuɡúŋ, Seb kuŋ, Bah kəyə́ŋ, Png kulə́t, Tag Kap Ilk kulút, Ibg kulúʔ, Yak kúlinut, Iba kələ́t, Mar kórot, Buh faluhút.

222. *kusút 'crumple, rumple'
Tag[1] Ilk Akl kusút, Itw kusú, Itb kusúʔ, Yak kúsuk, Bon kʰusú, Kal kussuwóm, Sub husút, Tag[2] gusút, Iba gúhot, Isi gusíhus, Ibg kutukútu.

223. *kúwaw 'thirst'
Agt kúwaw, Mar kawáw, Kal ʔúwaw, Ilk Isi waw, Kap máwa, Tag War Seb Akl ʔúhaw.

*l

224. *láʔtug 'sensuality, lasciviousness; erection of penis, sexual drive'
Buk 'erection of penis' látʔug, Tbw máʔtug, Mar látog, Bah yátug, Itw 'sexual drive' ʔattúg, Ilk 'sexual drive', Isi 'erection of penis' ʔuttúg, Tag Akl War Seb 'erection of penis', Nag 'sexual drive' ʔutúg.

225. *laʔúyaʔ 'ginger; pepper'
Tau luʔúya, Yak láʔiyə, Iba láʔya, Tbw lúʔyaʔ, Vir luʔyá, Buk lúyʔa, Seb luyʔá, Akl ɡuyʔá, Tag Buk Kam lúya, War Agt luyáʔ, Sub dlúya, Bag lúyo, Mar 'pepper' lóya, Bah yúyaʔ, Ilk Kal Bon Ibg layá, Kap Itw Nag[1] Isi láya, Nag[2] layʔa.

226. *laḷákiʔ 'man, male; male of beasts, grandfather'
Tag Kap Ilk Iba Itw Ibg Bon Nag Seb Tbw Kam laláki, Kal leLáki, Vir laYáki, Akl[1] ɡaɡáki, Akl[2] ɡáki, Igt ɡákE, Png[1] Seb[1] 'male of beasts' lakí, Png[2] 'grandfather', Seb[2] 'male' láki, Agt lalíʔ, Bag láʔi, Sub dláʔi, Isi lÉʔi, Yak lə́lla.

227. *lamətík 'species of big ants; species of ants with poisonous sting, small wasp'
Bah yamətík, Buh lamtík, Mar lámtik, Nag, Vir 'species of ants with poisonous sting' hamtík, War, Akl 'a small wasp' hámtik, Tag hantík, Iba Kam ʔantík, Png ʔámsik, Igt ʔamsÉk

228. *laŋkáʔ 'jackfruit'

167

Tag Png Iba Nag[(1)] War laŋkáʔ, Ilk Isi Igt Bon Vir Buh laŋká, Agt Bah láŋka, Akl ǥáŋka, Kap yaŋkáʔ, Bag lákkaʔ, Nag[(2)] Tbw naŋkáʔ, Itb Seb Tau Yak Buk náŋkaʔ, Itw Ibg náŋka, Sub náŋhaʔ.

229. *laybúŋ 'bird; bird chicks, nest'
Igt lubón, Tbw 'bird chicks' ʔuybún, Png[(1)] 'nest' ʔubúŋ, Kam bayúŋ, Tag Png[(2)] ʔíbun, Ilk Bon ʔibbún, Kap ʔébun.

230. *likúd 'back'
Tag Ilk Itw Nag Vir War Akl likúd, Mar líkud, Itb ličŭd, Ibg likúg, Sub dləhúd, Tau taíkud, Buk talikurán, Igt ǥətúd, Seb luyú, Kal ʔučəg, Bon ʔəčəg.

231. *liʔə́g 'neck'
Kam liʔə́g, Agt likə́l, Nag Seb Tau Bah Buk líʔug, War Akl liúg, Bla liʔál, Tag liʔíg, Itw lə́ʔəg, Iba lə́ʔəy, Bah liyúg, Vir ríug, Sub dlig, Mar lig.

232. *limáʔ 'five; hand'
Itb Agt limáʔ, Tag Kap Iba Ilk Png Itw Isi Kal Bon War Nag Vir Seb Akl Buh Kam Isi Ibg 'hand' limá, Tau Ibg Bah Mar also 'hand' líma, Sub dlíma, Bla límə, Yak lə́mə, Bag límmɔ, Buk lalíma, Agt kalímaʔ, Akl Tbw Buk alíma, Bon ʔiʔma, Ilk Itw íma, Igt ǥÉma.

233. *líŋaw 'fly'
Kal liŋaw, Ilk ŋilaw, Tag Itw Ibg Nag Vir War Seb Buh Buk láŋaw, Kam laŋáw, Akl ǥaŋaw, Tau lágaw, Kap Iba láŋo, Sub dláŋaw, Yak Bah láŋəw, Bag láŋŋəw, Bla laŋád.

234. *lisáʔ 'nit'
Tag lisáʔ, Ilk lisá, Buk lísaʔ, Yak bulísaʔ, Sub dlísaʔ, Ilk lisʔá, Itb lisahá ʔ, Bah lísahʌʔ, Tau líssaʔ, Mar lissáʔ, Itw Ibg litá, Igt ʔaǥíta, Tbw liʔə́s, Buh liyús, Png liyə́s, Kap lyas, Iba líəh, Bag líhɔʔ, Bla klihá, War lusáʔ, Agt likə́t, Isi Kal ʔílit.

235. *lubə́ŋ 'bury'
Nag Vir Seb War lubúŋ, Agt Tbw Sub Buk ləbə́ŋ, Tau lúbuŋ, Kal lúƀun, Mar ləbbəŋ, Tag libíŋ, Kap lilíŋ, Itb 'bury objects' ravəŋ, Bag lə́bbuŋ, Bla ʔalbáŋ, Isi luƀúʔ, Bah iyúbuŋ.

236. *lúkut 'crumple, rumple; roll, fold'
Tag Ilk Itw Kal Bon War Nag 'roll, fold', Seb 'roll' lúkut, Ibg lukóʔ, Kap Png Agt lukút, Vir Yúkut, Akl Bah yukút, Igt lúk̯əp, Bag lukutlúkut, Sub húput, Isi lúʔot.

237. *luŋkáb 'yawn'

168

Buk laŋháb, Iba ʔuŋáb, Tbw ʔuʔŋáb, Kam ʔugáb, Vir hágab, Seb Akl[1] húyʔab, Akl[2] kúyʔab, Tag hikáb, Nag hákay, Yak ŋúhab, Kap ʔúyab, Tau yában, War huyám, Itw ʔúwab, Ilk Bon ʔuwáb, Kal ʔuwéb, Igt ʔávab, Png ʔuáb, Itb ʔahwáb, Ibg wáwwag, Isi ʔuwáw, Bah gábgab.

238. *lutbák 'spit, spittle, sputum; to spit'
Png lutdá, Vir lutáb, Nag[1] lútab, Tau lúdaʔ, Itw[1] 'to spit' lusáb, Isi luppá, Seb Kam luwág, Tag[1] Kap Iba[1] Nag[2] War luráʔ, Yak lúraʔ, Sub dúlaʔ, Itw[2] 'sputum' dalák, Mar dodáʔ, Igt ʔutáp, Agt ʔulák, Buk ʔíləb, Bah ʔílub, Tag[2] Iba[2] duráʔ, Bla duláʔ, Ibg túppaʔ, Kal túppa, Ilk tuprá, Bon túbfa, Buh tufáy, Tbw súpra, Itb tiípah, Akl pilaʔ.

*ḷ̥

239. *ḷ̥akasáʔ 'ten thousand; hundred thousand'
Iba lakasáʔ, Tag laksáʔ, Ilk id. 'hundred thousand', Tau láksaʔ, Akl ɠaksáʔ, Mar láksa, Tbw lákaʔ, Sub lášaʔ, Png lasús.

240. *ḷ̥akíp 'include; insert'
Tag, War 'include', Mar 'insert' lakíp, Png lakə́p, Vir Yákip, Akl ɠákip, Bah yákip, Bag gapí, Bla kláfiʔ.

241. *ḷ̥áksut 'jump'
Tbw láksut, Tau Buk láksu, Yak paláksu, Bah yaksú, Tag Kap War Seb Buh luksú, Vir Yuksú, Akl ɠuksú, Iba lukhú, Itb luktún, Png kudtút, Ilk Bon lágtu, Igt ládtu, Isi láptuʔ, Itw láttu, Ibg líttuʔ, Mar lə́tuʔ, Sub lə́sʰu.

242. *ḷ̥ápad 'wide area; a kind of round oar'
Tag Kap Png Nag Kam Ilk 'a kind of round oar' lápad, Akl ɠápad, Vir Yápad, Iba Png lápar, Buh láfad.

243. *ḷ̥ára 'woven thing of leaves or bamboo'
Tag Kap Sub Buk lála, Vir láYa, Akl ɠaɠá, Igt ɠáɠə, Ilk lága, Seb láʔa, Iba halá, Kal lilága, Isi láha.

244. *ḷ̥asúŋ 'mortar'
Png lasúŋ, Ilk ʔalsúŋ, Itw ʔaltúŋ, Iba ʔáʔhuŋ, Tag Kal Bon Nag Kam Vir War Buh Tbw lusúŋ, Tau lúsuŋ, Akl ɠusúŋ, Mar ləsóŋ, Buk ləsúŋ, Igt ɠEtóŋ, Sub dlə́suŋ, Agt lutúŋ, Bag lɔ́ssuŋ, Isi lisúŋ, Bah yə́suŋ, Yak linsúŋan, Bla suŋ, Kap ʔasúŋ.

245. *l̥áwaʔ 'spider web; spider, grope in the dark'
      Tau Seb 'spider', Buh láwa, Nag 'spider' láwaʔ, Kal ʔáweL, Akl ǥawaʔǥáwaʔ, Tag War,
      Ilk 'spider', Mar 'grope in the dark' lawaláwa, Seb Buk lawaʔláwaʔ, Igt aŋgəláwa, Sub
      gbəliŋháwaʔ, Kap bataŋláwa, Bag blówaʔ, Isi ʔaʔawwá, Bah ǰawaʔǰáwaʔ.

246. *l̥ə́mud 'drown sink, submerge, melt, shipwreck'
      Kap lúmud, Ibg lammád, Sub 'sink, submerge' lə́nəd, Igt naygənəd, Tag War Tau, Seb
      'sink', Ilk[1] 'melt' lúnud, Ilk[2] 'shipwreck' lunúd, Bag lúnnod, Vir Yúnud, Akl ǥúnud, Bah
      yunúd, Yak lə́mbo, Png lə́n r.

247. *l̥imugmúg 'gargle, keep something in mouth, dissolve'
      Nag[1] Seb Kam limugmúg, Vir remugmúg, Kal méLmug, Kap, Ilk[1] 'keep something in
      mouth' mulmúl, War Itw Tau Bag limúgmug, Buh iglimugmúg, Ilk alimugmúg, Bla
      mámul, Sub gmug, Akl mugmúg, Mar mógmog, Tag Nag[1] múmog, Agt Png Nag[2]
      'dissolve' mugmúg, Ilk[2] Bon mulúmug, Isi múmu, Bah paŋalímug, Buk naŋulímug, Yak
      gúmgum.

248. *l̥úhaʔ 'tears'
      Tag Nag War Seb Tau Buk Vir lúhaʔ, Akl ǥúhaʔ, Itb xuhúʔ, Bah yúhaʔ, Iba Kam
      luwáʔ, Png Ilk Itw Bon Isi luwá, Ibg lwá, Kal lúwa, Kap Tbw luáʔ, Agt luúk, Mar loʔ,
      Sub dlwaʔ, Bla alwák.

249. *l̥umtáw 'afloat, visible, conspicuous; transparency, prominence'
      Sub lumə́ntáw, Bla lamtə́w, Agt lúltaw, Tbw lultáw, Kap attó, Bag mutə́w, Tag, Ibg
      'transparency' litáw, Png lətáw, Iba Kam Seb War lutáw, Ilk[1] 'afloat', Nag[1] 'visible'
      latáw, Ilk[2] 'prominence' ləttaw, Itb 'afloat' xatáw, Vir Yatáw, Akl 'afloat' ǥutáw, Nag[2]
      'afloat' latawlatáw, Kal tupáw, Isi tapáw, Yak palántup, Buk lə́ttaw, Bah yə́təw.

250. *l̥úmut 'moss'
      Tag Kap Iba Png Itw Isi Bon Nag Seb War Buh Agt Tau Yak Bag Bla Buk lúmut, Kam
      Tbw lumút, Igt lumót, Itb xumút, Akl ǥúmut, Vir Yumút, Sub dlúmut, Mar ulómot, Ibg
      lúmoʔ.

251. *l̥uŋbúy 'a species of native black berries'
      Ilk[1] luŋbúy, Bon lúŋfuy, Tag Kap Iba Png Ilk[2] Itw Ibg Isi Nag War Seb Bla Bag
      lumbúy, Buk lúmboy, lúmbuy, Agt Tbw Akl[1] lombóy, Vir Yumbóy, Akl[2] ǥumboy, Bah
      yə́mbəy.

252. *l̥útuʔ 'cook; ripe, provisions'
      Tag Kap Nag War Seb Tau, Iba also 'ripe', Buk 'provisions' lútuʔ, Agt lútuk, Tbw Itw Isi
      Ibg Ilk lútu, Png Kam lutú, Sub milútuʔ, Vir Yútuʔ, Akl 'ripe' ǥutuʔ, Itb xutúʔ, Igt ǥóto,

Mar lóto, Bag luttó, Kal ʔútu, Bon ʔúto.

253. *mákut 'transport from one place to another'
Bla mágut, Yak ʔáŋkut, Itb hakút, Tag Vir Nag War Seb Tau Bah Buk hákut, Mar ʔákot,
Iba Itw Ibg Kal Kap Igt Tbw ʔákut, Kam Png ʔakút, Ibg ʔakúʔ.

254. *maŋgáʔ 'mango'
Tag Kap Png Ilk Isi Nag Vir Buh maŋgá, Agt kawmaŋgáʔ, Bla mɔŋŋáʔ, Iba Itw Ibg Itb
Kal Igt Seb Akl Tau Yak Buk máŋga, Sub gmáŋgaʔ, Bon máŋkʰa, Mar máŋgəʔ, Bag
maŋŋá.

255. *maráʔ 'clothes that are almost dry after washing; dry'
Tag Kap Seb malá, Buk mamára, Ilk Png 'dry' magá, Akl maɣá, Sub məmála, Isi
namahaʔán, Bla máluʔ, Igt mənamná

256. *mayún 'possess, have'
Iba maʔin, Itb myán, Tag Seb Akl Agt Tbw may, Bah məyduʔʌn, Buk ʔamin, Buk min,
Kam ʔayú, Yak niyáʔ, Itw hinyán.

257. *mulágat 'open eyes'
Tag Kap Ilk Png Itw Isi mulágat, Bon mulákʰat, Iba murágat, Akl War múdlat, Bla
mukát, Bag mɔ́kat, Kam muklát.

258. *nəkník 'a species of tiny insects with smarting stinging bite'
Tag Agt Igt Kap Iba nikník, War níknik, Kam nuknúk, Tbw nəknək, Vir nuknúk, Png
nitnít.

259. *nipís 'thinness; subsiding of swelling'
Tag[1] Nag[1] Seb War Akl Bah nipís, Yak nípis, Agt nípit, Bag nÉpEs, Kap Kam Png
Nag[2], Tag[2] 'subsiding of swelling' impís, Iba impíh, Ilk iŋpís, Bon ínpis, Ibg ippít, Sub
gmənípis, Mar hanípis, Vir manipís, Buk manípis, Itw nəmpit, Isi Kal yapít, Igt yápit, Bla
aŋŋífi, Buh mayaŋfis, Itb taripís.

260. *niyúg 'coconut'
Tag[1] Ilk Ibg Nag Akl Buh niyúg, Bah níyug, Sub Tbw Tag[2] nyug, Png Vir Tau Mar
níog, Igt nižúg, Agt nyuy, Itw Kal Bag ʔiyúg, Bon ʔinyug, Isi niyóɦ.

171

261. *nuwáŋ 'water buffalo'
Itw Bon Ibg Ilk nuwáŋ, Akl ʔanwáŋ, Kal luwáŋ, Isi nwaŋ.

*ŋ

262. *ŋapús 'cigar or cigarette stub, up to the hilt'
Isi ŋupús, Vir ʔapús, Bah ʔə́pus, Agt pupúd, Sub pʰúpus, Tag[1] Nag War Seb Akl Kam Bag Buk ʔupús, Tag[2] Seb ʔupúd, Iba ʔupúh, Bla ʔufús, Yak ʔuǵpu, Mar pos.

263. *ŋárən 'name'
Tag Iba Sub Seb[1] ŋálan, Vir ŋáYan, Akl ŋágan, Png ŋarán, Isi ŋáron, Itb Nag War Mar Tbw Buk ŋáran, Agt ʔarán, Buh ŋáyan, Ibg ŋágan, Bah nádan, Kal ŋáǰen, Bon ŋáʔčan, Igt ŋádən, Tau ŋaán, Ilk nágan, Itw náhan, Yak ʔálən, Seb[2] ŋan.

264. *ŋəsŋís 'giggle'
Tag Png Bon Bag Isi Kam ŋisŋís, Kap Akl ŋísŋis, Iba ŋihŋíh, Nag ŋusŋús, Agt ŋiʔŋít, Ibg ŋaŋsit.

265. *ŋípən 'tooth'
Iba Png Ilk Itw Mar Tbw Buk Bah ŋípən, Itb ñipən, Tag ŋípin, Kal Nag Seb War Akl ŋípun, Buh ŋífun, Ibg ŋípaŋ, Kap ʔípan, Tau ʔípun, Bag ʔíppo, Bla kifán.

266. *ŋítuʔ 'a species of twining fern whose stems are used for weaving baskets'
Igt ŋítu, Tag Kap Iba Nag Vir Seb Akl Tau Tbw Bah nítuʔ, Agt nitúʔ, Sub nituʔán, Png Ilk Itw Ibg Mar Bag nítu, Yak mítiʔ.

267. *ŋukáʔ 'cry of carabao or cow'
Nag ʔukáʔ, Ilk ʔugá, Yak ŋuwáʔ, Bag ŋɔwaʔ, Kam ŋwáʔ, Isi ŋwÉ, War ʔiŋáʔ, Buh Bah ŋaʔ, Itb ŋáaʔ, Tag Iba Png Vir Akl Tbw Buk ʔuŋáʔ, Igt Bon Kap Tw ʔuŋá.

*p

268. *pánaʔ 'bow and arrow; bow'
Tag Kap Iba Itb Nag Vir Kam Akl Yak Mar[1] pánaʔ, Tau Mar 'bow' pánaʔ, War Seb Ibw Buk Bah panáʔ, Bla 'arrow' fanáʔ, Agt panák, Png paná, Ilk Itw Ibg Isi Bon Igt pána, Sub pʰánaʔ, Buh famána.

269. *paníkiʔ 'a species of big bats'
Tag Kap Iba Nag Kam paníkiʔ, Itb paničiʔ, Kal palók̦i, Itw War paníki, Ilk panníki, Png

panikí, Isi paniʔí.

270. *parayúk 'cooking pot'
Ibg parayúʔ, Ilk Itb Itw paryúk, Igt páɡyuk, Kap palyúk, Tag palayúk, Yak pelíyuk.

271. *padá 'foot, feet; thigh'
Bah padapada, Tag Buk paʔá, Nag páa, Akl 'thigh' paá, Tau páʔa, Bag páʔo.

272. *padkə́t 'stick, adhere'
Tbw padkə́t, Kal pakə́t, Igt pək̯ə́t, Itb ʔadkət, Bla ʔadkáf, Bon kə́kəp, Png yákət, Bah bəgkə́t.

273. *padlúk 'beat, spank, strike'
Kap paldúg, Tag Ibg Nag Tau palúʔ, Agt palú, Bon pakʔu, Vir pakay, Itw pulpúl, Buk lúpak, Yak lúbak.

274. *pakpík 'wing, applaud; beat cotton or cloth with rod, clap, applaud'
Yak pə́ppik, Tag Kap Iba Nag Vir Akl Kam Png 'beat cotton or cloth with rod', Itb 'clap', Ilk 'applaud' pakpák, Seb 'clap' pákpak, Tau 'wing' pikpík, Bah pagíkpik, Mar 'wing' pápak, Kal pekpék, Buh fakfák, Bla fafák, Sub gəpʰák, Ilk 'wing' payák, Ibg payáʔ, Agt kalipápaʔ.

275. *pakpúk 'rap'
Tag Kap Iba Ilk Nag Vir War Akl Agt Buk pukpúk, Seb Tau púkpuk, Png pə́kpək, Kam pəkpə́k, Mar pópok, Yak púpuk, Sub pʰuk, Isi paɸipáɸi.

276. *paksíw 'fish or meat cooked with vinegar, salt and garlic or onion'
Tag Iba Kal Png[1] Ilk Itw War Vir Kam Agt Buh Tbw Bla paksíw, Itb páksiw, Bah paksə́w, Kap paksí, Ibg paksyú, Png[2] patsiw.

277. *paʔə́n 'bait'
Bah paʔə́n, Buk páʔən, Png páən, Tag páʔin, Nag Vir páʔun, Mar paʔán, Kal Bon Isi pápan, Kap ʔapán, Ilk ʔappán, Ibg ʔappáŋ, Itb ʔaʔpán, Sub pʰan, Bla faán, Yak ʔúmpən.

278. *palaká́ʔ 'frog'
Tag Itb Kam palaká́ʔ, Akl paká́ʔ, Bla fak, Agt talipaká́ʔ, Bag pábbak, War pákla.

279. *palikpík 'fins'
Tag Ilk Bon Seb Buh Kam palikpík, Kap Iba Png Vir Akl palíkpik, Agt ʔalikʔálik.

280. *palípig 'young rice grain pounded flat'

Buh falifig, Tag Itw Ibg Nag Vir Seb Mar Png Igt pinípig, Ilk pilípig, Sub pʰinípig, Agt pinílpil, Isi pElÉpEp.

281. *paḷpúg 'shake off dust as from mats and blankets'
Nag[1] palpág, Vir paYpág, Tag Kap Iba Png Ilk Itw Nag[2] Kam pagpág, War Akl págpag, Seb ʔipagpág, Buh fagfagan, Igt vágvag, Sub pʰag, Buk pugpúg.

282. *paḷtík 'fillip, palpitation, carpenter's line'
Ilk paltík, Kal[1] peLtík, Vir Yábtik, Buk pə́ttik, Bah pintík, Tbw Bag[1] píntik, Bla[1] fnintík, Tag Png Itw Isi Bon Kam Vir Seb[1] Akl Agt Bag[2] pitík, Seb[2] Mar 'carpenter's line' pítik, Sub pʰítik, Bla[2] fitík, Yak 'carpenter's line' bítik, Kal[2] bítʔək.

283. *pandək 'short of stature'
Ilk Png pandə́k, Tag Kap Iba Itw Nag Seb Agt Kam pandák, Yak Tau pándak, Sub pʰándak, Bon pančə́k, Ibg pándoʔ.

284. *paŋál 'jaw; horn'
Png Ilk paŋál, Ibg páŋal, Tag Kap Nag Iba Vir Isi Kam Mar also 'horn' paŋá, Itw páŋa, Yak pápa.

285. *pápag 'bamboo bed'
Tag Kap Iba Png Ilk Ibg Nag Vir Akl War Isi Kam pápag, Agt Tbw papág, Seb hapág.

286. *párat 'salty'
Seb párat, Bah mapádat, Tag Kap Iba War ʔálat, Akl ʔáǥat, Buh máyat.

287. *párəy 'unhusked rice'
War Agt Tbw páray, Nag[1] paráy, Tag Nag[2] pálay, Ibg paláy, Vir páYuy, Akl págay, Sub pʰálay, Yak páləy, Ilk págay, Png pagə́y, Kal páguy, Bon pákʰəy, Isi páhoy, Buh fáyay, Kap pále, Iba páli, Tau paáy, Igt pági, Seb pasí.

288. *patús 'wrapping; wrap, wrapper'
Nag 'wrap, wrapper', Vir patús, Seb pútus, Akl Kam putús, Yak Bah pinútus, Sub 'wrapping' pʰútus, Iba pútut.

289. *pawíkan 'tortoise; seafish'
Tag Iba Ilk Bon Nag War Akl Mar Bag Bah Png 'seafish' pawíkan, Vir Seb pawikán, Sub pʰawihán, Tbw payúkan, Yak tohóŋan.

290. *pənúʔ 'full'
Png[1] panú, Png[2] napnú, Isi napnúʔ, Itb ʔapmə́ʔ, Kap ʔapnúʔ, Bla[1] ʔafnúʔ, Bla[2] fnúʔ, Ibg pannú, Kal[1] laplú, Kal[2] plú, Tau hipú, Sub pə́nuʔ, Bah pə́nʌʔ, Tag Iba Nag War Seb Akl Tbw punúʔ, Mar myapúnu, Bon punú, Agt punúk, Ilk punnú, Igt pənnú,

Yak pə́nnoʔ, Buk pə́nnuʔ, Bag pɔ́nnuʔ.

291. *pəsáʔ 'hatch, crush; crack as porcelain, breaking of waves'
Mar pəsáʔ, Png pəsá, Sub pə́sa, Yak pəssáʔ, Ilk 'hatch', pəssá, Bag pEssáʔ, Agt[1] pətək,
Agt[2] ʔaʔtək, Kap 'hatch', Itb 'crack as porcelain' ʔapsaʔ, Tbw napsáʔ, Vir pásaʔ, Nag[1]
pasáʔ, Itw passa, Bla misáʔ, Tag Nag[2] Seb pisáʔ, Kal Isi posáʔ, Kam War Akl pusáʔ,
Tau 'hatch, break round objects, breaking of waves' púsaʔ.

292. *píʔlay 'lame; tired, fatigue'
Bon píʔlay, Igt péʔlo, Isi[1] píʔday, Iba Ilk Itw Kal Nag Tau Tag Itb Vir, Agt also 'tired'
pílay, Png pilə́y, Isi[2] pElóy, Buh fílay, Kap píle, Ibg pilé, Buh 'fatigue' fəláy.

293. *pisə́l 'press and squeeze with hand; tear off a piece of paper, fish or meat'
Ilk pisə́l, Png písəl, Tag Nag War, Ibg 'tear off a piece of paper, fish or meat' pisíl, Akl
Vir Isi písil, Bon pisít, Tau písul, Bag písso, Sub Mar Tbw Buk pəsə́l, Iba pəhpə́h, Kap
paslá, Ibg passíʔ, Bla fnilás, Kam pusə́l.

294. *pisgáʔ 'squeeze, press; coconut milk'
Bah pisgaʔ, Tag Kap Seb[1] pigáʔ, Seb[2] Nag Vir War pugáʔ, Akl Tau púgaʔ, Png pəgá,
Agt 'wring, press' pə́ga, Yak pə́ggaʔ, Ibg 'coconut milk' piggúʔ.

295. *pituʔ 'seven'
Itb pitúʔ, Tag Iba Png Ilk Nag Vir Seb War Agt Kam pitú, Kap Igt Ibg Kal Itw Isi Kam
Tau Yak Bah Tbw Buk pítu, Mar píto, Bag pítto, Sub pʰítu, Bla Buh fítu.

296. *púguʔ 'quail'
Tag Kap Iba Nag Vir War púguʔ, Agt pugú, Tbw pugúʔ, Itb puuguʔ, Png Ilk Itw Bon Igt
Akl púgu, Buh fúgu.

297. *púḷuʔ 'ten'
Kap Nag Iba púluʔ, Akl púɡuʔ, Tbw pulúʔ, Bla falú, Itw fúluʔ, Ilk pullú, Bag púlluʔ,
Png pluʔ, Itb puxúʔ, Bon púʔu, Vir púu, Tau puúʔ, Tag sampúʔ, Bon[2] simpʔu, Yak
sampúyu, Igt támpu, Agt tampulúk, Kam sampulúʔ, Bah sampúyu, Kal simpúLu, War
napúluʔ, Sub səpúluʔ, Mar sapúluʔ, Buh safúlu, Ibg mafulú.

298. *puʔsán 'burden, carry on shoulder'
Vir Kam paʔsán, Tau 'carry on shoulder' páʔsan, Nag War Seb Akl pasʔán, Tbw
pasáʔan, Tag pasán, Buh fasán, Sub písan, Mar posáiʔ, Agt takán.

299. *púnsəg 'navel'

175

Yak púnsud, Bon púʔsəg, Itb púsəd, Png puság, Ilk Bah Buk púsəg, Igt putə́g, Ibg fútag, Itw fútəg, Isi púsoñ, Tag Vir Akl War Seb Tau Nag púsud, Tbw Kam pusúd, Bag pússud, Agt putúd, Mar púsəd Sub pʰúsəd, Bla fusád, Kap pusád.

300. *puŋkə́s 'bundle; handful as of palay, wrap, shroud, wrapper'
Png, Ilk 'handful as of palay', Kap 'wrap, shroud' puŋŋús, Itb 'wrapper' puŋús, Tag Vir buŋkús, Akl Mar 'wrap' búŋkus.

*r

301. *rabnút 'snatch, pull out as hair'
Nag Kam War rabnút, Tag Kap Iba Png Buk labnút, Vir Yábnut, Seb labní, Buh iglanít, Bon fánut, Agt láʔnut, Igt 'pull' lóʔnot, Yak lárut.

302. *rambúŋ 'leafy, luxuriant growth; bamboo shoot'
Vir Yambúŋ, Igt ʔúbbuŋ, Seb Buk Tag[1] 'bamboo shoot' labúŋ, Kap Yak lábuŋ, Buh malábuŋ, Sub məlábuŋ, Tag[2] Iba Bah yábuŋ, Itw 'bamboo shoot', War Kam Agt rabúŋ, Akl dábuŋ, Mar 'bamboo shoot' də́buŋ.

303. *ramúk 'mosquito'
Kam ramúk, Tag Ilk[1] Bon War Seb lamúk, Ibg Bon lamúʔ, Nag Ilk[2] Vir Akl Buh namúk, Tbw námuk, Kap ʔámuk, Agt namúʔ, Itb hamurúk, Sub kləmút, Yak kə́mmut, Isi ʔímuʔ.

*s

304. *sakgáw 'snatch, grab; take by force'
Bah sakgə́w, Tau sággaw, Buh kágaw, Kam Tbw ʔagáw, Tag Png Ilk Nag Vir Akl Mar War Buk Sub 'take by force' ʔágaw, Yak ʔágəw, Iba ʔáyo.

305. *saksák 'stab, thrust into; thresh mongo or other cereal or grain, tear apart'
Tag Kap Iba Png Itb Nag Vir Agt Kam Ilk 'thresh mongo or other cereals and grain' saksák, Akl Sub, Tau 'tear apart' sáksak, War suksúk.

306. *sakít 'sickness'
Tag Kap Png Ilk Bon Nag Vir Seb Akl sakít, Mar Tau Buk Bah sákit, Iba hakít, Itw takít, Ibg takíʔ, Buh sagít, Isi saʔít, Agt siít, Sub gmsÉt.

307. *sáʔbit 'to hang on, hook something; to hang on waist, spine, fish bone'
Kam sáʔbit, Iba haʔbit, Akl Nag War Seb Bah Buk sábʔit, Kal sabʸít, Bag háwEt, Tag Kap Vir Tau Sub 'to hang on waist' sábit, Png also 'spine, fish bone', Ilk sabít, Itb saʔmít.

176

308. *salíw 'musical accompaniment; to go out, relieve'
Tag salíw, Vir sáliw, Ilk 'guide' salíwʔan, Kap salwán, Sub 'to go out' liw, War 'relieve' sáliw.

309. *sáḷud 'receptacle, receive in hand or in a receptacle, salary; short bamboo receptacle for water, go shopping or marketing'
Seb War Akl Tbw Bag Nag also 'short bamboo receptacle for water' sálud, Png salúr, Agt tálud, Itb sáxud, Tag Vir sáhod, Buk súhul, Tau 'short bamboo receptacle for water', Kam 'go shopping or marketing' sáud.

310. *sáḷuk 'draw water; bamboo dipper'
Tag Buk sáluk, Buh igsalúk, Akl ság̱uk, Iba háluk, Tau Yak sáuk, Bah sáyuk, Nag háruk, Bag núhuk, Itw táhu, Itb 'bamboo dipper' silə́k.

311. *sambat 'waylay; to extract fine, possess qualities which attract'
Vir hambát, Png sábat, Tag Kap War, Sub 'to extract fine' ʔábat, Akl 'possess qualities which attract' ʔabát, Itw[1] ʔabatán Itw[2] ʔápaʔ, Sub ʔápaʔ, Kam ʔapaán, Yak himapáʔan, Tbw ʔəʔpa.

312. *sampáḷuk 'tamarind'
Tag Kap Itb Igt Nag Kam Akl Tbw Bla Bag sampáluk, Iba sampalúk, Vir sampáYuk, Sub sʰampalúk, Yak sampálluk, Isi sompálo, Seb Png sambág, Buk sámbag.

313. *sandíg 'lean, recline'
Tag Nag Seb Kam sandíg, Tau War Akl sándig, Mar sándaŋ, Sub sə́ndig, Png sandə́g, Ilk sandág, Yak sándəʔ, Kal sančég, Bah sandiʔ, Vir huYandíg, Bon sáčag.

314. *santúk 'blow, strike with fist'
Kal santúk, Ilk 'strike on head', Kap Isi sintúk, Tag Nag Agt Bag Seb Vir Kam suntúk, Bon Tau War Sub Yak súntuk, Igt suntók, Itw súntu, Ibg súntuʔ, Mar sóntok, Bla snuntúh.

315. *saŋáʔ 'parry, ward off; catch, partners as in card game, raise or support, help, aid, spread hands with palms upward to receive grace from heaven'
Sub Kam War Itb 'catch' sáŋaʔ, Tbw saŋŋáʔ, Tag also 'partners as in card game', Kap Ilk Png Seb 'raise or support with something underneath', Nag 'partners, help, aid' saŋá, Itw Agt Yak, Seb 'partners in card game', Tau 'spread hands, palms upwards to receive grace from heaven' sáŋa; Vir Akl Bag Nag Seb sagáŋ, Bah sáŋyag, Iba halaŋgá, Buk saŋág, Isi 'partner' asaŋgá, Isi saŋgón.

316. *sárab 'singe, scorch'
Ilk Itw Mar sárab, Nag Vir saráb, Tag Kap Yak Buk sálab, Ibg sarában, Buh igsárap, Png salagsáb, Bla snaráb, Iba ihalabáhab, Seb háwub, Bag híllab, Isi sayáw, Bah sádab.

317. *səbáw 'soup; gravy, sauce'
Tag Png Igt Nag Vir War Seb Akl Tbw Bag Kam sabáw, Tau Buk 'gravy, sauce' sábaw, Sub sʰábaw, Kap sabó, Agt tabáw, Iba habáw, Bla sabə́w, Bah sábuw, Mar sáwaw.

318. *səlnag 'ray, brightness; glitter, moonlight, visible, transparent, ray of light, clarity, sunbeam, moonbeam'
Ilk[1] 'glitter' səlnág, Ilk[2] 'moonlight' səllág, Ilk[3] 'moonlight' sillág, Akl 'visible, transparent' sílag, War súnaʔ, Kap[1] 'ray of light' ʔaslág, Kap[2] 'ray of light' ʔasnág, Tag Iba Png Itw Igt, Nag 'sunbeam or moonbeam', Tau 'sunbeam' sínag, Seb[1] 'clarity' sánag, Seb[2] 'transparence' sihág.

319. *sə̥lug 'current, flow'
Tbw sələ́g, Vir suYóg, Yak[1] səlləg, Yak[2] səlləy, Bla ʔəʔəl, Sub dlə́gəs, Nag súlug.

320. *siká 'foot, feet'
Ilk sáka, Itw táka, Bon Akl sikí, Kam tiʔí, Ibg takkí, Isi siʔí.

321. *síku 'elbow; curve, turn'
Tag Png Bon Nag Vir War Seb Akl Mar Ilk Kap Itw Kal Tbw Tau Yak Bah Buk síku, Kam Ibg sikú, Ilk 'curve, turn' sikkú, Igt šÉko, Itb sičú, Isi síʔu, Iba híku, Sub Agt syu, Bla sígu, Bag híyuw.

322. *síʔpun 'cold, catarrh, nasal mucus'
Nag Kam síʔpun, Vir siʔpún, War Seb Akl Buk sípʔun, Tag Agt Kap Itw sipún, Tau 'mucus' sípun, Sub sʰípun, Ibg sifún, Yak sə́ppun, Bah sipʌʔún.

323. *siláb 'set on fire, bonfire; to scorch'
Tag Seb Kap Buk 'to scorch' siláb, Png səláb, Nag Bag Akl also 'scorch' sílab, Vir silyáb, Igt diláb, Sub dlálab, Itw gilláyab.

324. *siwsíw 'chick'
Png Isi siwsíw, Itb síwsiw, Igt šiwšíw, Iba sísyəw, Tag sísiw, Kap sísi, Kal Kam Akl Vir ʔisíw.

325. *siyám 'nine'
Tag[1] Kap Iba Png Ilk Itw Kal Seb Akl Agt Yak Buh siyám, Buk síyam, Tag[2] Itb Ibg Bon Tbw Tau syám, Bla syə́m, Sub šyám, Igt ʔisám, Bah siʔám, Mar síyao, Bag síyaw.

326. *sukáʔ 'vomit'
Tau súkaʔ, Tag Kap Nag Vir War Seb Akl súka, Tbw Kam suká, Iba húka, Agt túka, Sub gútaʔ, Bla mutáʔ, Bag nə́taʔ, Yak ŋúta, Kal Bon Isi ʔúta, Png ʔutá, Igt ʔúgkak, Bah gisúka, Buk sítaʔ.

327. *súkit 'scratch, groove, carving, sculpture'
Yak súgit, Isi suʔíton, Tag Kap Iba Png Kal Nag Vir ʔúkit, Mar ʔókit, Tbw kʸúʔit, Igt gúʔit, Bah paŋúhit.

328. *suḷúʔ 'torch; light'
Tag Kap Vir War Mar sulúʔ, Buk súluʔ, Sub šúlu, Akl suɡuʔ, Itb súxuʔ, Bla 'light' salúʔ, Bag hulú, Ibg túlu, Agt tulúk, Bah sü, Seb suw.

329. *supsə́p 'suck'
Tag Kap Seb Kal sipsíp, Itb Ilk Png səpsə́p, Yak sə́ssəp, Ibg sussúʔ, Tbw səʔsə́p, Isi Vir Nag Kam Buk supsúp, War Akl Bah súpsup, Mar sósop, Bag[1] sə́ssɔp, [2]sɔpɔʔ, Bon súsop, Sub sʰəp, Iba həpʰə́p, Itw[1] súmsup, [2]súnsut, Igt túptup.

330. *súrat 'write, letter'
Tag Kap Bon Yak Sub Png Isi Agt súlat, Bla Buk sulát, Kal súLat, Vir súYat, Akl súɡat, Seb súwat, Iba húlat, Bag hnúlat, Ibg túraʔ, Itw túrak, Bah súyat, Mar sorát, Ilk Nag War súrat, Tbw Kam surát, Tau 'write' súurat.

*t

331. *taʔgún 'year'
Ibg dagún, Akl dágʔun, Isi tawʔún, Ilk tawə́n, Kal tawə́n, Tau Yak táhun, Agt takón, Tag Tbw taʔún, Igt taʔón, Iba Png Nag Vir Kam taún, Sub tʰun, Mar rágon.

332. *taʔmís 'sweetness'
Tag Buh tamís, Nag[1] Seb War Akl támʔis, Nag[2] yamʔís, Isi Yak mámis, Bag mámmis, Vir hamís, Mar kámis, Buk ʔə́mis, Kal miʔís, Sub gmémis, Itw namít, Agt ʔamít, Ibg mámmiʔ, Ilk[1] samʔít, Png Ilk[2] samít, Iba hamít.

333. *tábas 'cut, style or fashion, especially of a garment, cut to desired shape; shear, cut into two'
Tag Kap Png Ilk Itw Isi Vir Nag War Seb War Akl Yak Buk Tau also 'shear, cut into two' tábas, Kam Bah tabás, Agt tabát, Bag mábas, Bon táfas, Kal tabʸás, Iba tábah.

334. *tábug̣ 'drive away'
Seb tabúg̣, Igt tábug̣, War Akl tábug, Ibg taɓug, Iba tábay, Tag Png Vir Agt tábuy, Ilk ʔabúg, Bah ʔabugən, Bon ʔafó, Kap tábiʔ.

335. *tádruʔ 'leak, drip; rain'
War Nag Tbw túruʔ, Itw túrut, Agt turúk, Itb turúʔ, Akl túɡuʔ, Vir túYuʔ, Tag Iba Kap Seb Buk túluʔ, Sub tʰúluʔ, Nag tagdúʔ, Bah tágduʔ, Isi tottór, Kal túčtuč, Ibg turú, Png

179

túro, Ilk 'rain' túdu, Igt túdi, Bag tádoʔ, Tau tuúʔ.

336. *táguʔ 'man, human being, visitor'
Kal tágu, Bon tákʰu, Tau táʔu, Igt toʔó, Tag Nag Ilk Mar táʔu, Kam taʔú, Yak ʔáʔa, Itb tawúʔ, Iba Vir Nag War Seb Akl táwu, Buh taw, Sub gtaw, Kap Tbw táu, Mar taó, Png tuó, Isi táhu, Buk ʔattáw, Bah ʔə́tɔw.

337. *tahəd 'natural cock's spur'
Tag tahíd, Nag War Akl Seb Tau Buk Bah tahúd, Yak tə́həd, Kap taíd, Agt táʔəd, Tbw taʔə́d, Png Ilk tahúr, Bag tɔ́hɔd.

338. *tahə́p 'winnow'
Itb Bah tahə́p, Ilk Bon Tbw taʔə́p, Png taə́p, Isi Igt tÉʔap, Nag Vir War Seb tahúp, Akl táhup, Tag tahíp, Yak taháp, Tau táhap, Iba tatáp, Mar tátap, Bag máttap, Kap ʔatáp, Sub tap, Agt təp, Bla maʔáf.

339. *talíŋaʔ 'ear; deafen, handle of a trunk or chest, auricle'
Itw Nag War Agt Buh Buk Bah Ilk 'ear, deafen, handle of a trunk or chest', Iba 'earring' talíŋa, Ibg Kam taliŋá, Tbw táliŋa, Sub tʰəlíŋa, Itb 'auricle' taliñá, Isi Mar taŋíla, Vir taríŋa, Tag Tau taíŋa, Bla kliŋə́, Igt ʔalÉŋŋa, Kal íŋa.

340. *tambún 'cover, fill up earth; inter, bury, a species of bird which covers its eggs with earth, dam'
Vir Kap tambún, Nag Seb Mar Buk támbun, Itw tahhún, Tag Png War Akl Nag Seb Tau Buh Bag Iba 'inter', Ilk 'bury, a species of bird which covers its eggs with earth', Kap 'dam' tábun, Kam tabún, Itb tavún, Isi taƀúʔan, Sub tʰábun, Bah bunbúnan, Kal laƀún.

341. *tanə́m 'plant; grave, tomb'
Png Ibg Igt Ilk 'grave, tomb' tanə́m, Tag taním, Seb Vir War Akl Nag Buh tanúm, Tau Bah tánum, Isi tanamán.

342. *tarə́m 'blade, sharpness'
Iba Png Itb Agt Tbw tarə́m, Kam matarə́m, Isi taróm, War Nag tarúm, Kap Itw Ibg tarám, Akl taǥum, Vir taYúm, Tag talím, Buk 'sharpness' talə́m, Bla talám, Ilk tadə́m, Bon taʔčəm.

343. *təʔnúk 'thorn; puncture'
Igt túʔni, Png tənə́k, Ilk tənnə́k, Tag tiník, Nag Vir War Kam Seb also 'puncture' tunúk, Akl Tau túnuk, Mar túnok.

344. *tarúŋ 'eggplant'
Ilk Agt Nag War tarúŋ, Akl taǥúŋ, Vir taYúŋ, Tag Png Bon Igt Nag[1] Kam Buh talúŋ,

Tau[1] táluŋ, Iba talúm, Yak Tau[2] tálum, Sub tʰéluŋ.

345. *taṭlúʔ 'three'
Tag tatlú, Akl tátlu, Ilk Ibg tallú, Itw tállu, Png talú, Vir taYú, Bag tə́llu, Yak tə́llu, Igt taɡú, Bah tatə́yu, Kal tiLú, Isi tiyú, Bla tlu, Sub tʰlu, Iba Bon Buh Nag Kam War Sub Tau tulú, Tbw túlu, Mar túlo, Agt tulúʔ, Kap ʔatlú, Itb ʔatlúʔ.

346. *tə́buʔ 'sugarcane, medicinal plant'
Bah tə́bu, Itb túbuʔ, Tag Nag Vir Kam War Seb Akl Tbw Buk tubú, Mar Agt túbo, Tau túbu, Png 'medicinal plant' tubutúbu, Bag tóbbu, Yak tə́bbu, Sub tʰə́baʔ, Kap ʔatbú.

347. *təbús 'redeem, ransom'
Sub tə́bus, Tag Iba Png Itb Nag Kam War Akl Buh Agt Bah tubús, Ibg taƀƀuʔ, Ilk subbút, Bon subfút, Kap ʔatbús.

348. *tə́hud 'knee'
Itw ʔatud, Tag Nag Seb Akl War Tau túhud, Itb tuhúd, Tbw tuʔúd, Agt tuód, Iba túor, Yak túʔot, Kap Buh Kam tud, Ibg tug.

349. *tiʔə́s 'bear, suffer, endure'
Kam tiəs, Vir tíʔus, Tag Iba tiʔís, Nag tiús, Akl tiís, Bag meʔis, Seb ántus.

350. *tigás 'hardness; molave, heart of wood'
Tag tigás, Buh matígas, Kam Tbw təgás, Mar, Seb 'molave' tugás, Tau túgas, Vir, Nag also 'heart of wood' tagás, Sub mgətəgás, Agt təgát, Itw taggát, Ibg taggáʔ, War tígʔa, Akl tigʔá, Itb tiyás.

351. *tində́g 'stand up, stature'
Mar tíndəg, Png[1] təndə́g, Tag tindíg, Nag Vir War Seb tindúg, Tau Akl Bah tíndug, Bag tíddɔw, Ibg táddag, Itb taʔnə́k, Bon tákčig, Kap tikdó, Ilk takdə́r, Isi táʔdofi, Yak nə́ŋgəh, Buk hitíndəg, Sub gində́g, Png[2] talində́g, Buh lindúg, Itw tádag.

352. *túbig 'water; itchy water granules on skin, river, rot from wet'
Tag Nag War Seb Bag Vir Kap 'itchy, water granules on skin' Tau also 'river' túbig, Akl túbiʔ, Ilk 'rot from wet' túbəg, Sub tʰúbig, Agt wig, Mar ig.

353. *tudíŋ 'price, given, acknowledge, relationship; ash Wednesday cross on forehead'
Ilk tudíŋ, Tag Kap Vir Akl túriŋ, Iba Png Ibg Nag turíŋ Itw 'ash Wednesday cross on forehead' turiŋ

354. *túʔwad 'upside down, stooping with the head forward and buttocks protruding; transfer

of liquid from one container to another, to fall, to go uphill'
Agt túʔwad, Tag Iba Bon Nag Vir War Seb Akl Tbw Bah Png 'transfer of liquid from one container to another' tuwád, Buk túwad, Kal túwed, Kap 'to fall' tuwág, Mar tóad, Itb, Sub 'to go uphill' twad, Ibg gátwEg, Isi tuwír.

355. *tulíʔ 'ear-wax; deaf'
Iba Akl Kam Buk tulí, Itb tilúʔ, Bag tuli, Sub tʰúli, Tag tutulí, Agt tulitulí, War Bah Seb 'deaf' atulí, Vir turí.

356. *túlnaw 'melt, liquify'
Png Kam Tbw Agt tunáw, Tag Ilk Iba Igt Nag Vir Seb War Akl Tau Buk túnaw, Isi tunáwon, Buh intúnaw, Sub mətúnaw, Mar tónaw, Bag[1] tunɔw, Yak Bah túnəw, Kap túno, Kal túlaw, Bon lúnaw, Bag[2] lúʔnɔw.

357. *túl̥duʔ 'show, point out, teach, index finger'
Tbw túlduʔ, Itw itúldu, War tútduʔ, Bag tÉdduʔ, Ibg tuddú, Ilk túdu, Bon ʔitučú, Tag Png túruʔ, Kap Nag Iba turúʔ, Mar tóroʔ, Kam ʔituráʔ, Isi tutturú, Vir túYuʔ, Buk túnluʔ.

358. *túrsuk 'prick, pierce, puncture'
Tbw túlsuk, Akl tuslúk, Yak Bah túgsuk, Iba tuyhúk, Tag Kap War Vir, Seb 'puncture earlobe or nose, puncture' túsuk, Kam tusúk, Png Itb turúk, Ilk Igt túduk, Kal lusúk.

359. *túrug 'sleep'
Ilk Nag War túrug, Tag Sub túlug, Itw katúrug, Ibg katrúg, Vir tuYúg, Akl túǥug, Buh túyug, Kam turúg, Mar tórog, Tau túug, Seb tug, Kap tudtúd, Kal tučtuč, Yak túlih, Buk tirugá.

*ʔu

360. *ʔúʔnaʔ 'first'
Tbw ʔúʔnaʔ, Itb numáʔ, Bla muná, Kam múʔna, Itw núnna, Bag núnnu, Sub gúna, Mar ʔóna, Tag Iba War Seb Akl Bah Buh ʔúna, Png Ilk Isi ʔuná.

361. *ʔúban 'gray hair; grow old'
Tag Kap Iba Itw Ilk Igt Nag Vir War Akl Tbw Yak Buk Bah Seb 'id. 'grow old' ʔúban, Png ʔubán, Agt kúban, Sub gúban, Bla ʔúbən, Kam ʔabán, Isi ʔúƀan, Kal ʔúbʸen, Itb ʔuván, Bon ʔúfan, Bag ʔuwán, Buh bánun, Ibg ʔubáŋ.

362. *ʔúbi 'edible climbing plant from fleshy root stocks/tuber'
Tag Kap Png Ilk Igt Itw Seb Akl War Buh Yak Bah Buk Isi ʔúbi, Ibg Nag Vir Tbw ʔubí, Kal ʔuƀí, Bag ʔuwí, Itb ʔúvi.

363. *ʔúbud 'pith of trees; a kind of plant, base of banana plant buried in ground'
Tag Ilk Png Nag Vir Seb Akl War Buh Tbw Buk Bah ʔúbud, Kap 'a kind of plant' ʔubúd,
Itb 'base of banana plant buried in ground' ʔuvúd, Mar ʔóbod, Sub gúbud, Agt kúbod,
Bag ʔúwud, Bla ʔúbul, Kam baludbúd, Ibg ʔuɓúg, Isi ʔuɓafi, Yak ʔúmbut.

364. *ʔudl̥áŋ 'lobster, fresh water shrimp; shrimp'
Yak ʔúlaŋ, Tag 'also fresh water shrimp', Kap Iba Nag Seb War Buk 'shrimp' ʔuláŋ, Tbw
ʔúʔdaŋ, Sub gúlaŋ, Akl ʔuɡáŋ, Vir ʔuYáŋ, Ilk 'fresh water shrimp' ʔudáŋ, Mar ʔodáŋ,
Png ʔuráŋ.

365. *ʔugsáʔ 'deer'
Itb ʔagsáʔ, Ilk Bon ʔugsá, Kal ʔúgsa, Igt ʔógta, Itw Ibg ʔuttá, Iba ʔuyhá, Bla ʔuhə́, Tag
Kap Png Nag Vir Kam Seb Akl Agt Buk Bah ʔusá, Sub gusá.

366. *ʔugát 'vein, root; midrib'
Tag Nag Vir War Seb Buh Tbw Akl Bah 'vein' Agt id. 'midrib' ʔugát, Mar ʔógat, Sub
gúgat, Png Bon Bla, Igt 'vein' ʔulát, Ilk ʔurát, Kal ʔuLát, Kap Iba ʔuyát, Itb ʔinuyát,
Bag ʔɔ́lat, Yak ʔúhat, Isi ʔuwÉt, Itw kallát.

367. *ʔuháy 'spike of palay'
Tag War Vir Seb Buk ʔuháy, Png Akl ʔúhay, Nag ʔuhúy, Bah ʔúhəy, Tbw Kam ʔuwáy,
Agt kwáy, Buh háway.

368. *ʔulíʔ 'go, return home; again, resume, to return'
Itb Vir Akl Tag Seb 'again, resume' ʔulíʔ, War Bah Buk ʔúliʔ, Nag 'again, resume' ʔulí,
Isi 'go' ʔúli, Kap Yak múliʔ, Bla muléʔ, Tbw myulíʔ, Sub 'to return' pulíʔ, Tag ʔuwíʔ.

369. *ʔulílaʔ 'orphan'
Tag ʔulílaʔ, Kap Iba Png Ilk Itw Bon Kal Buh ʔulíla, Ibg Isi ʔulilá, War ʔílo, Agt Buk
ʔílu, Nag Vir War Seb Akl ʔilú, Mar ʔiló, Yak ʔíluʔ, Sub gílu, Tbw ʔiluʔilúʔ, Bah
minaílu, Bag íllo, Kam ʔiloŋlubús.

370. *ʔul̥áŋ 'a crosspiece, an obstacle; frame or rim of fishing net, beam of house'
Kam War Buk ʔuláŋ, Seb ʔúlaŋ, Mar, Png 'frame or rim of a kind of fishing net' ʔálaŋ, Nag id.
'beam of house' ʔuláŋ, Vir ʔuYáŋ, Kap ʔáraŋ, Buh ighaláŋ, Tag Iba hálaŋ, Akl háɡaŋ.

371. *ul̥ə́g 'worm, snake'
Png 'snake' ʔulə́g, Igt, Ilk 'snake' ʔúləg, Itw ʔúlag, Kal 'snake' ʔúLɔg, Bon ʔúwəg, Igt
'snake' ʔóləg, Isi ʔuwÉŋ, Buk ʔúləd, Mar ʔóləd, Sub gúləd, Bla ʔulád, Kap ʔúlad, Buh

183

War Tbw ʔúlud, Agt kulúd, Seb Kam, Nag 'snake' ʔulúd, Tag ʔúʔud, Akl ʔúɠod, Vir ʔúYod, Itb ʔuxə́d, Bag ʔúllod, Yak ʔúlət, Iba ʔiləl.

372. *ʔumíʔ 'urine'
Iba ʔumíʔ, Kap[(1)] ʔimíʔ, Kap[(2)] iʔ, Tag Nag Vir War Seb Akl Tau Buk ʔíhiʔ, Bah paɲíhiʔ, Kam ʔíyiʔ, Sub[(1)] 'to urinate' húmiʔ, Sub[(2)] gə́ɲiʔ, Agt giík.

373. *ʔunát 'straighten, stretch, smoothen, stretch the hands'
Tag Iba Akl Isi Nag Vir War, Seb 'stretch the hands' ʔunát, Png 'stretch the hands', Tbw Agt ʔúnat, Bon ʔunátən, Ilk ʔunnát, Itw ʔúnnat, Ibg ʔannáʔ, Buk ʔínat, Bah panhulínat, Kap ʔunyát.

374. *ʔuntúg 'bump, i. e. head against something'
Tag Vir Png Nag ʔuntúg, War Ibg ʔúntug, Bon tugtúg.

375. *ʔuŋák 'cry of newly born infant'
Kal ʔuŋák, Yak ŋuwə́k, Kam ʔúwaʔ, Tag Akl Iba Itw Ibg ʔuháʔ, Nag War Seb Bah Buk ʔuhá.

376. *ʔurabáŋ 'tiny shrimps'
Kam ʔurabúŋ, Ilk[(1)] Ibg Itw ʔaramáŋ, Ilk[(2)] ʔarmáŋ, Tag Kap Iba Kal Buh ʔalamáŋ, Png ʔagamáŋ, Mar ʔúdaŋ, Agt ʔuráŋ, Yak ʔúiaŋ, Sub gúlaŋ, Seb Buk ʔuyáp, Bah ʔuǰábaŋ.

377. *ʔurán 'rain'
Kap Png Itw Isi Nag War ʔurán, Tbw Buk ʔúran, Ibg ʔurán, Mar ʔóran, Tag ʔulán, Yak ʔúlan, Bag ʔúla, Bla ʔúlən, Akl ʔuɠán, Vir ʔuYán, Seb ʔuwán, Kal ʔučán, Bon ʔúčan, Igt ʔúdən, Bah ʔúdan, Agt kúran, Buh muáyan.

378. *ʔúriŋ 'charcoal'
Vir Nag Tbw War ʔúriŋ, Png ʔuríŋ, Itb ʔuríñ, Mar ʔóriŋ, Tag Kap Iba Itw Bon Isi Seb Akl Buh Bag Buk ʔúliŋ, Sub gúliŋ, Ilk Ibg ʔúgiŋ, Igt ʔudyE, Yak Bah búliŋ, Agt kúriŋ, Kal ʔúsiŋ.

379. *ʔusísaʔ 'investigation, inquiry, solicitous'
Tag Kap Vir Akl ʔusísaʔ, Mar ʔosísaʔ, Itb ʔussisáʔ, Ilk Agt ʔusísa, Ibg Png Nag War Seb ʔusisá.

380. *ʔútaŋ 'debt'
Tag Iba Kap Png Ilk Igt Bon Nag Vir Seb War Akl Agt Bag Yak Buh Bah ʔútaŋ, Tbw Kam ʔutáŋ, Sub Buh gútaŋ, Mar Isi ʔótaŋ, Bla ʔutáŋ, Itb ʔútaŋ.

184

381. *ʔuwák 'crow'
Tag Iba Ilk Nag Vir Akl ʔuwák, Buh ʔúhak, Yak Bag ʔúwak, Png wáwak, Kap ʔáwak, Kap Bah wak, Buh wákwak, Sub gwak, Agt ʔugák, Mar kakówak.

382. *ʔuwáy 'a species of rattan cane made from a kind of palm'
Tag Nag Vir Kam War Seb Buh Ilk Akl 'cane made of a kind of palm' ʔuway, Agt kuwáy, Itw ʔúway, Bag ʔuwúy, Kal ʔiwúy, Ibg ʔawwáy, Isi ʔawwúy, Yak buwə́y, Itb ʔahwáy, Sub gway, Iba ʔuwí, Kap 'cane made from a kind of palm' ʔáwe.

383. *ʔuyád 'walk with difficulty as one who is very stout, or as woman in last stage of pregnancy; stretch as one does with arms and legs'
Tag Png Kam Akl; Ilk⁽¹⁾ 'drag along', Ibg 'stretch as one does with arms and legs' ʔuyád, Bon 'stretch' ʔúyad, War ʔudád, Bah ǰadan.

384. *ʔuyəg 'shake or agitate; stir, shift'
War ʔuyʔúg, Tag Kap Kal Nag Vir Seb Akl Kam War Buh Buk, Ilk 'stir, shake', Png Iba⁽¹⁾ 'shift' yugyúg, Agt ʔuyugʔuyúg, Igt yúgyug, Iba⁽²⁾ yəgyəg, Sub dyug, Isi yohyóh, Ibg guggúyag, Bah huǰúŋ.

*w

385. *wagwág 'shakeout like clothes or mats, shake in water to cleanse; shake, jerk, jolt, flourish, remove contents by jerking, shake like a tree to cause fruits to fall'
Tag Vir Png Iba Itw, Ilk 'shake, jerk, jolt', Kap 'flourish like a flag' wagwág, War 'remove contents by jerking' wágwag, Ibg 'shake like a tree to cause fruits to fall' wáwwag, Isi waɲwáɲ, Kal wegwég.

386. *waʔgát 'separation, isolation; scattering of grains, dirt, etc., isolated place, divulge, dismember, dropped unnoticed, shatter, destroy'
Isi 'scattering of grains, dirt, etc.' waʔgát, Itw wakkít, Tag Iba Akl Seb, Png 'isolated place', War also 'scatter', Ilk 'divulge, dismember' Agt, 'drop unnoticed' Kap 'shatter, destroy' waták.

387. *wal̥sík 'sprinkle'
Png⁽¹⁾ walsík, Ibg warsí, Kal weLsiyán, Bon wal̥sí, War wigtík, Tag Png⁽²⁾ Akl Vir Nag wisík, Buh ʔigwisík, Buk wilík, Iba wihík, Isi wiswís.

388. *wal̥úʔ 'eight'
Yak wáluʔ, Tag Ilk Kap Iba Itw Ibg Png Bon Nag War Kam Agt Mar Tbw Buh walú, Bla Buk wálu, Sub gwálu, Bag wólu, Itb waxúʔ, Bah wáyu, Isi wEyú, Akl waǥó, Kal

185

waLú, Vir waYó, Seb wawú, Igt waw.

389. *wand̥áʔ 'none, non-existence, free, let loose, escape, there is, are'
Bag ʔándaʔ, Bon 'there is, are' wadʔay, Bah wádaʔ, Tag waláʔ, Png 'have, there is, are'
walá, Vir wayúʔ, Nag[1] wáráʔ, War waráy, Tau way, Seb waʔ, Akl ʔuwáʔ, Itw Ilk
ʔawán, Ibg ʔawaŋ, Nag[2] 'there is, are' ʔigwá, Ibg ʔiggá, Buh 'there is, are' ʔakwa, Ilk
'there is, are' ʔaddá, Mar daʔ, Kam ʔaraʔ, Sub ndaʔírum.

390. *wasák 'break, tear, destroy, demolish; throw violently, split, cleavage, division'
Tag Kal Akl Vir Png 'throw violently', Ilk 'split, cleavage, division' wasák, Kap 'tear to
pieces' wásak.

391. *waswás 'shake off, as when getting rid of what is attached to hand or arms; shake a
piece of cloth to drive away mosquitoes, shake to remove moisture, device for driving
flies away, undo, unwind, rinse, wash'
Tag Vir Kap 'shake a piece of cloth to drive away mosquitoes', Png 'shake wet cloth to
remove moisture, a device for driving away flies', Ilk 'undo, unwind' waswás, War 'rinse,
wash' wáswas, Iba wahwáh.

392. *wilíd 'fondness for something due to agreeable previous experience with it; accustomed to'
Bag wiʔíd, Tag Kap Agt Iba Vir Kam Buh Bah Akl 'accustomed to, fondness' wíli, Nag
Seb wilí.

*y

393. *yakál 'a timber producing tree'
Tag Kap Iba Png Ilk Itw Igt Isi Nag Seb Vir Akl War yakál, Mar yákal, Bah yayál.

394. *yakayak 'shift as flour, powder, sand'
Ilk Bon yakáyak, Png yakayák, Yak magʔáyak, Tbw ʔəyakán, Kal ʔakíyak, Itw
ʔakkyák, Ibg ʔagyág, Tag Akl[1] ʔagʔág Nag Vir ʔágʔag, Iba ʔanágʔag, Seb[1]
ʔagáʔag, Agt ʔáʔag, Seb[2] Tau ʔáyag, Akl[2] ʔayág.

395. *yaman 'wealth, care, solicitude, property; delicious, savory, gratitude, joy, pleasure'
Tag Iba Png Igt Nag Vir War Kam, Kap 'delicious, savory', Ilk 'gratitude, joy, pleasure'
yáman, Yak dayáhan.

396. *yətyúg 'intermittant shaking as of tree or its branches / a house due to violent blow of
wind and the like; to penetrate, sex intercourse'
Tag Kap Vir War Seb Buk yutyút, Png yətyɔ́t, Bon yəgyə́g, Sub gədyúg, Bag gÉddot, Itb
Igt 'to penetrate' yútyut, Kal Ilk 'sex intercourse' ʔiyút, Itw 'sex intercourse' ʔayút, Agt
ʔuyúg.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1. Objective and scope

The reconstruction of the ancestor of a group of related languages entails a comparison of these languages to arrive at what may be posited as an earlier or original language from which the languages being compared diverged. The reconstruction of this inferred language, like a description of a contemporary language, implies an account of its systems: phonologic, morphologic, syntactic and semantic.

There are several methods used to arrive at the prehistory of languages: these methods are either qualitative or quantitative. Dialectology, internal reconstruction and the comparative method are qualitative methods, whereas lexicostatistics and glottochronology are quantitative. Information on these methods are found on introductory works on linguistics, such as Bloomfield (1933), Hockett (1958), Lehmann (1962), Gleason (1961), and others. This study makes use solely of the comparative method which is discussed in the next section of this chapter.

The objective of this study is the reconstruction of Proto-Philippine phonemes and morphemes using the comparative method. In undertaking this task, I hope to verify the relationship that holds between the languages found in the Philippines, and to test the workability of the comparative method for the Philippine languages which have no historical texts earlier than the 16th century. The specific results of this study are the reconstruction of the Proto-Philippine phonemes and a dictionary of proto-morphemes.

This study therefore deals with the phonologic system and part of the lexicon of the posited Proto-Philippine language. As Hoenigswald (1950: 357) says, attempting to reconstruct the earlier language by means of the comparative method is "essentially a problem in phonemics." The establishment of the sound system of the posited parent language is generally given precedence over its other systems[i] since the evidence for it is more readily systematized and more readily fulfills the principle of total accountability. Reconstructing the other systems of the earlier language would mean a much more comprehensive work entailing more time and diverse data which I am not in a position to deal with at present. Thus, morphologic and syntactic comparison and reconstruction will have to be treated in a sequel to this present study. The semantic system likewise deserves a separate treatment.

1.2. The comparative method and Proto-Philippine

The comparative method has been tried and tested as a means for studying the history of the Indo-European languages and to some extent also that of Philippine languages. There are certain reasons why this method is the sole method employed in this study. One reason is that this is the only established method which results in the reconstruction of the parent-language. Another reason is that I would like to test whether the method is workable for the Philippine language situation, a family of languages which does not have extant written texts dated earlier than the 16th century. Finally, to test

whether the comparative method is effective when applied to the comparison of a large number of languages at one time.[ii]

The Philippine languages included in this study are taken to be distinct languages.[iii] Nevertheless, these languages are very closely related.[iv] The phonetic system of the Philippine languages compared here and which I discuss in a succeeding chapter, are evidences of their distinctiveness. Furthermore, in the process of gathering the data, the informants were interviewed concerning the mutual intelligibility of their respective languages and among the languages or even dialects around their localities, with a view to checking the native speaker's judgement on whether or not the languages in question were distinct from one another.

The comparative method is defined by Dyen (1969:508) as "The procedure by which inference about past idiolects, dialects and languages are drawn from the systematically matching linguistic meaning-forms of different observable or recorded idiolects." Using this procedure, the present study resulted in proto-phonemes and a number of reconstructed morphemes of the putative ancestor of Philippine languages. In other words, the results of this study infer the existence of a proto-language, or dialect of such a language, from which the present day languages of the Philippines may be presumed to have diverged.

Much has been said about the reconstructed language which results from the application of the comparative method. One point of discussion concerns the "uniformity assumption." This assumption implies that the reconstructed language was homogeneous and a few scholars such as Bloomfield (1935) and Hockett (1958), felt this as a necessary assumption for the comparative method to be operational. At the same time they recognized this as "potentially false," since such a state would be contrary to reality, real languages being hardly ever homogeneous.

Dyen (1969) presents a proposition to replace the proto-language uniformity assumption and yet still allowing the comparative method to operate. He states that what is necessary to assume is that the proto-language had an idiolect, the phonemic system of which is reflected in all the daughter languages. This way it is not necessary to assume that the proto-language need be one which was very different or unlike a natural language, namely, one which was homogeneous or dialect free. The comparative method according to him results in the reconstruction of an idiolect or the speech of a single individual. I intend to agree with Dyen in considering the uniformity assumption as unnecessary for the comparative method to be operational, but I would rather take the position that the daughter languages reflect a dialect of the proto-language rather than an idiolect as he states. This is because I find it hard to accept that the daughter languages reflect the speech of a single individual, especially when such a large number of daughter languages are involved. Furthermore, it can hardly be expected that the reconstructed language reflect all and every sound or form perfectly or uniformly. Dyen (1969) himself says that reconstructions are mere inferences or approximations. In fact, as Meillet (1953) points out, the comparison of linguistic systems does not produce a real language with all the "means of expression which it had." Thus, it does not seem necessary to assume

homogeneity for the proto-language when there is enough evidence to show a common ancestry from a good number of reconstructed form which resulted from the comparison of near identical forms taken from the daughter languages, more so when there is a good number of daughter languages which contain this evidence.

Therefore, the phonemes and morphemes which I posit, as a result of applying the comparative method to my data, approximate those of a dialect of an earlier language. Whether this earlier language was a real language which can be assigned to a specific place in time and space is not envisioned in this study, since the recorded history of this area started only towards the end of the 16th century. Records prior to this were lost or destroyed in the course of the colonization of these islands. Whether this earlier language belonged to a stage which relates to languages grouped as Northern Indonesian (Capell 1962) or whether it belonged to a stage or two higher and therefore closer to Proto-Austronesian, is a problem better left to later studies. At present, I am concerned with comparing contemporary Philippine languages which I have chosen based on certain criteria and to reconstruct forms of a dialect or a variety of a language, which I theorize as the direct ancestor of the languages which I compared. I call this direct ancestor Proto-Philippine (PP).

Although it may be observed that the reconstruction of the proto-language of a sub-group of Philippine languages such as Proto-Northern or Proto-Tagalic should have priority over higher level PP, it is my intention to verify the basic fact that the languages found in the areas known as the Philippines can in fact be considered as belonging to a single group, through the reconstruction of a common ancestor. Furthermore, it is from a study of the whole family that definite subgroup characteristics will emerge in order that a more detailed comparison for the lower level proto-languages can be pursued.

The suggestion could likewise be made that the languages outside the Philippine territory, i.e., Chamoro, Sangir and others, which have been said to belong to the same sub-group within the larger Austronesian family (Capell 1962), should be included in a study such as this. However, I decided to confine my study to languages within the Philippine territory for I feel that this number is big enough to arrive at definite conclusions. The few languages found outside the area which may be labeled "outliers" could later be examined in the light of the results of this study.

1.3. Philippine Languages

To further verify or establish the fact that Philippine languages are related may seem superfluous, since there are quite a few earlier studies which categorically state that these languages are indeed related. But then, I have not come across any published work that established the relationship of the languages within the boundaries of the Philippines qualitatively, that is, by comparing the languages of a single period in time and inductively arriving at the proto-language. Except for one study by M. Charles (1974), what has been done mostly so far, is to show how Proto-Austronesian (PAN) or Proto-Malayopolynesian (PMP) is reflected in Philippine languages (I will discuss these works in 2.2.1). Goodenough, in his comments to Capell (1962), makes an observation for

Oceania which could very well apply to the comparative work done on Philippine languages so far. He says that one of the major failings of comparative study of this area tended to show specific languages as related to Dempwolff's PMP without working out the correspondences within local groupings.

The mention of Philippine languages as a group belonging to the Malayo-Polynesian or Austronesian family is found in several well-known works. I will mention only the more popular theories. The traditional classification includes the languages of the Philippines in the Northern group of the Indonesian languages (IN) sub-group within the Austronesian family (Dempwolff, Capell). The Philippine languages are grouped with the Indonesian languages of Formosa, with Palau and Chamoro (in Micronesia), with the languages of Western and some of Northern Celebes, with Illanun in Borneo, and with Sangir, Bantic and Bentenen (Capell 1962). Similar to this is a classification implied by Haudricourt (1965), where the Philippine languages, according to geographic limits, would fall under "Western Austronesia" which stretches from Madagascar in the South-West and from the Mergui Archipelago (Burma-Thailand) in the North-West, to the Palau Island, Guam and Botel-tobago in the North-East. A different grouping is proposed by Dyen (1965). He divides Austronesian (AN) into two coordinate families. The Philippine languages forming a group or cluster under the North-West branch of the Hesperonesian sub-family. Ilongot, by itself, forms a coordinate cluster with the Philippine cluster. The classification was based on percentage of shared homosemantic cognates.

To embark on the comparison involving every Philippine language, the total of which is over 300 languages and dialects (Constantino, 1968), is a task beyond the capabilities of a single researcher. Consequently, a limited number of languages were chosen for comparison. One point considered in the selection of the languages was location. In other words, efforts were made to select representative languages from different parts of the Philippine area. Preliminary testing of these languages in an earlier research I conducted helped decide which of the languages initially chosen would show enough differences to establish their distinction.

My earlier research involved a study on a smaller scale along the same lines as this present work. Some of the languages studied then were included in this present work while others were discarded as either too similar and therefore possible dialects, or because there were already enough representative languages for the area. Several other languages were included which were not part of the earlier research. These were chosen on the basis again of location and also on inspection of the cognate lists. Constantino's "The Sentence Patterns of 26 Philippine Languages" (1965) has also helped in determining the languages to include. Along with this is the knowledge I acquired of quite a few Philippine languages which I worked on during field research in collaboration with Constantino for his two extensive research projects on Philippine languages. These are "Archives on Philippine Languages and Dialects" and "A Structural Comparison of Philippine Languages and Dialects." Finally, an examination of the cognate sets of the Lopez list (1974, Chp. 3) gave me an idea of what characteristics to look for in the languages to be selected for this comparative work.

Originally, 33 languages were planned for inclusion in the study. Eventually, due to poor or inadequate data, four (Tinggian, Sorsogon, Abellen and Dumagat) were discarded and 29 languages were finally used. These languages were: Tagalog, Kapampangan, Iba Zambal, Pangasinan, Ilocano, Itbayat, Itawis, Ibanag, Isinai, Kalingga, Bontok, Ilongot, Naga, Virac, Kamalignon,[v] Waray, Sebuano, Aklanon, Buhid, Tagbanwa, Agutaynon, Maranaw, Tausug, Subanon, Yakan, Blaan, Bagobo, Bukidnon and Manobo.

CHAPTER 2: REVIEW OF LITERATURE

2.1.   Historical studies of Philippine languages

The fact that the numerous languages of the Philippines are closely related should have encouraged a number of studies on the reconstruction of Proto-Philippine. On the contrary, only very few works can be cited dealing with this subject matter. The majority of the studies which in some way shed light on the history of Philippine languages, usually deal with the distant time or a time before the divergence from Proto-Malayo-Polynesian (PMP) or Proto-Austronesian (PAN) and do not specifically and solely deal with the reconstruction of Proto-Philippine.

A possible reason for this neglect could be the fact that at the time when historical study was the only or prime activity of linguists – this was up to at least the 1930's – linguistics had gained the attention of only a very few Filipino scholars like T. H. Pardo de Tavera, C. Lopez and F. Viray. Most, if not all, of the studies done at this time were pursued by foreign scholars like R. Brandstetter and O. Dempwolff, whose interest was the broader area of Austronesia, touching only on some Philippine languages of this area. A small number of them took interest in and conducted historical studies on some Philippine languages, such as F. Blake and C. E. Conant. Had there been more Filipino scholars interested in Philippine linguistics at that time, we could have expected more interest in local problems like the reconstruction or at least the investigation of the source of the diverse Philippine languages.

After this era, interest turned to synchronic studies and problems involving the history of languages were relegated to the background. It was also during this time that more Filipinos became involved in the study of Philippine languages, especially from the 1950's onward, hence their studies were geared to synchronic problems, such as description and comparison for typological purposes. At present, the historical field is still dominated by foreign scholars and only a few of them, like I. Dyen and his students (e.g. Zorc) and members of the Summer Institute of Linguistics (Reid, Newell, etc.), take specific interest in Philippine languages. Dr. C. Lopez is, to the present the leading Filipino scholar in this field of linguistics, with only one or two other Filipinos doing comparative work.

Attempts at reconstructing Proto-Philippine will be examined here as to appraise whatever has been done in this field. Although this chapter particularly covers studies on

reconstructing Proto-Philippine, I have decided to divide it into two parts and include works other than these.

The first part covers studies on the reconstruction of Proto-Philippine and studies tracing correspondences or showing reflexes of Proto-Austronesian and Proto-Indonesian in Philippine languages (2.2 to 2.2.2) arranged chronologically, hence, one might say, shedding light on possible clues to Proto-Philippine. Attempts were made to be as exhaustive as possible.

In the second part, corroborative studies or those which are relevant in some way or other to the reconstruction of Proto-Philippine and which are useful references will be cited (2.3 to 2.3.4). This will include some of the well-known works on Proto-Malayo-Polynesian and Proto-Indonesian which usually include at least one Philippine language in the investigation, comparisons and typologies, comparative word lists and studies on sub-grouping. This second part will not claim to be exhaustive but rather selective.

2.2.   Studies on Proto-Philippine

The studies of this part are grouped into two. The first group consists of those which in some way attempted the reconstruction of Proto-Philippine or of some feature of the proto-language. The second group includes those which traced the correspondences or the reflexes of Proto-Austronesian or Indonesian in Philippine languages.

2.2.1.   There are only a few works published to date which specifically tried to reconstruct the form of the language from which the Philippine group of languages diverged. Furthermore, except that of M. Charles (cf. below), no investigation has been published, particularly on determining how these languages bifurcated , or rather, what happened from the time of PAN to the present situation. I found six works that can be cited as attempts at reconstructing Proto-Philippine and in all but one case, only fragments of the Proto-language is revealed.

Practically, the first work that can claim to have shown the origins of Philippine languages is Blake's (1906) "Contributions to Comparative Philippine Grammar," which is on the whole more of a synchronic study since it compares the features of different Philippine languages, such as Ibanag, Ilokano, Bikol, Samar-Leyte, Tagalog, Bisaya, Pangasinan, Pampanggo, Magindanao and Sulu. In the section entitled "Notes on Phonology," Blake gives a list of what he labels original Philippine sounds "from a comparison of representative words in various language." He therefore discusses the correspondences of these sounds in the language he compared, but he did not formulate reconstructed forms. He indicates the original sounds as: **a**, **i**, **u**, or **o** and the consonants as, labial, **p**, **b**, **w**, **y**, dental, **t**, **d**, **n**, **l**, **s**, palatal, **k**, **g**, **y**, glutural, **ng**, and diphthongs, **ai**, **au** with the additional sounds **e**, **r**, and **ʔ**, and "perhaps" **h**. In his subsequent "Contributions to Comparative Philippine Grammar II" (1907), he posits the original Philippine forms of the numerals of Tagalog, Cebuano, Hiligaynon, Samar-Leyte, Bikol, Batan, Kalamian, Magindanao, Sulu and Bagobo. The forms he arrives at on comparing the cognates of the numerals in these languages are: *dua* (doa), 2; *t-lo,* (+ the indistinct e) 3; *pat-*, 4; *lima*, 5; *n-m* (a), 6; *pito/pitu*, 7; *walo*/*u*, 8; *siam*, 9; *polo/pulu*, (+ sa - + ligature)

10; *dalan*, *ratus*, 100; *rubu*, 1,000. Although the forms that he gives may not be considered as consisting of proto-symbols, this work might be called, if not the first attempt, at least one of the earliest to present reconstructions of morphemes of the proto-language. In this work Blake also discussed the processes of sound change responsible for these correspondences.

Although C. Conant authored several articles on Philippine languages, it is in his "The Pepet Law in Philippine Languages" (1912) where he gives reconstructions which he labels "Philippine." In this article Conant shows the operation of the pepet law in 31 languages, giving a detailed analysis of this in 11 of them. He shows the pepet law operating quite regularly in the seven classes he sets up. The exceptions to the law are explained as due to secondary sound change, like assimilation, consonant germination, metathesis, loss of intervocalic **l** and the operation of the RGH and RLD laws (Conant, 1911). The operation of the pepet law in numerals is treated separately because of the "special secondary influences in the combined operation of assimilation and analogy." He arrived at the conclusion that no region favors a class of the pepet, since the law cannot be shown to operate the same way within certain geographical limits. His discussion of the sound change resulting in each of the seven classes of each language is concise and informative.

Another study in which proto-forms may be found is Leonard Newell's (1953) "Sound Correspondences in Six Philippine Languages." He analyzed PMP *a, *h and *b in Philippine cognates producing the reconstructions: *tahep* 'winnow', *bales* 'recompense', *sepsep* 'sip, suck', *hipon* 'shrimp' and *hagdan* 'ladder'. He states that these forms were arrived at with "considerable rigor" since they represent cases where no sound shifting occurs. He did not attempt to give the reconstructed forms of the other cognates which he included in this study. Newell appears to disregard the loss of a sound as a cause for sound change, for he considers the non-appearance of an expected reflex in a certain language as occasion for weakening its case as a reflex of a proto-phoneme. His reference to a "parent language" probably means PMP or PAN and not Proto-Philippine. He uses his analysis of the reflexes of the above-mentioned PMP sounds as the basis for the reconstructions he arrived at. Since he did not make any conclusions concerning reconstructions other than the obvious, this study does not shed light on Proto-Philippine.

In "Some New Morphemes in Philippine Languages" by C. Lopez (1970), reconstructions of Proto-Philippine and PIN morphemes are supplied and are indicated as formulated by Costenoble and/or Lopez. It is regretful that the analysis, or how these forms were arrived at, is not given but the author promises this to appear in a forthcoming paper. The value of this work lies in its being a source of data. It consists of a list of Philippine equivalents of Dempwolf's reconstructions, hence, his term "new morphemes". Cognates in non-Philippine languages are also given.

M. Charles' (1974) "Problems in the Reconstruction of Proto-Philippine Phonology and the Subgrouping of Philippine Languages" was based on research done for his thesis which is on the topic as described in the title just mentioned. He compared eight Philippine languages: Itbayaten, Iloko, Kapangpangan, Tagalog, Maranao, Western Bukidnon Manobo, Teduray and Tiboli (with Ivatan, Isneg, Sagada, Igorot, Bontoc,

Pangasinan, Bikol, Tausug and Cebuano to supplement these languages); four languages from North Celebes: Sangirese, Tontemboan, Mongondow, Gorontalo; and two from North Borneo: Dusun and Murut. According to Charles, these languages were chosen on the basis of available adequate lexical material and on whether they represented the main subgroups of the Philippine Hesion (following Dyen's classification (1965). He dealt with six problems, namely: (1) PPh medial consonant clusters, (2) multiple reflexes of PPh *b, *d, *j, and *R, (3) the evidence for PPh *g and *r, (4) families of words similar in sound and meaning which influence one another, (5) the merger of *j and *R as a criterion in subgrouping, and (6) the developments from Proto-Austronesian to Proto-Philippine.

Charle's study and this present work are similar in their aim to reconstruct the Proto-Philippine sound system. I would say though that the significant difference between the two lies in the data used by them. For one, Charles' corpus includes languages outside the Philippine territory, while this present study confines itself to comparing languages within it. Furthermore, Charles used old dictionaries and word lists of contemporary languages compiled by different researchers, while this present work used only materials specifically elicited for cognate comparison, gathered from informants for the contemporary languages compared.

T. Llamzon reconstructed Proto-Philippines on the basis of PAN of the "Dempwolff-Dyen inventory" in an article entitled "Proto-Philippine Phonology" (1975). He deduced Proto-Philippine from this inventory and as a result comes up with "gaps in the structure of the Proto-Philippine phonemes." He attempts to justify this by pointing out that such gaps are in "PAN and even present day (Natural) languages." One wonders though if there would be such gaps, gaps to the extent that phonemes, i.e., -R4-, -D-, -Z-, -z-, are only found in medial position, if he had not been bound to the inventory of PAN.

Nine PLs were compared to establish Llamzon's PPH (Proto-Philippine). These are Tagalog, Cebuano, Hiligaynon, Waray, Bicol, Ilocano, Ibanag, Ifugao, and Kankanay. His basis for the selection of these languages is their having "relatively better structural descriptions and vocabularies than other Philippine languages" (p.30). He does not however mention the sources of these descriptions and vocabularies. Except for Ibanag and Kankanay, he does not give the specific dialect or location from which his data were gathered. This is necessary especially with terms like Bikol which covers several languages and dialects.

Llamzon's work and this present study have a similar purpose, that of reconstructing Proto-Philippine phonemes. The significant differences is that this present study reconstructed forms inductively, using material from contemporary languages that is, data gathered through informant work with native speakers of the languages representing the different areas of the Philippines, and possible subgroups within these related languages. In the case of Llamzon's study, Proto-Philippine forms were reconstructed on the basis of Dempwolff's and Dyen's reconstruction of PAN. Another difference, probably more fundamental, is that in addition to Proto-Philippine phonemes, reconstructed morphemes are posited in this study, whereas Llamzon limited himself to reconstructing proto-Philippine phonemes.

8

Besides the published papers dealing with Proto-Philippine, there are significant works which have not been published, although two of them might be forthcoming in the near future. The first one is H. Constenoble's "Woerterbuch des Ur-Filippinischen" (1942), a typescript of which Dr. C. Lopez very kindly allowed me to examine. This is a dictionary of Proto-Philippine forms with German glosses and an introduction in which the author gives the sources of his data, his equivalents of Dempwolff's proto-forms with critical remarks, and his theory of monosyllabic roots.

He explains that his study covers four languages, Tagalog, Kapampangan, Ilukano, and Samar-Bisaya, although he seems to have acquired limited data from Sebuano, Tiruray, Bagobo, Ibatan and Sulu. His sources *were Vocabulario de la Lengua Tagala* (1860), *Vocabulario Iloco-Español* (1868), *Diccionario Hispano-Bisaya* (1895), and Dempwolff's *Vergleichende Lautlehre* Vol. VIII. This data was counter-checked by informant work done with native speakers of the languages he studied who were living in Pampanga where he had settled. An interesting item in the introduction is his candid criticism of the dictionaries of these languages which were available to him. He explained that the difficulty in looking for data in these dictionaries was mostly due to the inconsistency in the orthography used by the compilers, e.g., the **y** sound was written occasionally as **i** and the **i** sound as **y**, **hi** was written **c** and therefore words with this sound sequence were found entered under **c** or **q**. But the most significant observation was that these dictionaries were in many cases the result of the joint endeavors of many contributors who had different views concerning the spelling of the words, because they frequently learnt the languages in different regions. In other words, they knew different dialects of the language in question and therefore included words of the dialect known to each of them. For example, Noceda and San Lucar, according to him, wrote a dialectal **r** for **d**.

He theorizes that all the languages he studied were "mixed languages," that is, having several dialects or having had heavy borrowing except, according to him, Ibatan. But then he observes that his statement on Ibatan could probably be due to the unavailability of a native speaker which would have enabled him to make a thorough investigation of the language. He also claims that Tagalog is the result of two older languages, Proto-Tagalog and Proto-Sambali (or Proto-Kapampangan). This work would be truly useful if the author had included the cognates sets in his dictionary.

The second unpublished work is a Ph.D. dissertation which I have not had a chance to examine but has probably come out by this time. This work is by Mathew C. Charles of Cornell (cf. M. Charles, 1974, above) which according to L. Reid (1975) is an attempt to "characterize the phonological system of the parent language of Philippine languages including also a number of languages spoken in the north of Borneo and Celebes." Reid says that certain innovations exclusive to this group, in relation to PAN, are posited.

The third work is by David Zorc entitled "Proto-Philippine Accent" (1977). Zorc reconstructed Proto-Philippine accent on the basis of length. In fact he states that accent is actually length in Proto-Philippine. He theorizes that in some Philippine languages,

e.g., Pangasinan, length was lost but was later re-developed and therefore, he believes, is not inherited. His sources for some languages were old dictionaries prepared by Spanish friars.

2.2.2.   Besides positing Proto-Philippine some works I have already discussed, like Costenoble (1942), Newell (1953) and Llamzon (1975), also give reflexes of PMP in Philippine languages. There are however, others that might be considered as giving indications of the original language since they deal with reflexes or posit reflexes of PMP in Philippine languages. Along with these works, I have also included in this section, studies on the reconstruction of the Proto-language of certain subgroups within the section. I would like to mention an early work which might not have proposed reflexes or reconstruction of the proto-language but attempted to trace the origins of the languages in the Philippines. This study is by Trinidad Pardo de Tavera (1889) entitled "Consideraciones sobre el origin del nombre de los umeros en Tagalog." The author, though not a trained linguist, attempted to trace the origins of the number names in Tagalog by comparing them with those in other Philippine languages and in languages belonging to the Malayo-Polynesian family. As a result, he gave three origins for these forms: Polynesian origin, native origin and foreign origin such as Arabic or Iberian and Sanskrit. A. B. Meyer, von Humboldt and the dictionaries of San Lucar, Serrano Lactaw and Abbe Favre were some of the sources of data cited by Pardo de Tavera.

The earliest works that can be cited which involve Philippine languages in the study of the larger Austronesian family, and which show reflexes of the proto-language or supply cognates as evidence of relationships, are those written by C. E. Conant in the early years of this century.

In "F and V in Philippine Languages" (1908) this author traces these sounds in several languages of the Philippines. He refutes Brandstetter's (1873) statement that Malagasy is the only western Malayo-Polynesian language that has an **f** sound. He groups the languages which have labial fricatives into Northern and Southern. His "RGH law in Philippine languages" (1911), like his study on the pepet law, investigates the correspondences of these PIN sounds. This study shows that the **g** languages are the most stable in reflecting RGH. The RLY series, according to him, may occasionally reflect **g** due to secondary sound change or borrowing, which he illustrates in detail. He also explains the three-fold origin of the Philippine **g** as the RGH, RLD and original **g**. In 1915, Conant came out with another article entitled "Grammatical notes on the Isinai language (Philippines)" on tracing certain Indonesian sounds in the Isinai language. Unlike most studies of this kind, it examines the history of only one Philippine language in relation to that of Indonesian languages. He showed that Indonesian **a**, **i**, **u** were reflected as **a**, **i**, **u**; ↔ was lost on affixation; and a vowel followed by **y** was simplified to **y**, then to **i**, **e**. With respect to the consonants, In **k** became *"hamza"*; intervocalic l became ly, later y, then **i**; the RGH is reflected by **g**, **-x-**, or lost in final position, while the RLD became **d-**, **-r-**, and **-d/r**. Conant, in this article, further shows the relationship of Isinai to Indonesian languages by describing the "post-positive article" **ar**. A similar phenomenon is also found in Sangir and Bugis. His description of this morpheme is not quite adequate. He concludes his article with a statement on the universality of languages,

10

by pointing out that this phenomenon illustrates how identical phonologic and syntactic processes can develop independently in widely diverse linguistic territories, pointing to a similar phenomenon present in Old Norse, Norwegian and Bulgarian. One other study made by Conant which is relevant to the history of Philippine languages, and might shed light on their proto-form, is entitled "Indonesian **l** in Philippine Languages" (1916). Here he compares the similar development of the original **l** in Philippine and other Austronesian languages.

O. Dempwolff's (1924-25) "Die L-, R-, and D- Laute in Austronesischen Sprachen" includes Nabaloy, Tagalog, Bisayan, Hiligaynon, and Ilokano in his comparison for setting up correspondence sets. Like Conant's "Grammatical note on the Isinai language," Dempwolff's (1926) "Ivatan als 'Test-Sprache' fur Uraustronesischen l," deals only with the history of one Philippine language in showing the reflexes of PAN sounds. Using written material as his source for this study, he concludes that PAN **d**, **d'**, **g'** and **δ** are reflected by **d** in Ivatan and PAN **l** by **l**.

H. Costenoble made a study of the sound correspondences of the PMP **r**, **g**, **h**, **y**, **l**, in Tagalog, Pampanggo, Bikol, Bisayan and Ilokano in his article "Tracing the original sounds in the languages of today" (1937). In the same year, he published another article, "Monosyllabic roots", in which he discusses the possible original syllable structure of Philippine forms. He suggests that the monosyllable still persisted when the divergence of the different tribes took place, and points to the proof that the CVC is still the most common form in their languages. He also believes that disyllables existed then which, according to him, explains their presence in a number of words. He further states that the time of divergence of the original Philippine race from the original stock, from which all other people of Indonesian tongue originated, is not very distant. According to him, the numerous combinations of syllable structures in Philippine languages common to those in Indonesian is the proof of this.

I. Dyen (1947) modified Dempwolff's reconstruction of PMP *D and *d in his article "The Tagalog reflexes of Malayo-Polynesian *D." He proposes that PMP **D** became Tagalog **d** in initial position as a result of analogy, and in post-consonantal position as a result of reduplication and analogical change (d/l doublets). He believes that his theory "improves the theoretical foundations of the formulation of *D arrived at by Dempwolff and changes the criteria for the reconstruction of *D in initial position." This resulted in some words which were reconstructed with *d now to be reconstructed with *D, while others with ambiguous reconstructions with *dD. According to him, this need arose from Dempwolff's failure to explain certain **d** reflexes in initial position and also because he did not treat **d** in post-consonantal position. Dyen's conclusion about the Tagalog reflexes of PMP certainly shed light on the possible form of the PP sound or sounds from which they originated, but it must be kept in mind that these reflexes were treated directly for PMP, and careful study of other Philippine languages is necessary to posit PP.

In 1953, A. Manuel came out with an article reminiscent of Constenoble's (1937) entitled "An Outline of the origin and development of Philippine languages and their

relation with the Chinese language," which deals with syllable structure. Here, Manuel attempts to prove the development of Philippine languages from monosyllabism moving to a disyllabism. In relation to this he recommends further study of the relation between Austronesian and Semitic language families. He states his belief that Ibanag is the result of a bifurcation from some primary speech to which archaic Chinese was related, dating this earlier than 800 B.C. His belief stems from a study of the number of syllables in words, showing that Ibanag has more primitive forms of speech that Bilaan or Tagkaolo. He dates Iloko as coming next to Bilaan, then Tagalog and Bisayan.

Members of the Summer Institute of Linguistics started publishing studies on Philippine languages about the mid-50's, but only a few of these deal with historical phenomena. In 1957, R. Elkins published his "Partial neutralization of PMP reflexes in Western Bukidnon Manobo", where he gives the environments for */**a/**, */**e/** (pepet) and */**e/** in this language. A. Healey (1959), "Dyen's laryngeal in some Philippine Languages", examines Kalamian, Tagabili, Bilaan and Cagayan Agta for evidences to support Dyen's realignment of correspondence sets of PMP phonemes and a third laryngeal contrast. A. Lindquist, V. Forsberg and A. Healey (1959), "The phonemes of Tagabili", studies the development of the vowels from PMP which are ***a**, ***e**, ***i**, ***u > a**, **e**, **i**, **u** in most cases. The environments showing the conditioning factors of the exceptions to this development are also discussed. The authors use Dempwolff's and Dyen's reconstructions and Dyen's orthography for this study. Another work by the SIL, which I failed to examine, but is attested by Ward (1971) is "Proto-Binukid Dibabaon" by K. Pike, H. Hoenigswald and C. Hockett (1961). Ward says, that "This is an attempt to reconstruct a proto-language whose reflexes are Dibabaon-Mandayan."

A few historical works can be cited for the decade of the 60's. E. Verstraelen (1962) in his "Soundshifts in some dialects of the Philippines" attempts to show the development of some Philippine languages through the soundshifts **r**, **l**, and **g**. The languages he studied were Magindanao, Tausug, Ibanag, Apayao, Itawis, Yogad, Gaddang, Bontok, Isinai and Ibaloy. The article entitled "Historical development of Bilaan vowels and some consonant reflexes in Bilaan and related languages" by N. Abrams (1963) does not confine itself to what is implied by the title. It discusses the comparative method, the Malayo-Polynesian language family and its divisions, and also gives a short summary of the comparative work which has been done on PMP, like those of Conant, Dempwolff, Dyen, Crace, Capell and others. The cognates of Bilaan, Tagabili, Mansaka and Bisaya for 14 proto-forms from Dempwolff are supplied to illustrate the comparative method. The reflexes of PMP in these languages are discussed in their environments. R. Elkins (1963) made another study, this time entitled "Partial loss of contrast between **a** and **e** in Western Bukid Manobo." He indicates the reflex **e** for PMP ***a** where no contrast with **a** occurs, using the symbol E for this reflex. His study shows PMP a > E in Manobo and **a** in Binukid; PMP ↔ > **e** in both Manobo and Binukid. Dempwolff's reconstructions and Dyen's transcriptions are used in this study.

The last two works that can be cited for this decade are both by Filipinos and were both written in 1966. T. Llamzon investigated the Tagalog reflex of PMP ↔ in his "Tagalog reflexes of PMP *↔." He concludes these are **a**, **i**, and **u/o**. The **i** being the

regular reflex, whereas **a** and **u** are conditioned by the vowel in a neighboring syllable. He states that **a** is also a result of borrowing from Pampanggo or Bikol. Although he proposes that this sound was a result of analogical borrowing, he admits that he has not as yet discovered the original pattern responsible for leveling if there was such a pattern at all. S. Laktaw (1914) is the source of his old data. He used Dempwolff's and Conant's reconstructions in his study. The other work is A. Manuel's "Pre-proto-Philippinesian" where he reiterates his belief that Philippine languages developed from monosyllabicism and moved toward disyllabicism (see A. Manuel, 1953, above). He indicates that the chief feature of the word base structure of Proto-Indonesian or Proto-Austronesian was a disyllabic form. He uses the terms Pre-proto-Philippinesian and Pre-Philippinesian for these earlier stages in the history of Philippine languages.

Some of the most recent works published are those of Dyen (1973) and Reid (1974). Dyen's "Tagalog Reflexes of Proto-Austronesian **l**" states the author's theory that the loss of Tagalog l in final position was a borrowing from an "**l**-losing" Tagalog dialect which was probably prestigious and presumably not far from Manila. Proto-Austronesian *__l__ became **h**, hiatus between vowels, or lost in final position and after an **i** which corresponds to *__e__.

"Kankanay and the problem *R and *l Reflexes" by Reid attempts to show that the seemingly irregular reflexes of these sounds in Kankanay are results of phonological rules which are synchronically operative in other languages but have been lost in this language and have been obscured by heavy borrowing. The author postulates a closer relationship between Kankanay and Bontok, and between Kalingga and Itneg, than either is to other members of the sub-family. Another work by Reid is entitled "The Central Cordilleran sub-group of Philippine languages" (1974). In this work he discusses the characteristics of Proto-Central Cordilleran (PCC), from which Kalingga, Itneg, Bontok, Kankanay, Balangaw, Ifugao and Isinai were supposed to have descended. He also discusses the development of the PCC sound system from PAN, including pronouns, case marking particles, and syntactic innovations.

David Zorc's unpublished PhD dissertation (1975) on "The Bisayan Dialects of the Philippines: Subgrouping and Reconstruction" is according to him "a study of the current and the genetic inter-relationships of 36 speech varieties commonly identified as the Bisayan dialect now spoken in the central and southern part of the Republic of the Philippines."

2.3.Relevant Studies

This section consists of studies which may in some way be of some help in the investigation of the history of Philippine languages. I have grouped them into four groups in descending relevance to the purpose of this paper. Each group will be explained. The titles are listed alphabetically and on occasion annotated.

2.3.1   The first group consists of works which deal primarily with PMP or PIN, tracing correspondences in the different languages of the family. These are definitely historical

studies which, although dealing with the proto-language of an earlier stage, could help in the reconstruction of Proto-Philippine.

Dempwolff's (1934-38) "Vergleichende Lautlehre des Austronesischen Wortschatzes" (VLAW) is undoubtedly one of the most, if not the most, influential historical study of the Austronesian family. Quite a few of the works that involve the study of reflexes in Philippine languages used the proto-forms of Dempwolf. The great value of this work to historical-comparative study is a recognized fact. What seems equally important to me is the technique or method used in preparing this volume. What I mean is that his volume exemplifies the need for rigorous, painstaking work on massive data from as many languages as possible in order to succeed in truly depicting a proto-language. According to Chretien (1962), in his comment on Capell's *Oceanic Linguistics Today*, Dempwolff had done comparative work on at least 82 Austronesian languages and not only on three as it might be concluded from his VLAW.

The works of Dyen on PAN are undoubtedly valuable to any scholar interested in Proto-Philippine. I will cite five which I feel are relevant to the history of Philippine languages aside from those of his works cited above. "The Malayo-Polynesian Word for 'two'" (1947); "Proto-Polynesian *Z" (1951); "Dempwolff's *R" (1953); "The Proto-Malayo-Polynesian laryngeals" (1953) and "The Proto-Austronesian enclitic genitive pronouns" (1974). Dyen modified some of the PAN symbols used by Dempwolff and these have been adopted by those who have sought to examine PAN reflexes in Philippine languages, as shown in the previous section, i.e., the SIL linguists, his students and many Oceanists.

F. Gardner (1941) "Lingualization in Austronesian languages: an unusual consonantal shift" discusses the RGH and RLD laws including the **l** in reduplicated syllables of Mangyan.

R. Hendon (1964), "The Reconstruction of *ew in Proto-Malayo-Polynesian" offers an alternative explanation, for those of Dempwolff's and Dyen's, of a correspondence type in which the final **o** in Tagalog is Malay and Javanese **u**.

R. A. Kern (1934), "De partikel **pa** in de Indonesische talen" also includes Bontok in the comparison of other non-Philippine languages.

Of the works of C. Lopez, I find three that are appropriate for this section. These are: "Studies on Dempwolff's Vergleichende Lautlehre des Austronesischen Wortschatzes" (1939), "Non-productive infixes in Indonesian" (1971), and "Medial nasal clusters in Indonesia" (1972). All three involve Philippine languages. The first is undoubtedly very useful to students of the history of Philippine languages, more so if they cannot read Dempwolff in German.

J. Wolff (1974) "Proto-Austronesian *r and *d" attempts to prove that certain PAN phonemes posited by Dempwolf did not exist and can be accounted for by borrowing or

explained as reflexes of other phonemes. Tagalog is included in the comparison with a few cognates from Samar-Leyte Visayan, Cebuano and Manobo.

2.3.2.   The works I have included in this group are synchronic comparative studies which I feel are useful, not only as sources of data but also as starting points or bases for historical work.

R. Brandstetter (1911), "Gemeinindonesisch und Urindonesisch," compares Ibanag, Ivatan, Tiruray, Bontok, Magindanao and the major Philippine languages with Indonesian languages. The same author (1971), in his "Die Reduplikation in Indianischen, Indonesischen und Indogermanischen Sprachen" makes a typological study of the morphology of the languages he compares and their similarities in meaning. This work includes Tagalog, Bontok, Bisaya and Ilokano.

A. Capell (1964), "Verbal systems in Philippine Languages," is a typological study of Maranao, Bontok, Malay, Malagasy and Enggane.

W. Churchchill (1913), "The Subanu; studies of a sub-Visayan mountain folk of Mindanao," according to Ward (1971), is a comparison of Subanu and other Philippine languages with other Malayo-Polynesian languages.

E. Constantino (1965), "The Sentence Patterns of Twenty-six Philippine Languages," and (1970), "The Deep Structures of the Philippine Languages," are excellent synchronic studies which maybe used as bases for diachronic conclusions. Another work by Constantino, in collaboration with C. J. Paz and M. N. Posuncuy (1967), "The personal pronouns of Tagalog, Ilokano, Isinai and Kapampangan," may serve the same purpose.

R. Kern (1956), "Anito," according to Ward, is a comparative treatment of the demonstrative in Malayo-Polynesian languages.

C. Lopez (1965), "Contributions to a comparative Philippine syntax," is a good source of data. It depicts similarities which should be helpful in historical work.

M. Vanoverberg (1929-30), "Negritos of Northern Luzon," discusses the relationship of Ibanag, Itawis, Iraya and Gaddang. Another work of this author is "Some undescribed languages of Luzon" (1937).

F. Viray (1939), "The Infixes la, li, lo and al in Philippine languages" and "Prenasalization in Philippine languages" (1941) could be elaborated for historical work.

2.3.3.   This group of studies consists of comparative wordlists, cognate studies or vocabularies which are useful as sources of data.

C. Conant (1904-05), "A brief comparative wordlist of Yogad, Gaddang and Itawis dialects."

R. E. Elkins (1974) "A Proto-Manobo wordlist." This covers 12 languages.

R. Fox (1952), "The Pinatubo Negritos; Their Useful Plant and Material Culture," contains a cognate study of plant names of several Philippine languages. Fox with W. Sibly and F. Eggan (1953) prepared "A preliminary glotto-chronology of Northern Luzon," where a comparison is made of the basic vocabulary of 17 languages from central and northern Luzon.

C. Lopez (1974), "A comparative Philippine Wordlist," is discussed more fully in Chapter III, "A comparative Philippine Wordlist: Sequels I and II" (1976) like the first list are lists of cognates, which are conveniently arranged into sets for 23 PLs.

J. Malumbres (1927), "Vocabulario en Español, Ytawes, Yogad, Gaddang, Ibanag, Ysinay," should be a good source for the old forms of words, but one should be alert for possible errors due to the influence of Spanish orthography or pronunciation, a possible hazard when using early lists prepared by foreign scholars.

J. Montano (1885), "Rapport a M. le Ministre de l' Instruction Publique sur une Mission aux Iles Philippine et en Malaisie (1879-1881)," like the previous work cited, could be used as a source for older forms since it contains a comparative wordlist of several Philippine languages.

A. Schadenberg (1889), "Beitrage zur Kenntnis der im Innern Nordluzons lebenden Stamm," is another 19th century work which compares the vocabulary of Bontok, Lepanto, Banawe and Ilokano.

D. R. Zorc (1974), "Towards a Definitive Philippine Wordlist – The Qualitative Use of Vocabulary in Identifying and Classifying Languages," formulates principles for compiling a comprehensive Philippine questionnaire which can be used for comparative work. According to the author, he examined existing wordlists of Philippine languages but for some reason did not include the lists prepared by C. Lopez nor unpublished lists which have been compiled in research projects at the University of the Philippines.

2.3.4. The last group of studies consists of those which deal with language classification and sub-grouping, some of which use the technique of glottochronology or lexicostatistics.

D. Chretien (1961), "A classification of twenty-one Philippine languages."

H. Conklin (1952), "Outline gazetteer of native Philippine ethnic and linguistic groups."

I. Dyen (1965), "A lexicostatistical classification of the Austronesian languages" and "Maranao and Tagalic: qualitative confirmation of a subgrouping hypothesis" (1970)

T. Llamzon (1966), "The subgrouping of Philippine languages" and "A subgrouping of nine Philippine languages" (1969).

D. Thomas and A. Healy (1962), "Some Philippine languages subgrouping: a lexicostatistical study." This last work posits a date of the divergence of the languages.

D. R. Zorc (1974), "Internal and External Relationships of the Mangyan Languages," is a subgrouping of five Mangyan languages on lexicostatistical evidence.

Unless I have failed in my attempts at trying to locate studies on the reconstruction of Proto-Philippine, I can safely conclude that the search into the history of Philippine languages has hardly been started and almost any aspect of this subject still sorely needs a great amount of investigation.

CHAPTER 3: THE PROTO-PHONEMES

3.1. Reconstruction

Since the main objective of this study is to reconstruct proto-forms, it is best, at this point to examine what is meant by the terms reconstruction and proto-language and how they are used in this study.

A reconstruction is a formula arrived at by systematically comparing cognates of related languages attested at a given period of time. Cognates are forms found in related languages with similar sounds and meaning which are assumed to be inherited from a common ancestor. The comparison of such cognates allows the construction of forms which might be equated to the original sounds as closely as possible.

Several linguists entertain the opinion that the reconstructed form should not be taken as a mere arbitrary or theoretical symbol. To quote Bloomfield (1933:302-303),

> a reconstructed form, . . ., is a formula that tells us which identities or systematic correspondences of phonemes appear in a set of related languages; moreover, since these identities and correspondences reflect features that were already present in the parent language the reconstructed form is also a kind of phonemic diagram of the ancestral form.

According to Hockett (1958: 492), such reconstructions are mere "temporary props, to be eliminated as soon as evidence is accumulated pointing to the actual phonetic shape in the parent language." Likewise, Pike (1957: 2) believes that "the reconstructed forms, though technically formulas for the correspondences, in many instances indicates with some probability the general phonetic character of forms reconstructed . . ." Dyen (1969:505) makes a similar stand on the matter:

Although one may agree that reconstructions are formulas, it need not be true that they are only formula, they can also map approximations in reality.

. . . It is difficult to believe that a reconstruction is only a phonemic formula without any phonetic implications, even though it may not imply a complete phonemic description.

. . . A successful phonemic reconstruction is independent of the phonetics of the corresponding phonemes. Nevertheless, nearly all phonemic reconstructions are the basis for inferences about the phonetics of the proto-phonemes.

Further, according to Dyen (1971:22), "Dempwolff makes it clear that each of his reconstructions is not merely a formula for a correspondence but involves a hypothesis about the phonetics."

But Dyen (1971:23) does not have the same opinion with regard to reconstructions at the highest level, since at this level he believes that the "phonetic nature of the proto-phonemes depend increasingly on subgrouping as phonetic variation of the correspondences increases," and this is probably why he uses subscripted capital and small letters for his reconstruction of PAN, to avoid "phonetic prejudices."

In the case of PP as reconstructed, due to the close relationship of the different language compared, I believe that the symbols for the proto-sounds should closely approximate the phonetic characteristics of these sounds as they were in the proto-language. The majority of sounds in the different Philippine languages, i.e., **t, b, p, k, g, m, n, y, w, i**, and **u** (3.6.3) closely correspond, and therefore it is not difficult to arrive at the conclusion that these sounds have not changed radically and were probably articulated in an almost identical manner in PP, as they are now articulated in the contemporary languages. Because of this, rather than present mere abstract symbols in the reconstructed forms, I feel safe in positing the phonetic character of the remaining more problematic sounds. This way I hope to infer the sound system of a real language as closely as possible, and portray this in the PP sounds and morphemes I have attempted to reconstruct. This aspect of the proto-phonemes will be discussed further in 3.5.

3.2. Proto-language

A very apt description of the proto-language is given by Mary Haas (1966). To her any language is an actual or potential proto-language (p. 123) and every proto-language was once a real language (p. 124). She further states that a proto-language is reconstructed out of the evidence that is acquired by careful comparison of the daughter languages, the result is a "proto-typical model of the daughter languages" (p. 124).

I said in Chapter 1 that I will not attempt to reconstruct the proto-language in its entirety since this study is limited to reconstructing the sounds and certain morphemes of the proto-language. Still, for the sake of convenience, I will use the term proto-language here loosely to refer to the sound system and parts of the lexicon of PP which I have

attempted to reconstruct. The term will then mean to a certain extent what Dyen (1965:510) calls reconstructed proto-language (RPL), "the collection of reconstructions which explain the forms in the daughter languages," or strictly speaking a portion of the RPL.

3.3. The data

Care was taken to gather data from only one location from within the area in which the language is spoken. This was done to avoid dialect mixing. A principal informant was used with one or two others for purposes of checking. Informant work was done *in situ* for almost all the languages. This was not always possible since the data for some of the languages was gathered from informants on the U.P. campus or around Metro Manila. The usual procedure was to gather the data from the principal informant while in a group with one or two other native speakers. This way checking would be instantaneous. Before informant work began the informant was interviewed to make sure he was a native speaker whose parents were also native speakers. Middle aged or older informants were preferred since it was discovered that the language of this age group is not as influenced by Filipino or other Philippine languages as is the language of younger people.

The data from some of the languages were collected in Metro Manila from informants who spoke their native language in their homes. Some of the informants were students living in university dormitories. These students were only temporarily out of their language areas. They usually went home during vacations.

3.3.1. The Lopez list

The Comparative Philippine Word-List compiled by Cecilio Lopez (1974) played a significant role in the research for this study. The list not only includes the items found in Dempwolff's VLAW (1934-38) but also many other words which Lopez included as a result of the many years he spent in gathering material for the list. The list consists of cognate sets from 23 Philippine languages: Tagalog, Sebuano, Hiligaynon, Iloko, Ibanag, Bikol, Leyte-Samar, Panggasinan, Pampanga, Ibanag, Aklan, Magindanaw, Sulu, Sambales, Bontok, Itawis, Gaddang, Ivatan, Palawan, Maranaw, Nabaloy, Ilonggot, Apayaw and Lanaw.

I saw a great advantage in using the list, and this is for establishing the next level language to PP, that is for establishing PP's relationship to other Proto-language of Austronesia and to PAN, which I intend to pursue in the future. Since most of the cognate sets in the list are cognate with those which Dempwolff used for PMP, the PP of this research being based on very similar data can later be easily related to PAN.

There are other reasons for using this list as a basis for eliciting the data. One is the convenient availability of cognate sets. Searching for possible cognates in each of the 29 languages would have entailed a good number of working hours which were saved by the use of this list. As it were, although I used only the Tagalog words in my eliciting list, the list has a high probability of yielding cognates. Also, since the Tagalog words were used

in the eliciting material it was much easier to elicit the cognates from the informants of the respective language, for they often recognized a similar word in their language even without having to be clarified on the exact meaning of the cognate.

According to the compiler, C. Lopez, the grouping of cognates was done on the basis of a common area of meaning or with cultural context similar enough to justify the grouping. He also personally informed me that the glosses or meaning in English of the list were entirely his own. He was also his own informant for Tagalog, being a native speaker, although he credits *Vocabulario de la Lengua Tagala* by Juan de Noceda and Pedro de San Lucar (1860) and *Diccionario Tagalog-Hispano* by Pedro Serrano Laktaw (1914) as additional sources for his language.

Another reason why I decided to use the list was that it is the most extensive list available, having 2,236 cognate sets. Besides this, it is the only cognate list, to my knowledge, intended precisely for the genetic comparison of Philippine languages.

Although the Lopez list has data for 23 Philippine languages, I decided, as I have said, to make use only of the Tagalog words. For one thing, informants for all the languages were not very difficult to find. Besides, I wished to use native speakers of only one dialect of the language concerned. In the case of the Lopez list, because the words were gathered over a number of years from students of the University of the Philippines, oftentimes native speakers of different dialects of a language were used. For example, the words from Bikol in the Lopez list come from Naga, Libon, Daet and other places in the Bicol area which have different correspondences for a certain sound, to say nothing of a considerably different lexicon.

Another reason for gathering my own data for the languages other than Tagalog was the age group of the informants. I believed I should gather the data from, or at least have it checked or supplemented by, informants older than those used by Lopez who were "under 25 years of age." The reason for this was that the language of the older speakers was found to be less influenced by Filipino or any other Philippine language.

3.3.2. Method of eliciting data

The Tagalog words from the Lopez list along with my own knowledge of Tagalog constituted the eliciting list for the research. The informants of each language were asked to give the equivalents in their language of the items in the Tagalog list. The informants were instructed to give the words with equivalent form and meaning to Tagalog. When the equivalent elicited was not obviously cognate, the informant was asked to give synonyms of the word. The language used in conducting the informant work was Filipino, the language found to be understood wherever the field researcher went in the Philippines. This was supplemented by a regional lingua franca, such as Ilukano, when working with informants from Northern Philippines, or Sebuano for informants from Southern Philippines, and even English was also used for the more educated informants.

When the informants could not supply a cognate for the Tagalog word, the Sebuano or Ilukano equivalents were either taken from the Lopez list or supplied by me. All in all, Filipino was found quite sufficiently useful in working with the informants.

The use of a list in Tagalog unavoidably excluded forms which would be cognate in other Philippine languages but which were not found in Tagalog. This shortcoming was evident in spite of the occasional supplement of Sebuano or Ilukano cognates, although the use of these supplements minimized this difficulty.

The data gathered are from the contemporary languages with a few items which might have been pointed out by informants as "old forms" or forms no longer in use. Dictionaries and vocabularies were not used for any of the languages except those cited by Lopez for Tagalog. There were two principal reasons for avoiding the use of dictionaries and vocabularies. In the first place, informants for all the languages chosen were available. For languages whose speakers were difficult to find on the University of the Philippines campus or in Metro Manila, field trips were made to the localities where the languages are spoken. Secondly, most of the dictionaries and vocabularies available were compiled by foreigners, who were not always trained linguists, whose ears were not attuned to the sounds of these languages and who, understandably, were very much influenced by the orthography of their own languages. Furthermore, as Costenoble (1942) observes, the compilers of these dictionaries and vocabularies gathered data from different dialects of the same language, and perhaps, even from varieties of speech so different that they could be considered separate languages altogether. And since, I would like to test the applicability of the comparative method in reconstructing an earlier language from the contemporary spoken form, I feel that the proto-language reconstructed from such data would reflect the language of the level immediately preceding the Philippine languages of today.

3.3.3. The contemporary Philippine languages (PLs)

The following list gives the language, town and provinces, and the principal informant/s for the languages included in the study. For Tagalog, the Lopez list (1974) was used.

The languages are arranged geographically (starting from Manila, Tagalog, going towards the north and then towards the south). This order reflects preconceived notions concerning linguistic closeness. This order of listing the languages is followed throughout this study.

	Abbrev.	Language	Town & Provinces	Principal Informant(s)
1	Tag	Tagalog		(Lopez list)
2	Kap	Kapampangan	San Fernando, Pampanga	Anicia del Corro
3	Iba	Zambal	Iba, Zambales	Anita de Guia
4	Png	Panggasinan	San Fabian, Pangasinan	Librada Paragao
5	Ilk	Ilukano	Narvacan, Ilocos Sur	Josefina Cabe
6	Itb	Itbayat	Mayan, Itbayat, Batanes	Angelito Castro
7	Itw	Itawis	Tuao, Cagayan	Amelia de Laza
8	Ibg	Ibanag	Cabagan, Isabela	Consuelo Martinez
				Anabelle Puruganan
9	Isi	Isinai	Aritao, Nueva Vizcaya	Eufronio Larosa
10	Kal	Kalingga	Lubuagan, Kalingga-Apayao	Silvestre Cuta
11	Bon	Bontok	Bontok, Mt. Province	Jean Macliing
12	Igt	Ilongot	Lipuga Dupax del Sur, Nueva Vizcaya	Lucas Pesigian
13	Nag	Naga, Bikol	Naga City, Camarines Norte	Marilyn Britanico
14	Vir	Virac	Virac, Catanduanes	Ernesto Asuncion
15	Kam	Kamalignon	Kamalig, Albay	Freddie Obligacion
16	War	Waray	Katbalogan, Samar	Ofelia Llaneta
17	Seb	Sebuano	Milianilla, Cebu	Lolita Baritogo
18	Akl	Aklanon	Ibajay, Aklan	Ivy Martirez
19	Buh	Buhid, Mangyan	Batangan, Bongabon, Oriental Mindoro	Elsa Mahaynan
20	Tbw	Tagbanwa	Iraan, Aborlan	Lorenza Alis
				Salvador Minta
21	Agt	Agutaynon	Villafria, Agutaya Palawan	Andres Baaco
22	Mar	Maranao	Sanduk, Marawi City	Intuas Abdullah
23	Tau	Tausug	Jolo, Sulu	Rita Tuban
24	Sub	Subanen	Lapuyan, Zamboanga del Sur	Janie Hapalla
25	Yak	Yakan	Bagindal, Basilan	Siratal Aonal
26	Bla	B'laan	Asuncion, Marbel, South Cotabato	Alicia Ugan
27	Bag	Bagobo	Sirib, Davao City	Tawas Tongkaling
28	Buk	Binukid	Kabangahan, Malaybalay, Bukidnon	Josefina Panilagao
29	Bah	Bahi Barubu Manubu	Camp Bangan, Bahi Barobu, Surigao del Sur	Felix Surada

Below is the table of common core segmental phonemes of all the languages under study:

Consonants -

p	t		k	?
b	d		g	
		s		h
m		n	N	
		l		
w			y	

Vowels -

i		u
	a	

All languages have phonemic stress, / /≅.

In Isi the phonemes /b/ and /h/ have two allophones each: /b/ has [ƀ] and [b], the latter occurring always in initial position and before consonants except **w**, and the former elsewhere. /h/ has [h] and [ǀ], the latter always occurring in final position and before consonants or contiguous to **a**, and the former elsewhere.

The sounds characteristic of certain languages are listed below; **ü** is the high front rounded vowel, **E** the open mid-low front vowel, the **C^h** indicates aspiration, **C8** a backed consonant, **L** the voiced alveopalatal lateral, **Y** the alveopalatal lateral articulated with the blade of the tongue, ǀ a voiced glottal fricative, **ƀ** the voiced bilabial fricative and **g̶** the voiced velar fricative.

↔	Igt Iba Png Itb Bon Tbw Agt Mar Sub Yak Buk Bla Bag
℘	Igt Bah
ü	Bah
e	Tag Kap Igt Isi Kal Sub Bla Bag
Θ	Bah
E	Ibg Igt Isi Kal Bag
o	Ibg Kap Igt Isi Png Mar Sub Yak Bla Bag
⬜	Kal Bal Bag
p^h, t^h, s^h	Sub
k^h	Bon Sub
f	Ibg Itw Bon Buh Bla
ƀ	Ibg Isi Kal
g̶	Igt Akl
v	Ibg Igt Itb
z	Ibg
š	Ibg Igt Bah

ž	Igt
č	Kal Itb Bon
j◊	Itb Yak Bah Tau
x	Itb
L	Kal
k8	Igt Bon Kal
g8	Kal
l∞	Bon
Y	Vir
r	all languages except Igt, Kal and Bon

3.4. Methodology

The procedure used in finding the appropriate proto-morpheme was to compare the words of a cognate set and inductively posit a form which would characterize the corresponding sounds or forms in the PLs. I found it unnecessary to relate the results of my findings, at this stage of the investigation, to those arrived at by other scholars. Specifically, this means I did not set out looking *a priori* for correspondences to PAN or PIN (Dempwolff 1934-38, Dyen 1947, 1953, 1973, Conant 1911-12).

The data consists of lists of cognates gathered from 29 PLs. These cognates were set down on index cards (3 x 5) and were filled in sets. The cognates belonging to one set were arranged according to their similarities on 5 x 8 cards, grouping identical and then near-identical cognates together. The comparison of the cognates within the set established the correspondences for each language. Correspondences are the sounds which reflect the proto-sounds or proto-phonemes. To put it differently, it was from such sound correspondence that a proto-phoneme was reconstructed.

Take for example the following cognate sets:

	'full'	
	p u n ú ?	Tag Iba Nag War Seb Akl Tbw
	p u n ó	Bon
	p u n n ú	Ilk
	p u n ú k	Agt
	p a n ú	Png
	p a n n ú	Ibg, Itw
	p ↔≅ n u ?	Sub
	p ↔ n n ú	Igt
	p ↔ n n o ?	Yak, Buk
	p ↔ n n u ?	Bag
(m i a)	p ú n o	Mar
(n a)	p n ú ?	Buh
? a	p n ú ?	Kap
	p u l ú	Kal
(h i)	p u ?	Tau

| ʔ a | p m ↔≅ʔ | Itb |
| | f n u ʔ | Bla |

'lame'

p i l á y	Tag Itb Vir
	Agt also 'tired'
p í l a y	Iba Ilk Itw Kal Bon Nag Tau
p í ʔ l a y	Bon 'tired'
p i l ↔≅ y	Png
p í l e	Kap
p i l é	Ibg
p E l ó y	Isi
p ↔ ʔ l o	Igt
l ↔≅ p p o ʔ	Mar
f í l a y	Buh

'navel'

p ú s u d	Tag Vir Akl Seb Tau Nag
p ú s s u d	Bag
p u s ú d	Tbw Kam
p u t ú d	Agt
p u n s u d	Yak
p u s á d	Kap
p u s ↔≅ d	Itb
p ú s ↔ d	Mar
pʰ ú s ↔ d	Sub
p ú s ↔ g	Ilk Bah Buk
p u s á g	Png
p ú ʔs ↔ g	Bon
p ú t e g	Igt
p ú s o		Isi
f u s á d	Bla
f u t ↔ g	Itw
f ú t a g	Ibg

The three cognates sets illustrated an initial **p-** which is regularly articulated as **p** in all the languages except where **f** appears in Bla and Buh, and as **p** or **f** in the case of Itw and Ibg. On this evidence and on that given by several other cognates sets with an initial **p**, the tentative correspondences for **p-** could be reconstructed as: **f** for Bla and Buh and **p** for all the other PLs, taking note of the irregularity in the case of Itw and Ibg. These irregularities had to be set aside to be studied further as more cognate sets were examined. The cognate sets were classified according to the number of languages having near-identical cognates within the sets. Those sets which had six or more languages having near-identical cognates were analyzed first, since this meant a greater chance for studying the correspondences in a greater number of languages.

Then tables were set up for each sound in initial, medial, final and pre- and post-
consonantal positions. This involved setting up a table with the languages and
certain representative cognate sets as variables and then indicating the
correspondence against each of the language.

Table 1 is a condensed an integrated example of such tables. It illustrates the
occurrence of **p** in initial, medial and final positions. In the actual research work on the
correspondences, each position (mentioned in the preceding paragraph) of every sound
investigated was treated singly on individual tables but which are too large and numerous
to include in this paper. This procedure resulted in showing the different correspondences
which composed a correspondence set. The correspondence sets which regularly emerged
from such a compilation were graphically indicated on these tables.

The next step in the procedure was to set up a correspondence chart exhibiting the
most recurrent combinations of correspondences which resulted from the tabulation
explained above, and which were considered as the tentative correspondences for each
language. Table 2 shows the tabulation of the recurrent correspondences for each
language. This table does not as yet show the reconstructed phoneme. It simply groups
the sounds in sets which were taken as the possible correspondences for the PP phonemes
that finally could be inferred from this evidence. The reason for this was that at this point,
irregularities have still to be explained. Note that some slots on the chart have more than
one sound, such cases indicated possible irregularities or positional variants.

The selection of the appropriate symbol to represent the proto-phoneme was on two
criteria. The first consideration was quantitative or frequency of occurrence of a
correspondence in the different languages. That is, the symbol chosen would be that of
the sound correspondence which appeared most frequently in the languages compared.
The next criterion was symmetry. Since the construction of a sound system is one of the
objectives of the research, the symmetry of this system was considered especially for
cases which involved the overlapping of sounds, e.g., sounds, such as **d** which were found
to appear in more than one correspondence set. This is discussed further in 3.5.

Finally, the cognate sets were examined and proto-forms reconstructed for each set using
the proto-phonemes established by the procedure explained above. The
environment of the sounds which did not reflect the expected correspondence was
examined for establishing the mechanisms or processes responsible for the
aberrant or irregular sounds. Such processes, as assimilation, metathesis, sound
loss, etc., were noted and analyses of the operation of these processes were
indicated along side each aberrant sound. As a result of this, certain general and
specific rules or laws emerged for the different PLs (3.6.3).

3.5. PP phonemes and phonetic reality

In this section the PP sounds are discussed individually, giving the regular automatic
rules for positional variants. I wish to note here that the rules for positional variants
which are indicated for each of the proto-phonemes are historical statements. At present

26

quite a few of these sounds have attained phonemic status in the different PL's. One example is the case of aspirated stops in Sub which are now in contrast with the unaspirated stops as shown by *tulan* 'to boil,' *t^hulan* 'bone,' *pilun* 'to roll a piece of paper,' *p^hilun* 'sugar.' In other words, the rules presented here emerged from a study of these sounds in their environments in the cognates. Non-cognate environments were not considered.

This writer subscribes to the idea that the proto-language should at least approximate a real language and therefore the symbols for the proto-phonemes should be chosen with phonetic characteristics in mind. The symbols used here to represent reconstructed forms are purported to reflect the articulation of the original sounds, that is, to establish a one-to-one symbol-original sounds equation. Most of the correspondences within the correspondences sets were almost identical in all the languages and only a few correspondence sets showed a variety of correspondences. Actually, there are only four correspondence sets that pose a problem. These are the sets that are symbolized by **d8, g9, l∞** and **r**. (3.6.3)

To a certain extent, the basis for the final selection of the proto-phoneme symbol was statistical. The reason for this was the evidence presented by the more uniform correspondence sets like **m, l, w, i,** which are very regular in the sense that they do not have any positional variants in some PL's and therefore reflect the same sound. Besides this, **n, N, y, t, k,** and **u**, though having positional variants, also correspond in a uniform manner. From this evidence, the theory that the proto-phonemes were articulated in practically the same way that their correspondences are articulated in the different PLs and that the majority of the PLs retained the original sounds, seems plausible. If this theory can be extended to apply to the problematic correspondence sets, then it can be reasoned out that the sound that is found in most of the languages within a correspondence set is most likely the retained original sound, that is, at least the sound which most approximates the original sound.

The correspondence sets **d∞, g9, l∞** and **r** are discussed individually and reasons given
for the choice of symbols. The other symbols need not be discussed since they represent a uniform or near-uniform correspondence (3.6.3).

*d8 - The correspondences found in this set are **d** for Png, Ilk, Igt, Agt, Buh, Akl, Mar, Bla, Bag, and Bah; **l** for Tag, Kap, Iba, Vir, Seb, Tau, Sub, Yak; **r** for Itb, Isi, Itw, Ibg, Nag, Kam, War, Tbw, Buk and **č** for Kal and Bon. Examination of the phonetic characteristics of these correspondences shows that there are 10 languages with a dental, 17 with an alveolar and 2 with an alveopalatal sound. The predominance of the alveolar correspondence is convincing argument to make one believe that the original sound must have been articulated in the neighborhood of the oral cavity. Besides this, it probably shared the quality of a dental **d**, as evidenced by the numerous **d-** correspondences. The alveopalatal **č** of Kal and Bon can also be taken as proof for **d** since **č** is the correspondence of *d in these languages. For these reasons I posit a back or alveolar *d8.

Note that there is a near uniform correspondence of dental **d**, an entirely different correspondence set from the above, which I reconstructed as *d (3.6.3).

* g₉ – The correspondence set for which I propose this proto-symbol exhibits varied correspondences: **g** for Tag, Ilk, Itw, Ibg, Bon, Nag, Vir, Kam, War, Seb, Akl, Buh, Tbw, Mar, Tau, Sub, Buk, and Bah; **l** for Png, Isi, Agt, Yak, Bla, and Bag; **y** for Kap, Iba and Itb; **L** for Kal; and **g** for Igt. There are 19 velars, six alveolars, three palatals and one alveopalatal. The numerous velars suggest an original sound which was probably articulated around the velar region or even forward towards the palate, as shown by the number of palatal sounds in the correspondence set. Because of this evidence a fronted **g₉** is posited as the proto-phoneme of this correspondence set.

* l∞ - Besides the correspondence set which uniformly reflects an **l** for all the PLs (*l), another correspondence set shows a predominance of **l**. This set has **l** for Tag, Kap, Iba, Png, Ilk, Itw, Ibg, Isis, Bon, Igt, Nag, Kam, War, Seb, Buh, Tbw, Agt, Mar, Tau, Sub, Yak, Bla, Bag, and Buk; **L** for Kal; **x** for Itb; **Y** for Vir; **g** for Akl; and **y** for Bah. This gives 25 alveolar sounds, two velars, one palatal and one alveopalatal. Although predominantly alveolar, this set is different from the uniform alveolar *l because of the back correspondences within the set, i.e., **L**, **x, g, y** and **Y**. This points to an **l** which might have been articulated further back in the oral cavity, hence, *l∞.

*r – The correspondence set which emerged with the most varied correspondences, I propose as originally and **r**-phoneme. This set has **l** for Tag, Kap, Iba, Bon, Seb, Sub, Yak, Bla, Bag, and Buk; **d** for Igt, and Bah; **g** for Png, Ibg, Kal; **r** for Ilk, Itb, Itw, Isi, Nag, Kam, War, Tbw, Agt, Mar, Tau; **Y** for Vir; **g** for Akl, and **y** for Buh. Of the correspondences are 21 alveolars, four velars, one palatal, two dentals and one alveopalatal, with the most widespread type being alveolar **l** or **r**. Although the languages in which **r** is found exceed those in which **l** is found by only one, I propose to symbolize the proto-phoneme as *r since **l** is the symbol already assigned to the uniform correspondence of *l in all the languages.

3.6. Proto-Philippine phonemes
The sound changes depicted by the regular correspondence of the sounds in the languages compared are predictable and therefore automatic. But exceptions do exist and the different languages have aberrant sounds where one would expect a regular correspondence. This aberrance is caused by an interception or by interferences of these laws or correspondence rules (CR) by certain factors such as contamination from other languages, or influence within the language system itself so that forms change on analogy to other existing forms in the language, or due to other factors, which I group under non-automatic change (NAC), and which I will discuss more extensively in the next section.

3.6.1. Segmental phonemes

As attested in the 29 PLs compared, except for *↔, the V's occur only medially and finally in a morpheme, since a glottal stop occurs automatically before the initial vowel of a morpheme when no other consonant appears initially (3.6.3.2). The reconstructed

morphemes therefore always begin with a consonant. *↔ was not found to occur in final position in the reconstructed forms.

PP consonants occur in all positions: initial, medial, final, and before or after another consonant, except ***g**9 and ***h**. These two proto-sounds were not found to occur in pre-consonantal position while ***h** was not found in final position.

The diphthong ***iw** is not attested in Bon, Nag, Tau, Bag and Buk. These languages do not have cognates for the forms in which this diphthong is present in other PLs.

3.6.2. PP phonemic chart

Consonants

p	t			k	?
b	d	d8	g9	g	
		s			h
m		n		N	
		l l∞			
		r			
w			y		

Vowels

i		u
	↔	
	a	

Diphthongs   /ay/   /uy/   /↔y/   /aw/   /iw/
Stress V□

3.6.3. Correspondence rules (CR)

The following statements are the correspondence rules of the different PL's. The environments of the positional variants are stated immediately after the correspondence to which they apply. To illustrate, the rule:

*p:p:f/ $_{-i}^{-u}$ (< * uy)   Ibg

reads: In Ibg the reflexes of **PP** *p are **p** and **f, f** occurring before **u** and **i** (which is the reflex of ***uy**).

*b:ƀ:b/ $_{-b}^{-\#}$ (in next syllable) :b^y /-a, e, i   Kal

reads: In Kal the reflexes of PP *b are **ƀ**, **b**, and **b^y**, **b** occurring in final position and before **b** in the next syllable, and **b^y** before **a, e, i**. The correspondence for which no environment is specified occurs elsewhere or in all other positions except the ones

specified for the other positional variants. An environment indicated as **/a**, reads before or after **a**, that is, when the sound is not followed or preceded by a dash (-).

*i:i	in all PLs
*↔:↔	Iba Png Ilk Itb Bon Igt Kam Tbw Agt Mar Sub Yak Bla Buk Bah
:i	Tag
:a	Kap Itw
:a:u/-?(<-p, -t, -k -s)	Ibg
:u	Nag Vir War Seb Akl Buh Tau
:o:E/-#	Isi
:□	Bag
:□:e/L, l	Kal
*a:a	Tag Kap Iba Png Ilk Itb Itw Ibg Bon Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Yak Bla Buk Bah
:a:E/y,w	Isi
:a:o/-#	Bag
:a:e/ j◊, c◊, L, y	Kal
*u:u	Tag Kap Iba Png Ilk Itb Itw Ibg Isi Kal Bon Nag Vir Kam War Seb Akl Buh Tbw Agt Tau Sub Yak Bla Bag Buk
:o	Mar
:u:o/-#	Igt
:u:ü/-#	Bah
:u:o/-#	Tag Pang Bon Seb Akl Iba Bag
*p:p	Tag Kap Iba Png Ilk Itb Isi Kal Bon Igt Nag Vir Kam War Seb Akl Tbw Agt Mar Tau Sub Yak Bag Buk Bah
:p:f/-u	Itw
:p:f/$_{-i\ (<\ *uy)}^{-u}$ $^{:?/-#}$	Ibg
:f	Bla
:f:p/u-#	Buh
*b:b	Tag Kap Iba Png Ilk Itw Igt Nag Vir Kam War Seb Akl Buh Tbw Agt Tau Sub Yak Bla Bag Buk Bah
:b:w/#-a	Mar
:b:ƀ/V-V	Isi
:b:ƀ/$_{-i}^{-u}$ (<*uy)	Ibg
:ƀ:b/$_{-b}^{-#}$ (in next syllable):b^{y}/-a, e, i Kal	
:v:b/$_{-#}^{CC}$	Itb
:f:b/$_{-f}^{-#}$	Bon
*t:t	in all PLs except Ibg
:t:?/-#	Ibg
*d:d	Ilk Igt War Seb Buh Tbw Tau Sub Bag Bah
:d:r/V-V	Tag Kap Vir Kam Akl Agt Buk
:d:r/$_{e, o-\#}^{v-v}$:l/ $_{C}^{-T}$ (when not <*↔) Iba	
:d:r/$_{V-V}^{a, u-\#}$	Png
:d:r/ $^{a, o}$	Mar

30

$$\frac{-\ \leftrightarrow}{\text{V-V}}$$

:d:r/ $\overset{\text{a, u, i-}}{\text{V-V}}$	Isi
:r:d/ $\overset{\text{-\#}}{\text{C-}}$	Itb
:č:d/-#	Kal, Bon
:d:l/u-#	Bla
:d:l/C-	Nag
:d:z/#-i	Itw
:d:g/ $\overset{\text{-\#}}{\text{C}}$ (except n):z/#-i	Ibg
:d:j◊/a-u, ↔:r/V-V	Yak
*ḍ:d	Ilk Igt Buh Agt Mar Bah
:d:l/V-V	Akl
:d:/#-	Bla
:d:r/V-V	Png
:l	Kap Iba Vir Yak
:l:d/CC	Tau Bag
:l:d/C-	Tag Seb
:l:r/ $\overset{\leftrightarrow\text{-a}}{\text{a-u}}$	Sub
:č:l/-C	Kal
:č	Bon
:r	Itb Tbw War
:r:d/?-:z/#-i	Itw
:r:l/CC	Kam
:r:d/#-	Isi
:r:z/#-i	Ibg
:r:l/C-	Nag
:r:l/i	Buk
*k:k	Tag Kap Iba Png Ilk Itw Isi Kal Igt Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Yak Bla Bag Buk Bah
:k:k^h/-↔, -u	Bon
:k:?/-#	Ibg
:k:č/i	Itb
*g:g	Tag Kap Iba Png Ilk Itb Itw Ibg Isi Kal Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Yak Bla Bag Buk Bah
:g:g̶/#-	Igt
:g:k^h/ $\overset{\text{\#-, ?-}}{\text{V-V}}$	Bon
*g9:g	Tag Itw Ibg Nag Vir Kam War Seb Akl Buh Tbw Mar Tau Sub Buk Bah
:g:r/ $\overset{\text{\#-}}{\text{-a}}$	Ilk
:g:K^h/ $\overset{\text{\#-}}{\text{V-V}}$	Bon
:y	Iba
:y:g/-C	Kap
:y:r/CC	Itb
:l	Png Isi Yak Bag

31

:l:g/u-	Agt
:l:g/-C	Bla
:L:gɡ:/-V (front)	Kal
:ɡ:g/-C	Igt
*?:?	Tag Kap Iba Itb Igt Nag Vir KamWar Seb Akl Tbw Mar Tau Yak Bla Bag Buk Bah
:?:T/-#	Png Ilk Itw Ibg Isi Kal Bon Buh
:k:?/CC	Agt
C-→?-/ $^{CVC~}_{C>T}$	all languages
*s:s	Tag Kap Ilk Itb Isi Kal Bon Nag Vir Kam War Seb Akl Buh Tbw Mar Tau Sub Yak Bla Bag Buk Bah
:s:t/↔-#	Png
:s:t/ $^{#-a}_{a-#}$	Itw
:t:s/i:-?/-#	Ibg
:t:š/E:s/i	Igt
:t:s/ $^{u-#}_{-i}$	Agt
:h	Iba
*h:h	Tag Itb Nag Vir War Seb Akl Buh Tau Yak Buk Bah
:h:T/#-	Itw
:?	Kap Iba Png Ilk Ibg Isi Kal Bon Igt Kam Tbw Agt Mar Bla Bag
:?:T/+ prefix	Sub
*m:m	In all the PLs
*n:n	Tag Kap Iba Png Ilk Itw Isi Bon Igt Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Yak Bla Bag Buk Bah
:n:ñ/i-C	Itb
:n:N/-#	Ibg
:n:l/ $^{a}_{CC}$	Kal
*ŋ:ŋ	in all PL's except Itb
:ŋ:ñ/i	Itb
*l:l	Tag Kap Iba Ilk Itw Ibg Isi Kal Bon Nag Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Yak Bla Bag Buk Bah
:l:r/-i	Vir
:l:r/-C	Png
:l:r/#-a	Itb
:l:g/↔,E	Igt
*l∞:l	Tag Kap Iba Png Ilk Itw Ibg Isi Nag Kam War Seb Buh Tbw Agt Mar Tau Sub Yak Bla Bag Buk
:l:l∞/CC	Bon
:l:ɡ/↔, a	Agt Igt
:x:l/C-	Itb
:L	Kal
:Y	Vir
:ɡ	Akl
:y	Bah
*r:l	Tag Kap Iba Seb Sub Yak Bla Bag

32

:l:č/C-: l∞/-e	Bon
:l:r/u	Buk
:r	Itb Itw Isi Nag Kam War Agt Mar
:r:l/CC	Tbw
:r:l/-C:g/a-	Ilk
:r:l/ #- -u	Tau
:g:r/u-V	Png Ibg
:g:j◊/-e	Kal
:d	Bah
:g̶:d/u-	Igt
:y	Buh
:Y	Vir
:g̶	Akl
*w:w	In all PLs
*y:y	Tag Kap Iba Png Ilk Itb Itw Igt Ibg Isi Kal Bon Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Yak Bla Bag Buk
:y:j #-a ◊/ a-	Bah
*ay:ay	Tag Iba Png Ilk Itb Itw Ibg Isi Kal Bon Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Bag Buk Bah
:i	Kap
:o	Igt
:↔y	Yak
*uy:uy	Tag Iba Png Ilk Itb Itw Isi Kal Bon Igt Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Bag Buk Bah
:i	Kap Ibg Yak
:o	Bla
*↔y:ay	Tag Iba Ilk Itb Itw Ibg Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Bla Buk
:e	Kap
:↔y	Png Bon Yak Bah
:oy	Isi
:uy	Kal Nag Vir Bag
:i	Igt
*aw:aw	Tag Iba Png Ilk Itb Itw Ibg Isi Kal Bon Igt Nag Vir Kam War Seb Akl Buh Tbw Agt Mar Tau Sub Buk
:o	Kap
:↔w	Yak Bah
:u	Bla
:□w	Bag
*iw:iw	Tag Iba Png Ilk Itb Itw Ibg Isi Kal Igt Vir Kam War Seb Akl Buh Tbw Agt Mar Sub Yak Bla
:i	Kap
:u	Ibg
:↔w	Bah Yak

33

3.6.3.1. Initial glottal rule (χ- →?-) – The automatic replacement of a consonant by a glottal stop, as a result of metathesis or reduction, occurs in all the PLs. This process could be considered as substitution (4.2.1), since the glottal substitutes for a consonant that is dropped or is no longer in the position it formerly occupied. But since the

C- → ?-/$_{C,\Pi}^{CVC}$ is predictable and therefore automatic, it more appropriately belongs to this section of automatic rules.

3.6.3.2. Metathesis of Ca in Kap – In Kap, initial **p, t-, b-,** and **s-** underwent automatic metathesis when the following vowel was an **a < *↔.** The process was blocked when a tri-consonant cluster occurred in the morpheme. As a result of metathesis, an automatic glottal stop appeared in initial position.

Kap CR:

$$
\left\{\begin{array}{c} \text{p-} \\ \text{t-} \\ \text{b-} \\ \text{s-} \end{array}\right\} *\!\leftrightarrow\, > \text{a} \longrightarrow \text{?a} \left\{\begin{array}{c} \text{-p-} \\ \text{-t-} \\ \text{-b-} \\ \text{-s-} \end{array}\right\} \text{/when no CCC}
$$

Examples:

*b ↔ g á s	>	?a b y á s
*s i l n á g	>	?a s n á g
*t a h ↔≅ p	>	?a t á p

Metathesis did not take place in *b↔?gɂat > bayot, and ba?ka > baba? for the process would have resulted in a CCC, i.e. b?gɂ and b?k.

3.6.4. Syllable structure

The reconstructed morphemes exhibit two kinds of syllables: CV and CVC, which may be considered as the proto-forms of the syllable. The canonical form therefore is *CV(C). The reconstructed morphemes are composed of a combination of these syllable patterns.

3.6.5. Stress

In the early stages of this study I reconstructed ***V**□ on the basis of statistical frequency. The stress therefore of the reconstructed morpheme of the cognates within a set depended on the syllable most frequently stressed. This analysis had to be revised since, quite frequently, there was no decisive evidence to support the decision on where the reconstructed stress would fail.

I also considered positing stress as predictable in PP on the first syllable. The shift of stress to the penult or to a syllable before this, was considered as a non-automatic process. After further study, I thought it would be more tenable to reconstruct the

morpheme with stress marked where it was found in the cognate which was identical to the reconstructed morpheme. In other words, when the reconstructed morpheme was found attested in any of the PLs, stress was marked in accordance with that cognate. Quite frequently the reconstructed morpheme is found attested in one or more PLs. On the other hand, if the reconstructed form was not identical or nearly identical to any of the cognates found in the set, then statistical evidence had to be resorted to. For example, *búlig 'cluster of fruits, esp. bananas' is attested with stress on the penultima in Ilk, Nag, War, Seb, Akl, Buh, Tau, and Tbw, although at the same time, in a less number of languages, Kap, Agt, Buh, and Bah, the stress is on the last syllable, bulíg. Another example is *kúmiŋ 'beard', which although not identical to Bag kúmi, is nearly so. Besides this, stress on the penultima in this case was supported by statistical count. Aside from Bag there is Buh húmi, Tag, Kap 'antennae of shrimps' and Sub gúmi, Kal ʔímiŋ. Only Png 'antennae of shrimps' gumí, Ibg ʔimíŋ have stress on the final syllable.

CHAPTER 4: NON-AUTOMATIC CHANGE

4.1 The regularity of change

   The irregular replacement of specific regular reflexes by certain aberrant sounds, or the composition of certain cognates which are contradictory to expected forms, are due to several causes or processes which are found to be operational in the various PLs.

   The PLs exhibit regular correspondences for the different sounds which were compared from the various cognate sets. From these regular correspondences the proto-phonemes were posited. Now viewing the situation from the inferred proto-sound system it can be seen that certain sounds changed or were replaced in certain ways resulting in the PLs. But the data belie the fact that the posited proto-phonemes and their positional variants are reflected in every case. Of course, it might be possible to show regular correspondence in all cases by simply taking a few select languages and in turn choosing certain morphemes that show these regular correspondences. But since the intention here is to reconstruct PP morphemes, there was no recourse but to get entangled in some cognates which did not show the expected regular sound correspondences of the languages.

   Needless to say, all sound change is regular, as the neo-grammarians and contemporary comparativists advocate, and sporadic or irregular changes should be explainable by either analogy or borrowing. Yet the comparison of related languages, whether confined to a small number, for example, three, or a large number, inevitably confronts the analyst with sounds which elude explanation by the changes mentioned above. A careful scrutiny of the environmental factors usually uncovers the basis for a plausible account of the aberrant forms. This interpretation involves different processes of phonological change, some of which are assimilation, dissimilation, metathesis and reduction.

   Following the dictum that all change is regular, which I subscribe to, one would be hard put to show, for example, that metathesis or loss, at least in the PLs, is regular or predictable. Assimilation may be explained through environmental evidence but is not always predictable. There are cognate sets which show obvious similarities which cannot

be explained by the regular or automatic sound laws. For example, Yak *láan* 'path', 'road' is obviously cognate to Kap, Iba, Ilk, Itw, Nag, Buh, Agt, Sub, Buk *dálan*. Note the loss of the intervocalic consonant which is not a predictable occurrence in Yak.

M. Haas (1966) proposes what she calls a more revealing type of grouping of phonological change. This is showing phonological change on two axes:

> . . . the syntagmatic (horizontal) and the paradigmatic (vertical).
> According to this model assimilation, dissimilation and metathesis are
> arranged on the syntagmatic axis while the so-called vowel and consonant
> 'shifts' or correspondences are placed on the paradigmatic axis (p. 127).

Although this explanation in some way implies a difference between change that is regular which results in correspondences and change which can be accounted for by the processes she mentioned, it does not clear up the matter of regularity, although she does comment that "the most impressive character of phonetic law, or statements of phonetic correspondences, is their power to predict" (p. 124).

In the course of my investigation of the correspondences of PLs and in attempting to make appropriate statements about phonetic correspondences, I found that sound change in these languages could be characterized as either automatic or non-automatic.

4.1.1. Non-automatic Change (NAC)

The first type includes the changes which resulted in regular reflexes (3.6.3). The second type, non-automatic change, includes sound change as caused by processes such as assimilation, dissimilation, substitution, reduction, gemination, loss, metathesis, etc. These processes do not result in predictable change simply because they are not automatically operational in the PLs. That is, identical or very similar situations did not call for the operation of the process. Nevertheless, the cognates within sets show a diversity which does not mirror regular or predictable change and yet these forms cannot be taken as anything else but cognate and therefore should permit the reconstruction of their proto-morphemes. Again these processes cannot, strictly speaking, result in sound laws for the same reason just given, although Conant (1910) calls them 'secondary laws'. It might be possible, in some cases, to speculate that probably at an earlier date predictability was possible but due to contamination the situation changed. And yet even such speculation is not acceptable for certain other cases and there seems no other recourse but to describe the change as it is.

In seeking out the correspondences in the PLs I came to my conclusions inductively, so that the direction, so to speak, was going backward in time. In contrast to this, in trying to explain aberrant forms or describe the non-automatic changes, I used the deductive approach. The reason for this is that I had to start with the reconstructed proto-phonemes and use these as the basis for analyzing the aberrant forms, hence, working forward in time. The rest of the chapter will consists of a description of non-automatic change with examples to illustrate the specific process found in the language in which the process was found to be operational.

Before I go into the discussion of NAC, I would like to emphasize the significance of the role of phonetics or the phonetic features of the sounds in trying to explain aberrance. In deliberating the possibilities involved in sound replacement, I found it necessary to consider as many phonetic features as possible. This means that in scrutinizing the environment of, let us say, a vowel, not only vowels in preceding and following syllables were considered but also contiguous consonants. Needless to say in explaining the aberrances the usual articulatory features were considered: height (high, mid and low) and position (front, central and back) for vowels: manner of articulation (labial, alveolar, velar, etc.) or voicing for consonants. But I realized that these features do not adequately explain sound replacements. For example, I found the above-mentioned features inadequate in explaining the replacement of *↔ in Ilk ?*uppát*, *↔*mpat* 'four' or of *a* in Tag, Vir, Kam, Kap *gipu*?, *gapuk* 'decayed at the root or trunk'. It was on careful scrutiny of the neighboring sounds that I came to conclude that such considerations as the position of the tongue in consonant production had to be taken into account in explaining sound change. That is, the position of the tongue in the production of the consonants, whether produced in the front, central or back portion of the oral cavity or whether produced with the tongue in high or low position, was an important factor in the replacement of a neighboring vowel. Furthermore, the activity of the lips in consonant production also was a point to consider in explaining such aberrances. Using Ilk ?*uppát* 'four' as illustration, the **u** can be explained as the result of the backward pull by the glottal stop and the influence of labial **p**, producing a labial vowel or a vowel in which the lips are actively involved. In the case of *gipú*?, *gapúk* above, a replacement of **a** by **i** took place. Initially, this can be explained by the influence of the high **u** resulting in the high **i** replacement, but then **u** is a back vowel while **i** is a front vowel. In assessing the production of **p**, the feature front can definitely be attributed to it, since **p** is a labial sound. The replacement therefore of a low central vowel by a high front vowel becomes plausible in the light of the influence or pull of the neighboring high and front sounds. A consonant may also be drawn forward or backward by sounds produced in the front or back of the mouth respectively.

Examples:

b ú l i g "bunch of fruits as bananas', Iba *b ↔≅ l ↔ y* . The **u** was replaced by ↔ on the pull of front **b**. The second ↔ in the Iba form is the result of the influence of this fronted sound. *g a l a p ú ŋ* 'rice flour', Kap, Png, Sub *t a p ú ŋ* , Tau, Yak, Mar *t á p u ŋ* . This time the **g** was pulled forward and replaced by a **t** on the pull of the front **p**.

This brings to mind the theory of Chomsky and Halle (1968) on assigning features to consonants which were previously used exclusively to characterize vowels. That is, vowels and consonants were taken to share common features of tongue position and height. So that the vowels **i**, **u** and consonants **c**, **k**, **t^y**, **t^w**, were assigned the common feature 'high', since the tongue is arched high in the oral cavity in the production of these sounds. On the other hand, **u**, **o**, **□**, **a**, **k**, **q**, **h**, **t^w**, **t∞** are all considered as sharing the feature 'back' because the tongue is pushed back in the production of the sounds.

In a similar manner I considered the added features front, mid, back, high and low, along with the characteristics usually attributed to consonants and vowels in seeking

causes for the sound replacement. Sounds articulated around the labial, dental and alveolar regions were considered front, those around the palatal region as mid and those around the glottal and velar regions as back. On the other hand, the sounds produced with the tongue in a raised or arched positions were considered high and those produced with the tongue not arched or raised, in other words in a neutral position, were considered as low. The following list shows the sounds grouped according to the shared phonetic features:

Front	i, ę, E, æ, p, b, Ƅ, f, t, d, l, Y, r, č, j◊, m, n, w
Central sounds	↔, a, ℘, y, d, s, z, l, L
Back sounds	u, ü, □, k, g, g9, N, ?, h, ǀ
High sounds	i, e, E, ↔, ℘, u, ü, o, □, t, d, d∞, l, l∞, r, s, z, L, Y, č, j◊, k, g, g9, N, ?, y
Low sounds	æ, a, p, b, f, h, ǀ

This way sound replacements as those caused by the assimilation of a vowel to a consonant become plausible processes. Such replacements are evident throughout the PLs. This will be illustrated further, especially in the discussion of the different types of assimilation found in another section below (4.2.2).

But then it might be argued that the analysis of sound aberrances in such a manner as discussed above is unnecessarily forcing the discovery of conditioning or of influence from the environment. And furthermore that it might be simpler to just set up more correspondence sets, hence more proto-phonemes. But the fact is that the aberrances are aberrances or irregularities and therefore cannot be shown as automatic or predictable for a convincing number of occurrences. The result of such a line of reasoning would mean having quite a number of proto-phonemes which would be hard to distinguish as separate sounds in the proto-sound system, especially if the reconstructed proto-sound system was to approximate that of a real language.

For that matter, I have followed the principle of economy in reconstructing the PP sounds, again trying to approximate as much as possible what would be a reasonable inventory of phonemes for PP. H. Hoenigswald (1950:360) calls this the "Principal Step" in deciding which possible phonemes, among the various choices that arise out of a comparative analysis, would be the most acceptable. He states, "If we were not concerned with economy, we would be content with reconstructing as many phonemes in the daughter languages . . . a frequently criticized flaw in poor comparative work." Then ". . . economy is an avowed goal of phonemic analysis (however controversial the means of achieving it may be) it is the same in comparative work . . ." (p. 363).

In this study, therefore, I decided to try to explain aberrances by pointing out the distinctive features along with articulatory features which could possibly have been responsible for the irregularities, rather than set up a different correspondence set each time a set involved different sounds, which in the case of PLs, could get out of hand.

4.2. Non-automatic change with replacement

The different processes which result in non-automatic change may be classified into two groups: those that cause a replacement of a sound by another sound and those which do not cause replacement. The former group includes substitution, assimilation, borrowing and analogy, while the latter group includes metathesis, reduction and addition.

4.2.1. Substitution – The process to be discussed in this section, which I call substitution, is quite significant in the reconstruction of PP morphemes since this process can account for the sporadic appearance of certain sounds in otherwise regularly reflected cognates. I choose to call this process substitution because I theorize that speakers had started to drop certain consonant reflexes but possibly due to uncertainty or inconsistency did not do so entirely or completely. Consequently, they substituted either the?, **h** or **y** for the correspondence in question. My initial examination of the cognates included in this study showed the appearance of these three sounds as seemingly reflecting a variety of consonants. They appeared in the position of what would otherwise be occupied by regular reflexes. For example, Itw shows an **h** occasionally where **b, g, l, r** would be expected or Isi shows an **h** or **y** where an **l** would be expected or the **?** appears where **k**, **b**, **t**, **g**, **s**, or **y** would be expected in Tag. Further study however resulted in this hypothesis of substitution for it seemed almost incredible that **?, y**, or **h** could be correspondences at times of three or more different proto-phonemes in a language aside from being the regular reflexes of *?, *h, and *y.

The data show evidence of the sporadic appearances of these three sounds in the PLs. In fact, the automatic **?** before initial vowels in these languages which is the result of the structural pressure of CVC supports this hypothesis of substitution. Some languages in fact show variants with **h** or **?**, or **h** or **y** which point to the instability of these sounds, for example, Itw *?íyuŋ* / *?íyuŋ*, *?a? rúŋ 'nose'; Tag *hatsíŋ* / ?atsíŋ, *baks↔≅n 'sneeze'; Akl *húy?ab* / *kúy?ab*, *luŋkáb 'yawn' (with metathesis in the former variant). To my mind, this supports the theory of the use of **?, h** and **y** as substitutes for lost sounds, which may be due to speakers uncertainty. Probably this phenomenon is better attributed to the transition from the use of the correspondence to its loss or dropping.

The 29 PLs may be grouped into four groups, according to the sounds used for substitution.

I   ?, h, y   Tag Iba Itb Itw Isi Nag Vir Seb Akl Buh Tau Sub Yak Bag Buk Bah
II   ?, h   War Bla
III ?, y   Kap Png Ilk Ibg Kal Bon Igt Kam Tbw Agt
IV   ?   Mar

The following are some examples showing the evidence of this process. The contemporary languages in these examples have glosses identical to those of the reconstructed morphemes.

*?águs   'flow, current' Ibg ?ági?, Ilk ?ayús, Tau háus
*?álnud   'float, drift'   Itb ?ahn↔≅d, Kap ?anyúd

*b↔gás	'hulled rice'	Iba buyáh, Isi bohás, Kap ?abyás
*likúd	'back'	Sub dl↔húd, Seb luyú
*ŋár↔n	'name'	Agt ? áran, Yak ?ál↔n
*ŋíp↔n	'tooth'	Tau ?ípun, Bag ?íppo, Kap ?ípan
*sál∞uk	'draw water'	Itw táhu, Nag háruk
*sul∞ú?	'torch'	Bag hulú
*túbig	'water'	Akl túbi?
*dágɡat	'sea'	Kap Png dáyat, Bag láyat
*dagɡámi?	'hay'	Tag Nag Png Kap Iba Buh dayámi
*luŋkáb	'yawn'	Iba ?uŋáb, Tbw ?u?ŋáb, Vir hágab, Seb Akl húy?ab, Akl kúy?ab, Nag hákay, Kap ?úyab, Itb ?ahwáb
*dira?mús,	'wash face'	Tag hilámus, Nag hirámus, Iba ?ila?máh, Buh yamús, Kap ?imú?
*?umí?	'urine'	Tag Nag Vir War Seb Akl Tau Buk ?íhi?, Kam ?íyi?, Sub húmi?
*kadágɡum	'needle'	Tag, Kap karáyum, Iba katay↔≅m, Itw dáhum, Ibt ray↔≅m
*kimlát	'lightning'	Igt k↔yát
*d8ígus	'bath'	Agt digú?, Igt díguy, Kap dílu?, Tag lígu?, Mar p↔ygú?, Iba palyú?, Itb ryús, Ibg zigú?, Itw zíhut
*ba?gɡú	'new'	Kap báyu, Itw báhu, Yak bahá?u, Isi biyú
*b↔?gɡát	'heavy'	Iba biyát, Kap bayát, Buh habyát, Yak bóhat

There is a light modification to this NAC in ISI when it comes to the substitution of a consonant by **h**. In this language, the **h** which is the result of NAC substitution, becomes │voiced glottal fricative, when occurring in certain positions. These positions are final position, before consonants and before or after an **a**.

Examples:

* b í g n a t	relapse	b i │n á t
* p ú n s ↔ g	'navel'	p ú s o │
* t i n d ↔≅g	'stand'	t a ?d o │

4.2.2. Assimilation – The most productive process which causes replacement or an alteration in the morphemes in the PLs is assimilation. This process results in several types of change all of which are non-automatic. The vowels are highly susceptible to assimilation: *í > ↔ or E in Mar, Sub, Png, Itw and Yak when the preceding or following vowel is an **a** or **u**; *a > ↔, E, ?, o, ü or æ in some languages, again on the influences of preceding or following vowels. Like the vowels the consonants undergo assimilation and are also influenced by adjacent and even non-adjacent sounds. In some cases this replacement of vowels and consonants results in total assimilation but more often in partial assimilation.

4.2.2.1. Total assimilation – This type of assimilation results in the replacement of a sound by one which is identical to a neighboring sound: *láksut 'jump', Itw, Ibg *láttu*;

*s↔≅l∞ug 'current, flow', Tbw s↔l↔≅g, Yak s↔≅ll↔g, Bla ?↔≅?↔l, Sub dl↔≅g↔s, Nag súlug; *gɘimbá? 'demolish', Ilk *gibbá*, Itw *gabbá*, Mar g↔bbá?, Ibg dabbá?

4.2.2.2. Partial assimilation – All other types of assimilation are partial since the sounds do not become exactly like the neighboring sounds but only partially like them: *diŋdíŋ 'wall', Yak díndiŋ, Sub d↔≅ndiŋ; *túlnaw 'melt, liquify', Bag 'tún↔w: *haŋ↔≅s 'gasp, pant'. Tag háŋus, Itb haŋút. In the last example the vowel **u** in Tag and Itb is the result of *↔, Tag **i**, Itb **↔**, assimilating to a **ŋ**, the velar nasal, a sound produced in the back portion of the mouth.

4.2.2.3. Voicing – One type of assimilation is voicing. By this process an expected voiceless sound becomes voiced due to the influence of a neighboring voiced sound. We see evidence of this in:

*kítu?	'dog'	Buh ?ídu
*sakít	'sickness, pain'	Buh sagít
*k↔mkúm	'hold in closed hand'	Buh gumgúm

     In the first two examples the consonant becomes voiced due to the pressure of the vowels while in the last example the neighboring **m** and the vowels cause the assimilation of the voiceless **k** to voiced **g**.

4.2.2.4. Devoicing – In this type of assimilation, neighboring voiceless sounds pressure a voiced sound to become voiceless.

Examples:

*baliskád	'inside out'	Yak baliskát
*bituk↔≅n	'star'	Yak put↔≅?an
*gat↔≅l∞	'itchy'	Yak *kát↔l

4.2.2.5. Fronting – Certain sounds may be drawn towards the front of the mouth due to a neighboring sound which is produced in the front of the mouth.

Examples:

*karabáw	'carabao'	Bah kæ≅büw
*kadágɘum	'needle'	Igt dEóm
*gal∞aúŋ	'rice powder, rice flour'	Kap, Png tapúŋ, Tau, Yak, Mar tápuŋ, Sub tʰápuŋ

     In the first two examples, Bah **ǽ** and Igt **E**, are due to assimilation to the neighboring **b** and **d** respectively which are produced in the front part of the mouth, while in the last example **g > t** occurs due to the labial (front) **p**.

Sometimes vowels also undergo this change so that a back vowel assimilates or is pulled forward by consonants produced in the front part of the mouth.

Examples:

*banhí   'seedling'   Tag Bah binhí?, Agt bínik, Bag bínni?
*tah↔≅p   'winnow'   Igt tÉhap (after metathesis of a and ↔)
*wal∞ú?   'eight'   Isi wEyú

4.2.2.6. Backing – Although this type of assimilation is not widespread in the PLs, there are a few isolated cases that show this process, which is the replacement by a back vowel due to a neighboring sound which is produced in the back part of the mouth.

Examples:

*gipít   'lacking in space, time or means'   Png g↔p↔≅t
*haŋ↔s   'gasp, pant'   Tag haŋus

In the first example the first **i** was pulled back and replaced by ↔ on the influence of **g**, a back sound, then the second **i** assimilated to the ↔. In the second example the Tag **i**<*↔, was replaced by **u** on the influence of the back **ŋ**.

4.2.2.7. Raising – Vowels may be replaced by a higher vowel which is articulated at the same tongue position due to the influence of a neighboring high sound.

Examples:

*bayú   'pound'   Igt b↔≅yu
*báŋun   'raise'   Igt b↔≅yun
*bál∞un   'provision'   Igt b↔≅?on

Sometimes a combination of raising and fronting or backing causes the replacement of vowels, again due to the influence of other high and front or back sounds in their environments.

Examples:

*l∞áksut   'jump'   Ibg líttu?
*gapúk   'decayed at the root or trunk'   Tag, Vir, Kam, Kap gipú?
In the first example **a** is fronted due to **l** and **t**, and raised due to **u**. In the second example **a** is fronted to **p** and raised due to **u**.

4.2.2.8. Lowering – In this case a vowel is replaced by one which is lower due to a neighboring lower sound.

Examples:

*díla?	'tongue'	Bag dÉla?
*g�9imbá?	'demolish'	Mar g↔bbá?, Png g↔≅ba, Buk Bah g↔bá?
*sakít	'sickness'	Sub (gm↔)sÉt
*b↔bíg	'mouth'	Igt 'teeth' b↔≅be

4.2.2.9. Labialization – A sound becomes labialized and is replaced by **w** on the influence of a contiguous **u**. In the different PLs, the sounds susceptible to this type of influence are b, k, g, g̱, l, r, ?, ŋ and y.

Examples:

*búl∞꒐an	'moon'	Tag Seb Igt buwán, Bon fúwan, Isi buwÉn
*búlig	'bunch of fruit'	Tag buwíg, Png buw↔≅g
*bituk↔≅n	'star'	Tag, Tbw bituwín, Png bit↔w↔≅n, Ilk bitw↔≅n, Itb vitw↔≅n, Kal bitúw□n, Isi bitwón, Kap batwín, Itw bitwán

The last two examples undergo vowel loss after the change of **? > w** or **u > w**.

Additional Examples:

*luŋkáb	'yawn'	Itw ?úwab, Ilk, Bon ?uwáb, Kal ?uwéb, Itb ahwáb, Ibg wáwwag
*l∞úha?	'tears'	Iba, Kam, luwá?, Kal lúwa, Png, Ilk, Itw, Bon, Isi luwá, Sub dlwá, Bla alwák, Ibg lwá

The cognates for Sub, Bla and Ibg of the last examples show vowel loss after the change of **h > w**.

4.2.2.10. Reciprocal assimilation – Two sounds may influence each other so that a sound will assimilate to a neighboring sound which it will influence in turn. For example, *likúd 'back' Bon ?↔č↔≅g, where the **u** was pulled forward by the front **i** and **č**, resulting in an ↔ then the **i** was replaced by an ↔ due to total assimilation of the ↔ which replaced **u**. Other instances of this type of assimilation are:

*limá? 'five'		Yak l↔≅m↔
*lumtáw	'afloat, visible'	Bla lamt↔≅w, Bah y↔≅t↔w
*s↔l∞úg	'flow, current'	Bla ?↔≅?↔l
*bulág	'blind'	Tbw b↔l↔≅g, Bag b□≅log

4.2.3. Dissimilation – There is evidence that dissimilation worked as a process causing non-automatic changes, however, not as productively as assimilation. We are therefore a sound becoming less like its neighbor in certain cognates.

*iklúg꒐	'egg'	Ilk ?iplúg, Kal ?iplúg
*l∞áksut	'jump'	Isi láptu?
*kimlát	'lightning'	Agt kuldáp, Kap kildáp

*sul∞ú? 'torch' Bla 'light' salú?
*luŋkáb 'yawn' Tag hikáb

The first two examples indicate that assimilation took place before dissimilation, since the velar **k** is assimilated to an alveolar stop **t**, on the influence of alveolar **l** and **s** respectively. The **t** in turn is dissimilated to a labial sound **p**. The third example shows a final **t** becoming dissimilar from the preceding alveolar sound in its being replaced by **p**. The last two examples show vowel dissimilation. In the case of Bla salú?, the first **u** is dissimilated from the second **u**, becoming **a**; while the expected **u** becomes **i** in Tag, a dissimilation from the following back consonants **ŋ** and **k**.

4.2.3.1. One type of dissimilation, which is quite widespread among the PLs, is the replacement of a stop by a homorganic nasal. This is also called nasal substitution.

Examples:

*kiwín 'twisted lips' Tag Png Nag Vir Kam 'lips' ŋiwí?, Akl ŋíwi?, Ibg ŋiwí, Ilk Nag ŋiwŋíw
*b↔lí? 'buy' Bla ámli
*girag↔≅s 'gums' Itb ŋar↔≅s

Slightly different is the replacement of lateral, dental, and velar sounds by a nasal, which is not necessarily homorganic.

Example:

*?ard↔≅w 'sun, day' Buk ?ánlaw, Sub g↔≅ndaw

4.2.3.2 Dissimilation which results in the replacement this time if a nasal by a lateral or stop is evident in Kal.

Examples:

*?anák 'child' Kal ?alák
*?a?n↔≅m 'six' Kal ?□l□≅m
*bíg9nat 'relapse' Kal búglat
*dad∞í? 'no' Kal la?í
*nuwáŋ 'carabao' Kal luwáŋ

4.2.3.3. Another kind of dissimilation which involves nasal replacement is the shift of a nasal to another nasal at a different point of articulation, for example, the alveolar nasal replaced by a velar nasal.

Example:

*baks↔≅n   'sneeze'   Tag bahíŋ/bahín, Ilk ba?↔≅ŋ/ba?↔≅n

It should be mentioned here that in Ibg this replacement is automatic (see auto rule for *n 3.6.3).

Additional Examples:

*kasín   'salt'   Ibg ?asíŋ
*dál∞an   'way, road'   Ibg dálaŋ
*níp↔n   'tooth'   Ibg ŋípaŋ
*bál∞un   'provisions'   Ibg báluŋ

However, the opposite to this kind of replacement is that of velar nasal by alveolar or bilabial nasal, as:

*laybúŋ   'bird'   Igt lubón, Tbw ?uybún, Kap ?ébun
*kamí   'we'   Bon kaní
*dad∞í?   'no'   Isi marí?

4.3. Non-automatic change with no replacement

This type of change involves the processes of metathesis, addition of phoneme, reduction of phoneme or phoneme loss, analogy and borrowing or contamination.

4.3.1. Metathesis – This change in the order of phonemes within the morphemes is quite widespread in PLs. Since the change does not follow a predictable pattern it is considered non-automatic.

Examples:

*hakl∞úŋ   'pestle'   Iba ?á?huŋ, Itb ?ahxú?, Nag hál?u, Ilk ?ál?u, Kal ?éL?u, Bon ?ál?u, Seb ?ál?hu, Akl hágu?, Bah ?æ≅hu, Buk hál?u, Agt kálu
*b↔?gɋá t   'heavy'   Bla ?ablát, Buk habyát, Nag gabát, Seb, Akl bug?át, Bah b↔g?át, Vir gabát
*buŋl∞á w   'rinse'   Itb ahnáw, Ilk bálnaw, Png b↔lnáw, Kam balnáw, Itw bárnaw, Vir baynáw

4.3.2. Reduction – The loss of a sound, consonant or vowel, is a common occurrence in the PLs. This results in a reduction in the number of sounds in the cognates, or one might say, a contraction as a result of this process. This process is more operational in some languages than in others so that the languages where reduction occurs have shorter cognates, for example, Tau and Bla. The process of reduction is operational on consonant clusters, and this I call cluster reduction, or on single vowels and consonants, single reduction. The latter includes the loss of a series of consonant and vowel phonemes.

4.3.2.1 Cluster reduction – A PP cluster could have been reduced by metathesis, which is considered as the process responsible for the change since there was no contraction or reduction in the number of sounds of the cognate in question, the sounds simply having been redistributed in the morpheme. The clusters considered here are only medial ones since there are no other clusters found in other positions in PP.

The reduction of the clusters is to a certain respect predictable, since it is always the second member of a cluster that is retained in reduction. But then, this change is not automatic because in many instances clusters are retained, as in Bon ?á?nud 'sink, drown' *?álnud 'drift with the current, float', Tag, Nag, Seb, Kam sandíg *sandíg, 'lean, recline'. My research did not go into establishing what types of clusters are reduced and what are retained in every PL included in the comparison. However, I do not discount the possibility that predictability could be established in this respect for some of the PLs. Some examples are:

*?álnud	'drift with current, float'	Tag, Ilk, Bon, Igt, Nag, Vir, Seb, Akl, Mar, Tau, Sub ?ánud, Png ?ánur
*s↔≅lnag	'ray of light'	Seb 'clarity'sánag, Tag, Iba, Png, Itw, Igt, Nag 'sunbeam, moonbeam', Tau 'sunbeam' sínag

4.3.2.2. Simple reduction – Reduction in this sense is the dropping of a single C or V, or a sequence of these, causing the number of sounds in the cognates to be reduced.

Examples:

*tah↔≅p	'winnow'	Sub tap, Agt t↔p
*hál∞as	'snake'	Tag ?áhas, Tau haás
*káyuw	'wood, trees'	Png ki↔≅w, Buh háyu, Itw káyu
*darága	'maiden'	Mar rága, Buk lága
*?urán	'rain'	Bag ?úla

In some languages simple reduction takes place as the result of affixation as Tau (ta)íkud *likúd 'back', Tbw (m)á?tug *lá?tug 'sensuality, lasciviousness'. Certain PLs have initial and medial clusters which were the result of this type of reduction as Isi, Tbw dwa and Sub dwa? *daruwa 'two', where a sequence of phoneme was dropped.

4.3.3. Addition

The process of addition is found to operate in some PLs. Gemination, reduplication and consonant or vowel addition are the different results of this process.

4.3.3.1. Consonant or vowel addition – In Bon and Kam a ? is added before a medial C resulting in a cluster.

Examples:

*kíd8ay	'eyebrow'	Bon kí?čay

*d8ál∞↔m	'deep'	Bon čá?l↔m
*ŋár↔n	'name'	Bon ŋá?čan
*?adupáŋ	'front'	Kam ?atubá?ŋ(an)

In Yak additional V is found which could be a remnant of an added element.

Examples:

| *ba?g̥ú? | 'new' | Yak bahá?u |
| *banhí? | 'seedling' | Yak biníhi? |

Mar has a final **r** added in

*batú? 'stone'   watór/?atór

and an additional vowel in

*bayú   'pound'   boáyo

Bla and Sub have **l** which forms an initial cluster in

| *bituk↔≅n | 'star' | Bla blátik |
| *?↔pák | 'rice bran' | Sub dl↔≅pa? |

The **d-** in Sub is an affix.
4.3.3.2. Gemination – Only some PLs show gemination which is the repetition of one of the consonants of the morpheme. This phenomenon seems to be most widespread in Bag, Yak, Ibg, Itw, and Ilk. Gemination is similar to the results of complete assimilation except that in the latter, the doubled or repeated sounds originated from two separate sounds, whereas in the case of the former the repeated sounds reflect a single earlier sound.

Examples:

*d↔pá?	'fathom'	Bag lÉppo, Yak d↔≅ppa, Bon č↔ppá, Mar r↔≅ppa, Ibg dáppá
*lisá?	'nit'	Tau líssa?, Mar lissá?
*p↔nú?	'full'	Bag p□≅nnu?, Yak p↔≅nno?, Ilk punnú, Ibg pannú, Igt p↔≅nnú?, Buk p↔≅nnu?
*basúg̥	'satiated'	Ilk bussúg, Itw, Ibg battúg, Bag (w)□≅ssu, Yak ↔≅ssu

4.3.3.3. Reduplication – Like gemination this is found in some PLs only. The added element at times consists of the whole morpheme, sometimes referred to as doubling, or at times only part of it.

Examples:

*burák   'foam, bubble'   Tbw bura?burá?, Buk bula?búla?
*kimlát   'lightning'   Vir Kam kikilát, Mar kilakilát, Ibg kilakilá?, Yak lalát
*bituk↔≅n   'star'   Bon tukfifí

4.3.4. Analogy and borrowing

   Analogy and borrowing fall under non-automatic change that result in replacement of
sounds and therefore it would have been probably more appropriate were these included
in the earlier section where such change is discussed (4.1). But I preferred to discuss
them here for the following reasons. When no other automatic rules or non-automatic
processes can be used to explain an aberrant sound found in certain cognates, and when
the sound which appears is identical to correspondences of other sounds found within the
language, analogy is the probable explanation of the aberrance. In the same manner,
when no other automatic rule or non-automatic process, including analogy, can be used to
explain an aberrant sound and when a neighboring language or languages reflect the
sounds in question, borrowing in the probable explanation of the aberrance. In other
words, the automatic rules followed by non-automatic processes have precedence over
analogy and borrowing.

4.3.4.1. Analogy – This phenomenon causes the replacement of the expected
correspondence by a correspondence of another proto-phoneme which in all probability
had similar phonetic characteristics as the proto-phonemes of the replaced
correspondences. This would mean correspondences of *d and *d8, *l, *l∞, and *r: *g
and * g9, and the like. Another kind of replacement due to analogy would be replacement
by a positional variant of the correspondence in question. So that instead of the expected
correspondence of a certain conditioned environment, a positional variant appears or is
attached regardless of the environment. For example, if a CR *s:s:z/i exists which means
a **z** before an **i** would be expected and yet an **s** appears in this environment, we can posit
the replacement as caused by analogy, that is, analogous to the more widely distributed **s**.

Examples:

*kíd8ay   'eyebrow, wink, eyelash'   Ilk 'wink, twinkle' kíray
*l∞úha?   'tears'   V□ir lúha?

In the first example, Ilk has an **r** replacing *d8, where a **d** correspondence is expected. In
Ilk **r** corresponds to *d8 between vowels. Since the correspondences are phonetically
similar, analogy can be a plausible explanation for this replacement. The Vir example has
an **l** for *l∞ where the expected correspondences for *l∞ in this position is **Y, l** only
occurring medially after **i**. It is possible, in this case, to assume that **l** replaces **Y** on the
analogy to the **l** positional variant, even if the environment is not medial after **i**.

4.3.4.2. Borrowing – PLs show evidence of contamination by each other, or to put it differently, a language may be influenced by one or more languages belonging to this same group. There is more evidence of contamination than outright borrowing, which results in loan words. This means that an aberrant sound in a cognate could be the result of contamination from another language while at the same time the rest of the sounds of the cognate exhibit regular correspondences.

Actually, it is somewhat difficult to say whether a morpheme was borrowed in its complete form from another language especially when both languages, the model and recipient languages, have very similar correspondences. Still there are cases when the possible model languages do not have identical cognates as the language in question. In this case, it is possible to posit contamination and that only the aberrant sound as borrowed. The term borrowing or borrowed form in this study will cover both types of borrowing: replacement by contamination or by outright loan.

It is only when the languages are at present within the same geographic area that borrowing is posited for the cause of sound replacement in this study. Although I do not discount the possibility that migration of speakers in large numbers, of a certain language community, to distant islands could have taken place, I will not hazard to propose this possibility for lack of adequate data and study. But I find it will not be difficult or explain, for example, the contact between languages along the same coastline no matter how distant the locations of the communities are, since the early inhabitants, and even the present ones, were undoubtedly skilled seafarers. I would like also to point out that since the data used for this study is solely of synchronic nature, or rather, is taken from the languages at this present time, when contact between the different languages has been facilitated by modern means of communication, it is not difficult to discount contamination between the languages. Added to this is the fact that in most areas a recognized prestigious language exists which wields tremendous influence on the less prestigious language exists which wields tremendous influence on the less prestigious language of smaller or more isolated or less progressive groups. An example of this is the prestigious status of Ilk, Png and Kap in the northern area.

One limitation of this study is its inability to identify borrowing between the dialects of the PLs. The main reason for this of course is the limitation of the study to a single dialect per language. I felt that control of the data would give more fruitful results for the purpose of this study than an otherwise more unwieldy amount of data, which would inevitably be the case if all or even some of the dialects of each language were to be considered in determining the correspondence of the language.

Let us examine certain instances of borrowing which I found to be the cause of aberrant sounds in the cognates compared. Png was seen to be a source language for borrowing in Itw, Igt, Kal, Bon, Kap, and even Ilk.

Example:

*ugɡát   'vein, root'   Png ʔulát, Itw kallát, Igt ʔúlat, Isi ʔúwat

The Itw kallát shows possible contamination from Png which has an **l** for *g, while the regular correspondence for this phoneme is **g** in Itw. The borrowed sound then underwent gemination in Itw. In the case of Igt, there could be two possible sources of the aberrant **l** which replaced the regular correspondence **g**. One source could be Png, as in the case of Itw. Another source could be Isi, a more proximate language and one with which Igt has more direct contact. Isi also reflects an **l** for *g, but its cognate reflects a **w**, the result of labialization due to **u**. If Isi is considered to the model language, then it is highly likely that this contamination took place in Igt before the process of replacement of **w**, due to labialization, took place in Isi.

Consider the following cognate sets to further illustrate borrowing from Png:

*?abágɡa   'shoulder'   Png ?abála, Kal ?abʸála
*gɡabí?i   'night'   Png labí, Kal laɫí

Kal reflects *gɡ normally by **L** with the positional variant **gɡ**, when contiguous to front **V**s, so that the cognate in the first example and the second example would have had an **L** but for contamination from Png. *g, which is reflected by **g** in Bon, occasionally occurs as **l**, which could likewise be explained as borrowing from Png as

*ba?gɡú?   'new'   Png bálo, Bon falú
*bagɡik↔≅s   'bundle, belt'   Png balk↔≅s, Bon falík↔s
*?ugɡát   'vein, root'   Png ?ulát, Bon ?ulát

A regional lingua franca of the North, Ilk, due to its spread, has been the source of borrowing for other languages.

Examples:

*gɡamut   'medicine'   Ilk gamút, 'poison', Kap yamút 'root'
*d8ál∞↔m   'deep, depth'   Ilk dál↔m 'liver', Ibg ?alar↔≅m
*kal∞s↔≅m   'sour'   Ilk ?als↔≅m, Itw ?alsám
*kusút   'crumple'   Ilk kusú, Itw kúsu
*sárab   'singed, scorch'   Ilk sárab, Itb sárab

The first example illustrates a loan, Kap gamút 'poison herb', from Ilk gamút 'poison' since there is a cognate in Kap yamút 'root', which normally reflects *gɡ by **y**. In the case of Ibg ?alar↔≅m, either a borrowing from Ilk or an error in transcription was the source of the mid-central vowel since this language does not have a mid-central vowel in its phonemic inventory besides the fact that this case is unique. Agt gatás 'milk' shows contamination from either Ilk and Tag since the correspondence of *s is Agt **t**, which occurs as **s** only before **i**. The last three examples illustrates Itw borrowing from Ilk since the irregular reflex of *s is **t** in Itw.

Another source of contamination is Tag; one example is Agt gatás above. Other examples are:

*bituk↔≅n	'star'	Tag bituwín, Tbw bituwin
*hagúnuy	'medicinal plant, tea made from leaves and roots which is said to be a remedy for stomach trouble (Wedelia Biffora L. D. S.)'	Tag hagúnuy, Kap ?agúnuy
*ti?↔s	'bear, suffer, endure'	Tag ti?is, Iba ti?ís

The first example shows obvious contamination of the reflex of *↔, which is normally retained in TBW and is replaced by the Tag reflex **i**. In the second example, Kap **-uy** shows contamination from Tag, since the normal reflex of *-uy is **i** in Kap. The last example shows **-s** in Iba which would normally be **-h** and therefore a borrowing from Tag.

CHAPTER 5: SUMMARY OF CHANGES

In this section the automatic and non-automatic changes in each of the 29 PLs are
summarized. The proto-forms following each correspondence rule and process
indicate the cognate sets which illustrates said changes. Not all the proto-forms
which illustrate these correspondence rule and processes are listed here, that is,
those proto-forms that underwent the application of several or subsequent
processes in reconstruction resulting in seemingly aberrant forms are not used as
illustrations. The dictionary of proto-morpheme which contains the reconstructed
morphemes along with the cognate sets from which these morphemes were
reconstructed is found in the appendix.

5.1. Tag
CR's

*i:i	*kílad	*sá?bit	*híg9up
*↔:i	*dak↔≅l∞a	*pa?↔≅n	*bag9ás
*a:a	*?a?n↔≅m	*?anínu?	*b↔g9ás
*u:u	*?untúg	*?↔nús	*tambún
*p:p	*pawíkan	*si?pún	*sups↔≅p
*b:b	*búŋa?	*habágat	*sárab
*t:t	*túbig	*lam↔tík	*sá?bit
*d:d:r/V-V	*handá?	*?álnud	*dál∞an
	*badu?	*?ádal∞	
*d∞:l:d/C-	*d∞ayús	*d∞igús	*ad∞íp↔n
*k:k	*káwil∞	*?al∞imát↔k	*pawíkan
*g:g	*gapúk	*halagá?	*?untúg
*g9:g	*b↔g9as	*daŋ↔≅g9	*g9út↔m
*? ?	*?águŋ	*p↔sá?	*ti?↔≅s
*s:s	*s↔báw	*t↔bús	*?ugsá?
*h:h	*hápay	*l∞úha?	*?uháy
*m:m	*mulágat	*?inúm	*sambát
*n:n	*pa?↔≅n	*pand↔≅k	*búl∞an
*ŋ:ŋ	*ŋ≅ip↔n	*maŋgá?	*habúŋ

51

*l:l	*likúd	*kimlát	*pis↔≅l
*l∞:l	*d∞al∞↔m	*l∞ápad	*hátul∞
*r:l	*pár↔y	*ŋár↔n	*tarúŋ
*w:w	*wasák	*?uwáy	*l∞áwa?
*y:y	*yáman	*?uháy	*niyúg
*ay:ay	*?uwáy		
*uy:uy	*bábuy	*?apúy	
*↔y:ay	*pár↔y	*kagt↔≅y	
*aw:aw	*l∞umtaw	*s↔báw	
*iw:iw	*paksíw	*siwsíw	

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*burák	*bál∞un	*d8ígus
	*káyuw	*?umí?	*diramús

Assimilation

Total	*ŋapús	*d↔kún	*d∞aŋ↔≅g9
Partial	*daŋ↔≅g9	*kimlát	*?iklúg9
Voicing	*kusút	*kílad	*yakáyak
Devoicing	*wa?gát	*gat↔≅l	
Fronting	*gapúk	*?a?rúŋ	*daruwá?
Backing	*giwáŋ	*?háŋ↔s	*?↔nús
Raising	*dag9ámi?	*d↔kún	
Lowering	*líŋaw	*pakpík	

Labialization

$$u \left\{ \begin{array}{c} l \\ ? \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*búl∞an	*bituk↔≅n	*búlig

Dissimilation

Stop > homor. N	*kiwín		
Den. > vel.	*baks↔≅n		
Metathesis	*dak↔≅la?	*hál∞as	

Reduction

Single	*aŋpú?	*balúgu?	*hag9↔d∞áŋ
Cluster	*sakgáw	*pal∞tík	*sá?bit

Addition

Reduplication	*tulí?

5.2. Kap
CR's

*i:i	*pitú?	*?úbi	*kamí
*↔:a	*s↔báw	*?↔≅mpat	*at↔≅p
*a:a	*búl∞an	*?ugsá?	*?↔pák
*u:u	*gulú	*?úban	*?a?rúŋ
*p:p	*gipít	*p↔sá?	*dak↔≅p
*b:b	*?abút	*bag9ik↔≅s	*luŋkáb

*t:t	*pitú?	*tábas	*súkit
*d:d:r/V-V	*hat↔≅t	*dag9ámi?	*padlúk
	*tudíŋ	*túl∞du?	*?adupáŋ
*d∞:l	*dad∞í?	*kíd∞ay	*d∞ál∞↔m
*k:k	*hul∞águk	*pakpúk	*sampáluk
*g:g	*galín	*gúlúŋ	*gitg↔t
*g9:y:g/-C	*ba?g9ú?	*dág9at	*?ug9át
	*bag9ik↔≅s		
*?:?	*gísi?	*?ul∞áŋ	*tádru?
*s:s	*g9atús	*hásaŋ	*s↔báw
*h:?	*hagúnay	*habágat	
*m:m	*kumíŋ	*?a?n↔≅m	*mulágat
*n:n	*santúk	*tambún	
*ŋ:ŋ	*galíŋ	*háŋin	*ŋ↔sŋis
*l:l	*pis↔≅l	*?ulíla?	*líŋaw
*l∞:l	*hátul∞	*tatl∞ú?	*l∞ápad
*r:l	*rambúŋ	*kámbar	*?ard↔≅w
*w:w	*gawí?	*wal∞ú?	*waswás
*y:y	*siyám	*yáman	*háyup
*ay:e	*?ábay	*gúlay	*?uwáy
*uy:i	*bábuy	*?apúy	
*↔y:e	*kagt↔≅y		
*aw:o	*banaháw	*gawgáw	*túlnaw
*iw:i	*paksíw	*siwsíw	

NAC
Substitution

C → { ? / y } | *gapúk | *burák | *ramúk
| *luŋkáb | |

Assimilation

Total	*?abmiyán	*gurít	*bag9ik↔≅s
Partial	*?urabáŋ	*buŋl∞aw	*bantí?is
Voicing	*kilád	*kumíŋ	*karámut
Devoicing	*wa?gát		
Fronting	*lub↔≅ŋ	*laybúŋ	*gal∞apúŋ
Raising	*gapúk		
Labialization			

u + { h / ? } { uw / w } | *bituk↔≅n | *buhák

Dissimilation	*tú?wad	*d↔pá?	
Metathesis	*t↔≅bu?	*b↔≅li?	*daruwá?
Reduction			
Single	*b↔?g9át	*banti?ís	*dira?mús
Cluster	*sambát	*aŋpú?	*bíg9nat
Addition			

C/V	*bɛliʔ	*bábuy	
Reduplication	*túrug	*ʔuyɛ≅g	
Analogy	*ʔaʔruŋ	*ʔurán	*ʔɛpák
Borrowing	*hambúg	*supsɛ≅p	*d∞ayús

5.3. Iba

CR's

*i:i	*sakít	*ʔhig9úp	*ʔumíʔ
*ɛ:ɛ	*ʔadípɛn	*gakɛ≅p	*bɛbíg
*a:a	*daraga	*ʔalagad	*ʔantá
*u:u	*búŋá	*ʔug9át	*walúʔ
*p:p	*ʔatɛ≅p	*ŋípɛn	*pápag
*b:b	*búl∞an	*sárab	*rabnút
*t:t	*kusút	*gatɛ≅l	*tahɛ≅p

*d:d:r/ $^{a, o-\#}_{V-V}$:l/ $^{u}_{-a}_{C-}$ (when not < *ɛ)

	*darága	*dɛpáʔ	*dɛkdúk
	*pandɛ≅k	*ʔalagád	*diraʔmús
	*l∞ápad	*tɛ≅hud	*bandút
	*daŋɛ≅g9	*ʔápduʔ	*diŋdiŋ≅
*d8:l	*kíd8ay	*d8ígus	*d8ál∞ɛm
*k:k	*kíd8ay	*l∞áksut	*ʔárak
*g:g	*guláman	*bayúg	*kagtɛ≅y
*g9:y	*bɛg9ás	*g9imbáʔ	*bɛbíg9
*ʔ:ʔ	*dílaʔ	*aʔnɛ≅m	*baʔg9úʔ
*s:h	*ʔágus	*sɛbáw	*kalsɛ≅m
*h:ʔ	*hakl∞úŋ	*had8ɛ≅k	*huták
*m:m	*ʔinúm	*maŋáʔ	*l∞úmut
*n:n	*kasín	*ʔinúm	*tambún
*ŋ:ŋ	*laŋkáʔ	*ŋárɛn	*ʔuríŋ
*l:l	*dílaʔ	*palikpík	*limáʔ
*l∞:l	*ʔádal∞	*búl∞an	*l∞ápad
*r:l	*darága	*rabnút	*súrat
*w:w	*gawíʔ	*ʔasáwa	*wal∞úʔ
*y:y	*káyuw	*ʔabmiyán	*yáman
*ay:ay	*ʔábay	*guláy	*kíday
*uy:uy	*ʔapúy	*bábuy	
*ɛy:ay	*kagtɛ≅y	*ʔanáʔɛy	
*aw:aw	*duʔŋáw	*l∞umtáw	*bayáw
*iw:iw	*paksíw	*ʔád8g9iw	

NAC
Substitution

	*?↔≅mpat	*baliskád	
C → { ? h y }	*kal↔≅ka?	*?asúk	*l∞ará
	*sakg↔≅w	*g9atús	*dá?mug
Assimilation			
Total	*diŋdíŋ	*d8ál∞↔m	*l∞áksut
Partial	*kimdát	*baliskád	*handí?
Voicing	*kusút	*kádlit	*yakayák
Fronting	*?apúlid	*bíg9nat	*?úl∞↔g
Backing	*búlig		
Raising	*b↔?g9át	*lisá?	hútak
Labialization			
u + { h l } → uw	*l∞úha?	*tágu?	
Reciprocal	*búlig	*hútak	
Dissimilation			
	*tarúŋ		
V	*d↔pá?	*g9imbá?	
Metathesis	*ta?mís		
Reduction			
Single	*biŋ↔≅l∞	*b↔lí?	*la?úya?
Cluster	*b↔?g9át	*kimlát	
Addition			
C/V	*?a?rúŋ		
Reduplication	*sárab	*?uy↔≅g	*kilád
Analogy	*d8ayús	*mulágat	*hat↔≅d
Borrowing	*dapág9	*s↔≅lnag	*hambúg

5.4. Png

CR's

*i:i	*kumíŋ	*?úbi	*?inúm
*↔:↔	*haŋ↔≅s	*?at↔≅p	*d↔pá?
*a:a	*ta?gún	*?u?ná?	*ábu?
*u:u	*?anítu?	*gulú	*?úban
*p:p	*l∞akíp	*pisgá?	*?sups↔≅p
*b:b	*sá?bit	*b↔g9ás	*siláb
*t:t	*?ámut	*pitú?	*tábas
*d:d:r/ $_{V-V}^{a,u-\#}$	*sál∞ud	*tah↔≅d	*álnud
	*tudíŋ	*?udl∞áŋ	*?ádal∞
*d:d/V-V	*túrsuk	*?is↔d8á?	*d8ál∞↔m
*k:k	*g9úsuk	*l∞akíp	*kígl∞at
*g:g	*gulú	*pisgá?	*?untúg
*g9:l	*g9úsuk	*kagt↔≅y	*dapág9
*?:?:Π/-#	*?aŋpú?	*?at↔≅p	
	*hal∞imbawá?	*pisgá?	*asáwa?

*s:s:t/↔-#	*haŋ↔≅s	*hásaŋ	*s↔báw
*h:?	*hábuŋ	*háyup	*hútak
*m:m	*?amáy	*tan↔≅m	*maŋgá?
*n:n	*tambún	*t↔?núk	*niyúg
*ŋ:ŋ	*hábuŋ	*diŋdíŋ	*ŋár↔n
*l:l:r/-C	*pis↔≅l	*?úl∞↔g	*laŋká?
	*kimlát		
*l∞:l	*hátul∞	*l∞akíp	
*r:g:r/u-V	*pár↔y	*?ard↔≅w	*mará?
	*?urán	*uríŋ	*burák
*w:w	*wagwág	*wanḍá?	*wal∞ú?
*y:y	*yakáyak	*galumáy	*yáman
*ay:ay	*?ábay	*?uháy	
*uy:uy	*hagúnuy	*?apúy	*bábuy
*↔y:↔y	*aná?↔y	*kagt↔≅y	*pár↔y
*aw:aw	*gawgáw	*túlnaw	*s↔báw
*iw:iw	*paksíw	*siwsíw	

NAC

Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ y \end{array} \right\}$$

	*sakg↔≅w	*ginháwa?	*kasín
	*kalimpurús	*tábug9	*bul∞al∞áŋaw

Assimilation

Total	*kilád	*gitg↔≅t	*kígl∞at
Partial	*suká?	*?asúk	*buŋl∞áw
Voicing	*kilád	*kumíŋ	*sampáluk
Devoicing	*basúg9		
Fronting	*baks↔≅n	*gal∞púŋ	
Backing	*gipít		
Raising	*?antá?	*ganít	*pakpúk
Lowering	*sandíg		

Labialization

$$u + \left\{ \begin{array}{c} ? \\ h \\ l \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*búlig	*bituk↔≅n	*l∞úha?
	*buhák		
Reciprocal	*ganít	*gipít	*?a?rúŋ

Dissimilation	*kádlit	*lam↔tík	
lat., den., vel.→ N	*iklúg9		
V	*d8ayús		
Metathesis	*kartíb	*haŋ↔≅s	*ta?mís

Reduction

Single	*kartíb	*babáyi	*ta?gún
Cluster	*?ardáw	*sá?bit	

Addition

Reduplication	*t↔≅bu?	*?uy↔≅g	
Analogy	*ŋáran	*dira?mús	

Borrowing	*banaháw	*gurít	*halagá?

5.5. Ilk

CR's			
*i:i	*díla?	*inúm	*gipít
*↔:↔	*?at↔≅p	*gitg↔≅t	*haŋ↔≅s
*a:a	*?abága	*díla?	*?antá?
*u:u	*?ásu	*balúgu	*puns↔≅g
*p:p	*?at↔≅p	*ŋíp↔n	*pitú?
*b:b	*bág9a?	*sárab	*?abiŋ
*t:t	*gat↔≅l∞	*líkut	*tah↔≅p
*d:d	*?álnud	*bádu	*dál∞↔m
*d8:d	*kíd8ay	*d8ál∞↔m	*d8ígus
*k:k	*?asúk	*kusút	*lúkut
*g:g	*?águs	*bílig	*guláman
*g9:g: #- / -a	*?ápug9	*hag9↔daŋ	*híg9up
	*g9úsuk	*g9imbá?	*dag9ámi?
*?:?:o/-#	*díla?	*gawí?	*?ú?na?
*s:s	*kals↔≅m	*sakít	*tábas
*h:?	*háyup	*tah↔≅p	*ginháwa?
*m:m	*?inúm	*maŋa?	*dá?mug
*n:n	*búl∞an	*l∞↔≅mud	*nuwáŋ
*ŋ:ŋ	*diŋdíŋ	*laŋká?	*ŋár↔n
*l:l	*búl∞an	*likúd	*pis↔≅l
*l∞:l	*?ádal∞	*dál∞an	*l∞↔≅mud
*r:r:l/-C:g/a	*túrug	*dira?mús	*gurít
	*?ard↔≅w		
	*mará?	*ŋár↔n	*?a?rúŋ
*w:w	*?asáwa	*?uwák	*wal∞ú?
*y:y	*siyám	*?ug↔≅g	*yakáyak
*ay:ay	*kíd8ay	*pí?lay	*?uwáy
*uy:uy	*?apúy	*bábuy	
*aw:aw	*gawgaw	*túlnaw	*bayáw
*↔y:ay	*pár↔y	*aná?ay	
*iw:iw	*paksiw		

NAC
Substitution

C → { ? / y }	*banaháw	*gása?	
	*?águs	*?abmiyán	*bul∞al∞áŋaw
	*baluk		

Assimilation

Total	*b↔g9ás	*p↔≅nu?	*kíglat
Partial	*iklúg9	*?↔≅mpat	
Voicing	*l∞áksut	*kilád	*kumíŋ

57

Fronting	*yetyúg	*bíg9nat	*laybúŋ
Backing	*kígl∞at	*?↔≅mpat	*?abíŋ
Raising	*y↔tyúg	*?a?n↔≅m	*?↔tá
Labialization			

$$u + \left\{ \begin{array}{c} ? \\ k \\ g \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ \\ w \end{array} \right\}$$

	*ta?gún	*kúwaw	*bu?áya?
	*bituk↔≅n	*l∞úha?	
Dissimilation			
N > lat., stop	*?↔≅mpat		
$N_1 > N_2$	*baks↔≅n		
Metathesis	*ta?mís	*l∞áksút	*g9atús
Reduction			
Single	*?antá?	*kumíŋ	*túrsuk
Cluster	*?álnud	*sá?bit	
Addition			
Gemination	*d↔pá?	*p↔≅nu?	*s↔lnág
Reduplication	*?uy↔≅g	*kalimpurús	*láwa?
Analogy	*huláguk	*tarúŋ	*?árak
Borrowing	*túrug	*hambúg	*tah↔≅d

5.6. Itb

CR's

*i:i	*?inúm	*líma?	*háŋín
*↔:↔	*?at↔≅p	*k↔mkúm	
*a:a	*?abú?	*wal∞ú?	*?↔≅mpat
*u:u	*?úríŋ	*hatpun	
*p:p	*?at↔≅p	*pí?lay	*?↔≅mpat
*b:v:b/$^{CC}_{-\#}$	*?ábu?	*búl∞an	*ba?gú?
	*bul∞búl∞	*g9imbá?	*basúg9
*t:t	*tah↔≅p	*?ug9át	*l∞umtáw
*d:r:d/$^{\#}_{C-}$	*?ard↔≅w	*baliskád	*díla?
	*diŋdíŋ	*likúd	*?álnud
	*sálud	*d↔kdúk	*daŋ↔≅g9
*d8:r	*kíd8ay	*band8út	*d8ayús
*k:k:Č/i	*kusút	*?anák	*dak↔≅p
	*kíd8ay	*kimdát	*likúd
*g:g	*?ugsá?	*bayúg9	
*g9:y	*dag9ú?	*g9amút	*?iklúg9
*?:?	*?a?n↔≅m	*batú?	
*s:s	*sups↔≅p	*tigás	*siyám
*h:h	*tah↔≅p	*buhák	*hatpún
*m:m	*?inúm	*maŋgá?	*k↔mkúm
*n:n	*?a?n↔≅m	*danúm	*?úban
*ŋ:ŋ:ñ/i	*ŋár↔n	*háyin	*diŋdíŋ

	*ŋíp↔n	*?uríŋ	
*l:l:r/#-a	*díla?	*limá?	*?ulí?
*l∞:x:l/C-	*bul∞an	*gat↔≅l∞	*l∞umtáw
	*tatl∞u?		
*r:r	*ramúk	*?úriŋ	*tádru?
*w:w	*wal∞ú?	*ginháwa	*?uwáy
*y:y	*y↔tyúg	*bayúg	*bu?áya?
*ay:ay	*pí?lay	*kíd8ay	*?aná?ay
*uy:uy	*?apúy		
*↔y:ay	*kagt↔≅y	*bal∞↔≅y	
*aw:aw	*buŋl∞áw	*du?ŋáw	*l∞umtáw
*iw:iw	*paksíw	*siwsíw	

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*kusút	*galúŋ	
	*?álnud	*?apúy	*buŋláw
	*balúk	*habágat	*d8ígus

Assimilation

Total	*d8ána?	*b↔bíg	*l∞umtáw
Partial	*laŋká?	*p↔≅nu?	
Voicing	*bal∞kút		
Devoicing	*tind↔≅g	*lutbák	
Fronting	*sál∞uk		
Backing	*ganít	*galíŋ	
Raising	*sál∞uk	*hútak	
Lowering	*tind↔≅g		
Labialization			

$$u + \left\{ \begin{array}{c} ? \\ ŋ \\ r < *ŕ \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*búŋa?		
	*bituk↔≅n	*bu?áya?	
	*tú?wad		
Reciprocal	*galíŋ		

Dissimilation

stop > homor. N	*girag↔≅s	*sá?bit	
N > lat., stop	*galíŋ		
Metathesis	*?al∞búk	*d↔pá?	*g9imbá?

Reduction

Single	*bag9ík↔s	*diram?ús	
Cluster	*?ard↔≅w	*bal∞kút	*kimlát

Addition

C/V	*iklúg	*galín	
Gemination	*?usísa?	*?iklúg9	
Reduplication	*b↔dbád		
Analogy	*ramúk	*bag9ik↔≅s	*sampál∞uk

5.7. Itw

CR's

*i:i	*ʔúbi	*láʔtug	*hútak
*↔:a	*p↔sáʔ	*g9↔tús	*t↔≅hud
*a:a	*sambát	*ʔábay	*búŋaʔ
*u:u	*ʔanítu	*g9úsuk	*ʔúban
*p:p:f/-u/o	*palípig	*gak↔≅p	*púns↔g
*b:b	*kartíb	*ʔúban	*basúg9
*t:t	*gitg↔≅t	*talíŋaʔ	*g9amút
*d:d:z /#-l	*kilád	*túlduʔ	*daruwáʔ
*d8:r:d/ʔ-:z /#-í	*d8ayús	*had8íg9iʔ	*kíd8ay
	*band8út	*ʔapdúʔ	
*k:k	*kádlit	*hútak	
*g:g	*gitg↔≅t	*tigás	*l∞imugmúg
*g9:g	*g9úsuk	*basúg9	*g9↔tús
*ʔ:ʔ:Π/-#	*ʔabág9a	*ʔábuʔ	*limáʔ
*s:s:t/#-a a-#	*sakít	*ʔ↔ʔsáʔ	*siʔpún
	*g9atús	*tigás	
*h:h:θ/#-	*hútak	*buhák	*had8íg9iʔ
*m:m	*tarám	*mulágat	*limugmúg
*n:n	*siʔpún	*ʔúʔnaʔ	*nuwáŋ
*ŋ:ŋ	*galíŋ	*ŋíp↔n	*búŋaʔ
*l:l	*gúlay	*ʔulílaʔ	*lal∞ákiʔ
*l∞:l	*l∞áksut	*hakl∞úŋ	*gat↔≅l∞
*r:r	*kartíb	*rambúŋ	*túrug
*w:w	*ʔuwáy	*wagwág	*wal∞úʔ
*y:y	*bayú	*ʔáyam	
*ay:ay	*ʔábay	*gúlay	*ʔuwáy
*uy:uy	*bábuy	*ʔapúy	
*↔y:ay	*ʔanáʔ↔y	*kagt↔≅y	
*aw:aw	*banaháw	*gawgáw	*líŋaw
*iw:iw	*paksíw		

NAC

Substitution

$$C \rightarrow \begin{Bmatrix} ? \\ h \\ y \end{Bmatrix}$$

	*gitg↔≅t	*láʔtug	
	*tambún	*búŋaʔ	*kadág9um
	*ʔaʔrúŋ		

Assimilation

Total	*kádlit	*tatl∞úʔ	*ʔugsáʔ
Partial	*taʔmís	*kal∞áŋ	
Voicing	*kilád	*kartíb	
Devoicing	*hambúg	*waʔgát	*ʔadupáŋ
Fronting	*waʔgát		
Backing	*daŋ↔≅g9	*bíg9nat	*ʔat↔≅p

Raising	*?a?rúŋ		
Lowering	*wa?gát		
Labializaton			

$$u + \left\{ \begin{array}{c} ? \\ k \\ h \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*luŋkáb	*l∞úha?	
	*bituk↔≅n		
Dissimilation	*súrat	*?at↔≅p	
Stop to homor N	*sups↔≅p		
V	*kilád		
Metathesis	*kígl∞at	*ta?mís	*l∞asúŋ
Reduction			
Single	*t↔≅hud	*luŋkáb	
Cluster	*rambúŋ	*kimlát	
Addition			
Gemination	*yakáyak	*tambún	*tigás
Reduplication	*padlúk		
Analogy	*burák		
Borrowing	*p↔sá?	*?úriŋ	

5.8. Ibg

CR's

*i:i	*kiwín	*gitg↔≅t	*síku
*↔:a:u/-? (< - p, t, k, s)	*?ad8íp↔n	*b↔g9ás	*d↔pá?
	*gak↔≅p	*pand↔≅k	
*a:a	*dág9at	*limá?	*l∞úha?
*u:u	*l∞útu?	*mákut	*sikú
*p:p:f/ ⁻ᵘ₋ᵢ (<*uy):?/-#	*padlúk	*?↔≅mpat	
	*púns↔g	*kalimpurús	*si?pún
	*?apúy	*gak↔≅p	*?at↔≅p
*b:b:Ƅ/ ⁻ᵘ₋ᵢ (< *uy)	*bul∞al∞áŋaw	*buhák	*bábuy
*t:t:?/-#	*l∞útu?	*bíg9nat	*tábug9
	*l∞úmut	*gitg↔≅t	
*d:d:z/#-i:g/ ₋# C (not n)	*dág9at	*dál∞an	*dik↔≅t
	*díla?	*diŋdíŋ	
*d8:r:z/#-i	*had8íg9i?	*d8ayús	*?ad8íp↔n
	*d8ígus		
*k:k:?/-#	*kur↔≅ŋ	*kiná?	*iklúg
	*ramúk	*padlúk	*pand↔≅k
*g:g	*pápag	*gitg↔≅t	*?untúg
*g9:g	*basúg9	*dág9at	
*?:?:Π/-#	*?ubán	*hú?↔n	*limá?
	*l∞útu?		
*s:t:s/-i:?/-#	*basúg9	*dígus	*kalimpurús
	*ta?mís	*siyám	*pis↔≅l

*h:?	*hag9↔dáŋ		*hútak
*m:m	*kadág9um	*kumíŋ	*maŋgá?
*n:n:ŋ/-#	*pand↔≅k	*?anák	*si?pún
	*pa?↔≅n	*bál∞un	
*ŋ:ŋ	*dú?ŋaw	*?a?rúŋ	*ŋár↔n
*l:l	*lal∞áki?	*paŋál	*kalimpurús
*l∞:l	*l∞umtáw	*bál∞un	*gat↔≅l∞
*r:g:r/u-V	*?a?rún	*?ard↔≅w	*?uríŋ
	*kalimpurús	*súrat	*tádru?
*w:u	*daruwá?	*wagwág	*wal∞ú?
*y:y	*?áyam	*siyám	*?uy↔≅g
*ay:ay	*?ábay	*gúlay	*?uwáy
*uy:i	*bábuy	*?apúy	
*↔y:ay	*?aná?↔y	*pár↔y	*bal∞↔≅y
*aw:aw	*du?ŋáw	*líŋaw	*l∞umtáw
*iw:u	*paksíw		

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ y \end{array} \right\}$$

	*buŋl∞áw	*?amáy	*kumíŋ
	*baks↔≅n		

Assimilation

Total	*?a?n↔≅m	*baliskád	*bakŋág
Partial	*baliskád	*?urabáŋ	
Voicing	*kiwín	*baliskád	*kígl∞at
Devoicing	*hambúg	*gat↔≅l∞	
Fronting	*l∞umtáw	*l∞aksut	
Raising	*?a?rúŋ	*l∞áksut	

Labialization

$$u + \left\{ \begin{array}{c} k \\ \eta \\ h \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

*l∞úha?	*bu?áya?	
*luŋkáb		

Dissimilation

stop homor. N	*girag↔≅s	
Metathesis	*lutbá?	*pa?↔≅n

Reduction

Single	*g9ambí?i	*bituk↔≅n	*buhák
Cluster	*ba?g9ú?	*?aŋpú?	*hambúg

Addition

C/V	*kartíb		
Gemination	*?abíŋ	*tigás	*t↔bús
Reduplication	*kimlát	*kusút	
Analogy	*?uyád	*búl∞an	*l∞↔≅mud
Borrowing	*kur↔≅ŋ	*tan↔≅m	*d8ál∞↔m

5.9. Isi

CR's

*i:i	*pi?lay	*?úbi	*?iklúg9
*↔:o	*?aná?↔y	*púns↔g	*tar↔≅m
*a:a:E/y,w	*halagá?	*?ulíla?	*búl∞an
	*wal∞ú?	*?ug9át	
*u:u	*?aŋpú?	*gulú	*?úban
*p:p	*pis↔≅l	*kalimprús	*sups↔≅p
*b:b:Ƅ/V-V	*hal∞imbawá?	*b↔g9ás	
	*tambún	*?úban	*g9abí?í
*t:t	*pitú?	*súrat	*tábas
*d:d:r/a,u, i-	*handá?	*dálan	*tul∞dú?
v-v	*tú?wad	*?álnud	
*d:d	*d8ayús	*d8ál∞↔m	
*k:k	*santúk	*?iklúg	*kimlát
*g:g	*gulú	*halagá?	*guláman
*g9:l	*g9amút	*g9abí?i	*b↔bíg9
*?:?Π/-#	*?ú?na?	*wa?gát	*l∞áwa?
*s:s	*pis↔≅l	*saŋgá?	*tábas
*h:?	*hábuŋ	*halagá?	
*m:m	*tar↔≅m	*g9amút	*maŋgá?
*n:n	*tambún	*niyúg	*bituk↔≅n
*ŋ:ŋ	*hábuŋ	*saŋgá?	*ŋapús
*l:l	*pis↔≅l	*talíŋa?	*lub↔≅ŋ
*l∞:l	*hátul∞	*hál∞imbawá?	*l∞áksut
*r:r	*kalimpurús	*tar↔≅m	
*w:w	*kúwaw	*?uwáy	*wal∞ú?
*y:y	*háyup	*káyuw	*?uy↔≅g
*ay:ay	*galumáy		
*uy:uy	*?apúy	*bábuy	
*↔y:oy	*?aná?↔y	*kagt↔≅y	*pár↔y
*aw:aw	*kúwaw		*?alíŋaw
*iw:iw	*?ád8g9iw	*siwsíw	

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*ginháwa?	*sikú	*hútak
	*súkit	*?ard↔≅w	*b↔g9ás
	*tatl∞ú?	*bág9a?	*dag9á?
	*bígnat	*pakpúk	
	*púns↔g	*wagwág	*búlig
	*?úbud		

h- → h/ -C / -# / a-

Assimilation
Total

*pis↔≅l	*ta?mís	*tan↔≅m

63

Partial	*l∞umtáw		
Voicing	*k↔mkúm	*kádlit	
Devoicing	*bátaŋ		
Fronting	*tú?wad	*kagt↔≅y	*?apúg9
Backing	*ta≅dru?	*dál∞↔m	
Raising	*tú?wad	*bul∞an	
Lowering	*?útaŋ		

Labialization

$$u + \left\{ \begin{matrix} ? \\ k \\ h \\ l \\ r \\ g \end{matrix} \right\} \rightarrow \left\{ \begin{matrix} uw \\ w \end{matrix} \right\}$$

	*búl∞an	*l∞úha?	*ta?gún
	*luŋkáb	*?ug9át	*bituk↔≅n
Dissimilation	*l∞a≅ksut		
Stop > homor. N	*úl∞↔g		
Metathesis	*talíŋa?	*tádru?	*?uwáy
Reduction			
Single	*nuwáŋ	*buhák	*baliskád
Cluster	*ta?mís	*?↔≅mpat	*hákluŋ
Addition			
C/V	*wal∞s≅ik		
Gemination	*?uwáy		
Reduplication	*gak↔≅p	*wal∞sík	
Borrowing	*?uríŋ	*g↔tá?	*?asíp↔s

5.10. Kal

CR's

*i:i	*sikú	*díla?	*diŋdíŋ
*↔:□:e/L,č	*haŋ↔≅s	*daŋ↔≅g9	*?alimát↔k
	*hag9↔d8áŋ	*gat↔≅l∞	*d8ál∞↔m
*a:a	*?aŋpú?	*?asúk	*wal∞ú?
	*hag9↔d8áŋ	*?ádal∞	*wal∞sík
*u:u	*pitú?	*suká?	*búl∞an
*p:p	*pitú?	*apdú?	*?aŋpú?
*b:ƀ:b/$_{-b}^{-\#}$ (in next syl.) b^y/-a, e, i			
	*babáyi	*sá?bit	*?úban
*t:t	*tatl∞ú?	*súkit	*y↔tyúg
*d:č:d/-#	*sandíg	*tádru?	*dál∞an
	*?álnud		
*d8:č:l/-C	*hag9↔d8áŋ	*d8ál∞↔m	
	*d8ál∞↔m	*?is↔d8á?	
*k:k	*sikú	*wasák	*kapúkap
*g:g	*?ugsá?	*gat↔≅l∞	*niyúg

64

Rule	Col1	Col2	Col3
*g9:L:g/V (front)l/#-	*?ápug9	*ug9át	*daŋ↔≅g9
	*híg9up	*g9ambi?i	*ginháwa
*?:?:Π/-#	*?ugsá?	*díla?	*dira?mús
*s:s	*haŋ↔≅s	*sá?bit	*sikú
*h:?	*ginháwa?	*háŋin	*hútak
*m:m	*kumíŋ	*?áyam	*maŋgá?
*n:n:l/$_{CC}^{a}$	*háŋin	*báŋin	*túlnaw
	*?inúm	*banaháw	*d8ána?
*ŋ:ŋ	*kumíŋ	*háŋin	*ŋár↔n
*l:l	*?ulíla?	*lub↔≅ŋ	
*l∞:L	*hul∞agúk	*?ádal∞	*pal∞tík
*r:g:j◊/ $_{-e}^{i}$	*ŋár↔n	*pár↔y	*l∞ará
*w:w	*tú?wad	*?uwáy	*wagwág
*y:y	*yakáyak	*?áyam	*siyám
*ay:ay	*kíd8ay		
*uy:uy	*?apúy		
*↔y:uy/oy	*pár↔y	*bal∞↔≅y	
*aw:aw	*banaháw	*túlnaw	*líŋaw
*iw:iw	*paksíw	*balíw	*siwsíw

NAC
Substitution

C → { ? / y }	*kilád	*pal∞tík	*súkit
	*kíglat		

Assimilation

Total	*kilád	*galíŋ	*ta?mís
Partial	*suká?	*likúd	
Voicing	*pal∞tík	*kíd8ay	
Devoicing	*báŋun	*búŋa?	
Fronting	*pakpík	*tatl∞ú?	*tú?wad
Backing	*kagt↔≅y	*bíg9nat	*kígl∞at
Raising	*báyad	*d↔pá ?	*ŋíp↔n
Lowering	*p↔sá	*?a?n↔m	*hútak
Labialization			

u + { ? / k / h } → uw	*bituk↔≅n	*bu?áya?
	*luŋkáb	*l∞úha?

Dissimilation	*?iklúg	*?uríŋ
V	*d8ána?	
Metathesis	*pal∞tík	*túrsuk

(Metathesis third column) *likúd

Reduction

Single	*talíŋa?	*suká?	*l∞utú?
Cluster	*baks↔≅n	*?álnud	*↔≅mpat

Addition

C/V	*gitg↔≅t		
Gemination	*kusút		
Reduplication	*tádru?	*túrug	
Analogy	*l∞úha?	*?urán	*basúg9
Borrowing	*?urabáŋ	*súrat	

5.11. Bon

CR's

*i:i	*díla?	*inúm	*kilád
*↔:↔	*d↔pá?	*?at↔≅p	*gat↔≅l∞
*a:a	*?álnud	*suká?	*tábug9
*u:u	*bádu?	*lúkut	*sikú
*p:p	*?apúy	*at↔≅p	*p↔nú?
*b:f:b/-f#	*bádu?	*tábas	*b↔dbád
	*t↔bús		
*t:t	*lúkut	*tah↔≅p	*hútak
*d:č:d/-#	*kilád	*dál∞an	*diŋdíŋ
*d8:č	*hag9↔dáŋ	*d8ayús	*kid8ay
*k:k:kʰ/i-i, -u	*kapúkap	*kusút	*kilad
*g:g:kʰ/#-V-V	*gat↔≅l∞	*?ugsá?	*gawgáw
	*tind↔≅g	*mulágat	
*g9:kʰ:g/-c-#	*b↔g9ás	*dag9ámi	*basúg
	*big9nat		
*?:?Π/-#	*had8íg9i?	*?ugsá?	*díla?
	*p↔nú?	*súka?	
*s:s	*?is↔d8á?	*sakít	*tábas
*h:?	*ginháwa?	*hag9↔d8áŋ	*hútak
*m:m	*?inúm	*karámut	*limugmúg
*n:n	*ŋár↔n	*santúk	*ŋ↔sŋís
*ŋ:n	*ŋár↔n	*galíŋ	*báŋun
*l:l	*?iklúg9	*lúkut	*buŋl∞áw
*l∞:l:l∞/CC	*dál∞an	*l∞áksut	*bál∞un
	*kal∞s↔≅m	*wal∞sík	*hákl∞uŋ
*r:l:l∞/ C:č/C-	*ŋár↔n	*?úriŋ	*kartíb
	*tar↔≅m		
*w:w	*wal∞ú?	*tú?wad	
*y:y	*yakáyak	*báyad	*bayú
*ay:ay	*pílay		
*uy:uy	*?apúy		
*↔y:↔y	*kag9t↔≅y	*pár↔y	
*aw:aw	*gawgáw	*buŋl∞áw	

NAC
Substitution

C → { ? }	*tah↔≅p	*babáyi

y	*galumáy	*kígl∞at	

Assimilation

Total	*likúd	*p↔≅nu?	*?a?n↔≅m
Partial	*?iklúg9	*kígl∞at	*pis↔≅l
Voicing	*likúd	*l∞áksut	
Fronting	*tind↔≅g		
Labialization			

$$u + \left\{ \begin{array}{c} l \\ ? \\ h \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*búl∞an	*?úl↔g	
	*luŋkáb	*l∞úha?	
Dissimilation	*kamí	*tind↔≅g	
Metathesis	*likúd	*l∞áksut	*baks↔≅n
	*kilád		

Reduction

Single	*dak↔≅la?	*dapúg9	*la?úya?
Cluster	*kagt↔≅y	*kimlát	*sandíg

Addition

C/V	*d8ál∞am	*ŋár↔n	
Gemination	*d↔pá?		
Reduplication	*?untúg		
Borrowing	*?ard↔w	*urán	*banaháw

5.12. Igt

CR's

*i:i	*gipít	*úbi	*lisá?
*↔:↔	*tan↔≅m	*dak↔≅p	*b↔bíg9
*a:a	*?aŋpú?	*basúg9	*kimlát
*u:u:o/-# syl.	*suká?	*?úban	*l∞úmut
*p:p	*gipít	*gak↔≅p	
*b:b	*?úban	*ba?g9ú?	*siláb
*t:t	*gipít	*tan↔≅m	*kimlát
*d:d	*dapúg9	*tádru?	*?álnud
*d8:d	*hag↔d8áŋ	*d8ígus	
*k:k	*gak↔≅p	*kimlát	*?anák
*g:g:ɡ/-#	*galumáy	*hul∞águk	*?ugsá
	*dá?mug		
*g9:ɡ:g/-C	*tábug9	*ba?g9ú?	*bíg9nat
*?:?	*?akú?	*ta?gún	
*s:t:s/#-i:š/E	*sus↔≅p	*siyám	*basúg9
	*s↔≅l∞nag	*?ugsa?	*nipís
	*síkú		
*h:?	*hag9↔dáŋ	*halagá?	*tah↔≅p
*m:m	*dá?mug	*tan↔≅m	*siyám
*n:n	*tan↔≅m	*ta?gún	*niyúg

*ŋ:ŋ	*hag9↔d8áŋ	*búŋa?	*ŋár↔n
*l:l:g/-↔, E	*biláy	*laybúŋ	*díla?
	*limá?	*lisá?	
*l∞:l:g/↔, a		*láwa	*lúmut
	*tatl∞ú?	*lal∞áki	*l∞↔≅mud
*r:g:d/u-	*?urán	*úríŋ	*?a?rúŋ
	*pár↔y		
*w:w	*wal∞ú?	*bu?áya?	*l∞áwa?
*y:y	*yáman	*báyad	*bayú
*ay:o	*pí?lay		
*uy:uy	*?apúy		
*↔y:i	*pár↔y		
*aw:aw	*gawgáw	*túlnaw	*bayáw
*iw:iw	*siwsíw		

NAC
Substitution

$C \rightarrow \left\{ \begin{array}{c} ? \\ y \end{array} \right\}$	*kádlit	*kumíŋ	*talíŋa?
	*galumáy	*kimlát	*d8ígus

Assimilation

Total	*suká?	*rambúŋ	*gak↔≅p
Partial	*suká?	*híg9up	*kimdát
Voicing	*súkit		
Devoicing	*?adupáŋ	*lutbák	
Fronting	*hul∞águk	*ta?núk	*?a?n↔≅m
Raising		*tatl∞ú?	*hútak
Lowering	*talíŋa?	*limá?	*sikú
Labialization			
$u + \left\{ \begin{array}{c} l \\ ? \end{array} \right\} \rightarrow uw$	*bu?áya?		
	*wal∞ú?		
Reciprocal	*?a?rúŋ		
Dissimilation	*lam↔tík	*siláb	
Metathesis	*basúg9	*dak↔≅p	*lutbák

Reduction

Single	*t↔?núk	*kagt↔≅y	*l∞áksut
Cluster	*dá?mug	*tádru?	*?antút

Addition

C/V	*?úriŋ		
Gemination	*halagá?	*talíŋa?	*p↔nu?
Reduplication	*?uy↔≅g		
Analogy	*?a?rúŋ	*kagt↔≅y	*l∞útu?
Borrowing	*palípig		*s↔báw

5.13. Nag
  CR's

*i:i	*kasín	*díla?	*?inúm

*↔:u	*d↔pá?	*gat↔≅l∞	*ŋip↔≅n
*a:a	*?abág9a	*ŋár↔n	*?urán
*u:u	*?abú?	*búlig	*dag9ú?
*p:p	*apdú?	*?at↔≅p	*pár↔y
*b:b	*bág9a?	*siláb	*túbig
*t:t	*g9amút	*tah↔≅p	*g9út↔m
*d:d:l/C-	*?álnud	*?ádal∞	*dapúg9
	*kimdát		
*d8:r:l/C-	*band8út	*d8ayús	*had8ígi?
*k:k	*kíḍay	*likúd	*?uwák
*g:g	*búlig	*gat↔l∞	*dág9at
*g9:g	*?ápug9	*bág9a?	*g9amút
*?:?	*antá?	*ba?gú?	*gawí?
*s:s	*s↔l∞úg	*b↔g9ás	*basúg9
*h:h	*háyup	*tah↔≅p	*hatpún
*m:m	*kal∞s↔≅m	*g9amút	*maŋgá?
*n:n	*?álnud	*búl∞an	*si?pún
*ŋ:ŋ	*ŋár↔n	*búŋa?	*kur↔≅ŋ
*l:l	*laŋká?	*pílay	*halayháy
*l∞:l	*s↔l∞úg	*?ádal∞	*l∞asúŋ
*r:r	*darága	*rabnút	*gurít
*w:w	*?uwák	*wal∞ú?	*l∞áwa?
*y:y	*?áyam	*háyup	*báyad
*ay:ay	*kíd8ay	*pí?lay	*galumáy
*uy:uy	*?apúy	*l∞uŋbuy	
*↔y:ay	*?aná?↔y	*pár↔y	
*aw:aw	*dú?ŋaw	*karabáw	*líŋaw
NAC			
Substitution			
C→{?, h, y}	*yakáyak	*ŋuká?	*kapúkap
	*sál∞uk	*dira?mús	*dag9ámi?
	*hag9↔dáŋ	*dá?mug	
Assimilation			
Total	*b↔g9ás	*wal∞sík	*pand↔≅k
Partial	*kimdát	*d↔kdúk	*ramúk
Voicing	*baliskád		
Backing	*giwáŋ	*bag9ík↔s	
Metathesis	*lutbák	*la?úya?	*b↔?g9át
Reduction			
Single	*hakl∞úŋ	*limá?	*alimát↔k
Cluster	*?álnud	*wal∞sík	*lutbák
Addition			
Reduplication	*?uy↔≅g	*kimlát	*kalimpurús
Analogy	*sál∞uk		

5.14. Vir

CR's

*i:i	*díla?	*?inúm	*tind↔≅g
*↔:u	*?at↔≅p	*gat↔≅l∞	*tah↔≅p
*a:a	*?asúk	*tah↔≅p	*?urán
*u:u	*?ápug9	*bádu?	*dag9ú?
*p:p	*?ápug9	*?at↔≅p	*pitú?
*b:b	*bádu?	*túbig	*luŋkáb
*t:t	*g9amút	*túbig	*tah↔≅p
*d:d:r/V-V	*?álnud	*bádu?	*dapúg9
	*tudíŋ		
*d8:l	*?is↔d8á?	*kíd8ay	*d8ayús
*k:k	*kagt↔≅y	*dik↔≅t	*?uwák
*g:g	*niyúg	*?uy↔≅g	*gawgáw
*g9:g	*?ápug9	*b↔g9ás	*g9amút
*?:?	*du?ŋáw	*?umí?	*la?úya?
*s:s	*kal∞s↔≅m	*b↔g9ás	*sakít
*h:h	*háyup	*tah↔p	*barahíbu?
*m:m	*kal∞s↔≅m	*g9amút	*maŋgá?
*n:n	*kasín	*?inúm	*niyúg
*ŋ:ŋ	*laŋká?	*ŋár↔n	*?úriŋ
*l:l:r/-i	*díla?	*laŋká?	*pis↔≅l
	*baliskád	*li?↔≅g	*kádlit
*l∞:Y	*s↔l∞úg	*gat↔≅l∞	*l∞áksut
*r:Y	*darága	*l∞ára	*rabnut
*w:w	*?uwák	*wal∞ú?	*kawíl∞
*y:y	*?áyam	*háyup	*?uy↔≅g
*ay:ay	*pí?lay	*?ábay	*halayháy
*uy:uy	*hagúnuy		
*↔y:uy	*kagt↔≅y	*pár↔y	
*aw:aw	*bul∞al∞áŋaw	*buŋláw	*bayáw
*iw:iw	*paksíw	*siwsíw	*salíw

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*bakukúl	*kiwín	*sakg↔≅w
	*kapúkap	*bíg9nat	*?umí?
	*padlúk	*galumáy	

Assimilation

Total	*b↔g9ás	*b↔g9át	*liŋaw
Partial	*ramúk		
Voicing	*?adupáŋ	*luŋkáb	*yakáyak
Devoicing	*baliskád	*?adupáŋ	
Backing	*baliskád	*bíg9nat	*giwáŋ

Dissimilation			
lat.,den.vel, > N	*girag↔≅s		
Metathesis	*buŋláw	*b↔?g9át	*daruwá?
Reduction			
Single	*?aná?↔y	*is↔d8á?	*wilíd
Cluster	*?álnud	*kánmus	*wal∞sík
Addition			
Reduplication	*kimlat		
Analogy	*bulig	*lukut	*?úriŋ
Borrowing	*sárab		

5.15. Kam

CR's			
*i:i	*galiŋ	*gísi?	*tuli?
*↔:↔	*haŋ↔≅s	*tar↔m	*gak↔≅p
*a:a	*?abut	*saŋga?	*suka?
*u:u	*t↔?núk	*pitu?	*?usá
*p:p	*gapuk	*pitu?	*hígup
*b:b	*sá?bit	*basug	*luŋkab
*t:t	*?abut	*gatus	*túlnaw
*d:d:r/V-V	*?uyád	*daŋ↔≅g9	*túl∞du?
*d8:r:l/CC	*d8ayús	*d8igus	*band8ut
*k:k	*kaláŋ	*had↔k	*kal↔ka?
*g:g	*gátuŋ	*tigas	*banig
*g:g	*basug	*dágat	
*?:?	*sa?bit	*?uway	*hákl∞uŋ
*s:s	*g9atús	*sá?bit	*?ugsá?
*h:?	*hal∞imbawa?	*handá?	*hákl∞úŋ
*m:m	*sampál∞uk	*k↔mkúm	*lumut
*n:n	*tulnáw	*háŋin	*nakník
*ŋ:ŋ	*gátuŋ	*háŋin	*ŋ↔sŋís
*l:l	*talíŋa?	*lal∞áki?	*gúlay
*l∞:l	*wal∞ú?	*l∞úmut	*sampál∞uk
*r:r	*tar↔≅m	*rambúŋ	*?a?rúŋ
*w:w	*gawí?	*ginháwa?	*wal∞ú?
*y:y	*?uyád	*yáman	*báyad
*↔y:ay	*?aná?↔y	*bal∞↔≅y	
*aw:aw	*?laŋáw	*gawgáw	*túlnaw
*iw:iw	*paksíw	*?ád8giw	*siwsíw

NAC
Substitution

C→{ ? / y }	*gapúk	*d↔kún	*luŋkáb
	*?umí?		

Assimilation

Total	*daŋág9	*dak↔≅l∞a?	*nipís

Partial	*púns↔g	*tigás	*?úban
Voicing	*kilád	*luŋkáb	*lutbák
Devoicing	*mulágat		
Raising	*gapúk		
Labialization			

$$u+\begin{Bmatrix} ? \\ h \\ b \\ k \end{Bmatrix} \rightarrow \begin{Bmatrix} uw \\ w \end{Bmatrix}$$

	*bu?áya?	*?uháy	
	*l∞úha?	*lutbák	
Reciprocal	*pakpúk		
Dissimilation			
stop homor. N	*girag↔≅s	*hul∞águk	
V	*pis↔≅l		
Metathesis	*gak↔≅p	*laybúŋ	
Reduction			
Single	*abmiyán	*ti?↔≅s	*wilíd
Cluster	*sakg↔≅w	*túl∞du	*túrsuk
Addition			
C/V	*?adupáŋ		
Reduplication	*?úbud	*kimlát	
Analogy	*tarúŋ	*ramúk	*?árak
Borrowing	*banaháw	*band8út	*had8íg9i?

5.16. War

CR's

*i:i	*búlig	*díla?	*?inúm
*↔:u	*?at↔≅p	*b↔g9ás	*gat↔≅l∞
*a:a	*?ábu?	*bág9a?	*díla?
*u:u	*?ábu	*likúd	*lúkut
*p:p	*?ápug9	*?at↔≅p	*pár↔y
*b:b	*bádu?	*túbig	*hambúg
*t:t	*dik↔≅t	*tah↔≅p	*?it↔≅m
*d:d	*?álnud	*dál∞an	*tind↔≅g
*d8:r:d/C-	*had8íg9i?	*d8ál∞↔m	*hag↔d8áŋ
*k:k	*likúd	*santúk	*kíd8ay
*g:g	*?águs	*búlig	*gísi?
*g9:g	*?ápug9	*bág9a?	*g9atús
*?:?	*dagú?	*ba?gu?	*b↔?g9át
*s:s	*?águs	*saksák	*basúg9
*h:h	*hát↔d	*tah↔≅p	*barahíbu?
*m:m	*?inúm	*mulágat	*k↔mkúm
*n:n	*kasín	*?a?n↔≅m	*háŋin
*ŋ:ŋ	*laŋká?	*ŋár↔n	*?adup≅áŋ
*l:l	*díla?	*laŋká?	*likúd

*l∞:l	*búl∞an	*gat↔≅l∞	*l∞áksut
*r:l	*darága	*rabnút	*gurít
*w:w	*gawí?	*kawíl∞	*wal∞ú?
*y:y	*?áyam	*?uy↔≅g	*yáman
*ay:ay	*kíd8ay	*?ábay	*hápay
*uy:uy	*bábuy	*hagúnuy	
*↔y:ay	*kagt↔≅y	*p≅ar↔y	*?aná?↔y
*aw:aw	*bul∞al∞aŋáw	*bayáw	*karabáw
*iw:iw	*paksíw	*balíw	*?ád8g9iw

NAC
Substitution

$C \rightarrow \left\{ \begin{array}{c} ? \\ h \end{array} \right\}$	*bíg9nat	*burák	*daruwá?
	*híg9up	*luŋkáb	*kádlit

Assimilation

Total	*buhák	*biŋ↔≅l∞	*?uyád
Partial	*l∞↔≅mud	*wal∞sík	*bagík↔s
Voicing	*?adupáŋ	*kádlit	
Devoicing	*gat↔≅l∞	*?adupáŋ	
Backing	*giwáŋ		

Dissimilation

stop > homor. N	*hul∞águk		
V	*lisá?		
Metathesis	*?al∞s↔≅m	*ba?g9ú?	*mulágat

Reduction

Single	*l∞áksut	*li?↔≅g9	*la?úya?
Cluster	*?álnud	*baliskád	*luŋkáb

Addition

Reduplication	*hábuŋ	*kalimpurús	*?uy↔≅g
Analogy	*tádru?		
Borrowing	*dag9ámi?		

5.17. Seb
  CR's

*i:i	*híg9up	*limá?	*ŋíp↔n
*↔:u	*g9út↔m	*k↔mkúm	*lub↔≅ŋ
*a:a	*búŋa?	*?alagád	*bábuy
*u:u	*du?ŋáw	*l∞úmut	*l∞útu?
*p:p	*pu?sán	*?apdú?	*?at↔≅p
*b:b	*búŋa	*luŋkáb	*lubáŋ
*t:t	*kimlát	*?alimát↔k	*tah↔≅p
*d:d	*dág9at	*?alagád	*bádu?
*d8:l:d/CC	*?is↔d8á?	*had8íg9i?	
*k:k	*karámut	*ramúk	*lúkut
*g:g	*pal∞púg	*?águs	*guláman
*g9:g	*basúg9	*dág9at	*g9út↔m

*ʔ:ʔ	*puʔsán	*baʔgúʔ	*dad8íʔ
*s:s	*puʔsán	*ʔis↔dá8?	*s↔báw
*h:h	*hátpun	*l∞úhaʔ	*buhák
*m:m	*dag9ámiʔ	*g9út↔m	*maŋgáʔ
*n:n	*ŋíp↔n	*pand↔≅k	*ʔurán
*ŋ:ŋ	*liŋaw	*lub↔≅ŋ	*ŋíp↔n
*l:l	*l≅íŋaw	*lub↔≅ŋ	*galíŋ
*l∞:l	*hakl∞úŋ	*kawíl∞	*l∞úhaʔ
*r:l	*rabnút	*barahíbu	*darágaʔ
*w:w	*kawíl∞	*l∞áwaʔ	*wal∞úʔ
*y:y	*d8ayús	*ʔáyam	*ʔuy↔≅g
*ay:ay	*kíd8ay	*ʔábay	*hápay
*uy:uy	*bábuy		
*↔y:ay	*kagt↔≅y	*ʔanáʔ↔y	
*aw:aw	*duʔŋáw	*karabáw	*l≅íŋaw
*iw:iw	*balíw		

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*l∞ará	*d8ígus	*banaháw
	*daruwáʔ	*luŋkáb	*diraʔmús
	*likúd	*ʔurabáŋ	*dáʔmug
Assimilation			
Total	*basúg9	*pakpík	*l∞áksut
Partial	*d↔kún	*ʔiklúg9	*laŋkáʔ
Voicing	*kádlit	*sampál∞uk	
Devoicing	*gat↔≅l∞	*ʔurabáŋ	
Fronting	*rabnút	*ŋár↔n	*banhíʔ
Labialization			

$$u + \left\{ \begin{array}{c} l \\ ? \\ b \\ r \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*buʔáyaʔ	*búl∞an	*wal∞úʔ
	*lutbák	*d∞ál∞↔m	*surát
Reciprocal	*sups↔≅p		
Dissimilation	*gak↔≅p	*pár↔y	
Metathesis	*duʔŋáw	*hakl∞úŋ	*laʔúyaʔ
Reduction			
Single	*dak↔≅p	*dak↔≅l∞a	*laʔúyaʔ
Cluster	*kimlát	*ʔ↔≅mpat	*ʔabmiyán
Addition			
Reduplication	*kawíl∞	*l∞áwaʔ	*ʔuy↔≅g
Borrowing	*pisgáʔ		

5.18. Akl
CR's

*i:i	*gawíʔ	*gísiʔ	*ʔúbi

*↔:u	*haŋ↔≅s	*púns↔g	*tah↔≅d
*a:a	*ʔamáy	*haŋ↔≅s	*tah↔≅d
*u:u	*ʔabút	*gulú	*puŋk↔≅s
*p:p	*l∞akíp	*pawíkan	*siʔpún
*b:b	*ʔabút	*bág9aʔ	*siláb
*t:t	*ʔabút	*g9↔tús	*tábas
*d:d:r/V-V	*tah↔≅d	*díla?	*tudíŋ
*d8:d:l/V-V	*hag9↔dáŋ	*d8al∞↔m	*ʔis↔d8áʔ
*k:k	*gapúk	*bag9ík↔s	*kíd8ay
*g:g	*gátuŋ	*hambúg	*ʔugsáʔ
*g9:g	*g9úsuk	*hag9↔d8áŋ	*ʔápug9
*ʔ:ʔ	*balúgu?	*sá?bit	*b↔≅?ka?
*s:s	*g9atús	*gísi?	*s↔báw
*h:h	*banaháw	*ginháwa?	*hábu
*m:m	*hambúg	*tar↔≅m	*maŋgá?
*n:n	*handá?	*háŋin	*niyúg
*ŋ:ŋ	*galíŋ	*háŋin	*ŋár↔n
*l:l	*galíŋ	*wilíd	*likúd
*l∞:ɡ, l/i	*hátul∞	*l∞akíp	*hal∞imbáwa
*r:ɡ	*gurít	*kalimpurús	*l∞ára
*w:w	*gawí?	*halimbáwa?	*wal∞ú?
*y:y	*ʔuyád	*niyúg	
*ay:ay	*ʔábay	*halaybáy	*hápay
*uy:uy	*hagúnuy	*bábuy	
*↔y:ay	*ʔaná?↔y	*kagt↔≅y	*pár↔y
*aw:aw	*banaháw	*túlnaw	*s↔báw
*iw:iw	*siwsíw		

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*tigás	*túbig	*?↔≅mpat
	*gapúk	*kádlit	*dá?mug
	*lúkut	*luŋkáb	

Assimilation

Total	*giwáŋ	*pal∞tík	*hútak
Partial	*hag9↔dáŋ	*púns↔g	*ʔiklúg
Voicing	*yakáyak	*kádlit	*ʔadupáŋ
Devoicing	*ʔadupáŋ	*gat↔≅l∞	*ʔadupáŋ
Fronting	*ʔiklúg9	*ʔa?rúŋ	
Raising	*ʔa?rúŋ		
Labialization			
g + u → wu	*tágu?		
Dissimilation		*band8út	*túrsuk
Metathesis	*dá?mug	*ta?gún	*burák
Reduction			

Single	*bakukúl	*karamút	*d↔kún
Cluster	*kádlit	*pal∞tík	*tádru?
Addition			
Reduplication	*hábuŋ	*l∞áwa?	
Analogy	*laŋká?	*had8↔≅k	*sál∞ud
Borrowing	*?uríŋ	*dira?mús	*d8ígus

5.19. Buh

CR's			
* i:i	*kumíŋ	*?úbi	*limá?
*↔:u	*?alimát↔k	*?a?n↔≅m	*daŋág
*a:a	*dág9at	*limá?	*?anák
*u:u	*bilúg	*tambún	*?úbi
*p:f:p/-C	*?asíp↔s	*l∞ápad	*pu?sán
u-#	*pána?	*?at↔≅p	*háyup
*b:b	*bábuy	*báŋun	*tambún
*t:t	*dág9at	*batú?	*túlnaw
*d:d	*dág9at	*báyad	*handá?
*d8:y	*d8áyus	*d8ígus	
*k:k	*ramúk	*balískad	*kimdát
*g:g	*g↔ták	*baníg	*túrug
*g9:g	*basúg9	*ba?g9ú?	*?ug9át
*?:?:Π/-#	*wal∞ú?	*?anák	*limá?
*s:s	*basúg9	*ta?mís	*sakít
*h:h	*habágat	*banaháw	*hagúnuy
*m:m	*karámut	*?a?n↔≅m	*maŋá?
*n:n	*?anínu?	*báŋun	*niyúg
*ŋ:ŋ	*líŋaw	*l∞asúŋ	*ŋár↔n
*l:l	*bílaŋ	*líŋaw	*pí?lay
*l∞:l	*l∞asúŋ	*bál∞un	*hátul∞
*r:y	*dira?mús	*párat	*darága
*w:w	*daruwá?	*l∞áwa?	*wal∞ú?
*y:y	*báyad	*káyuw	*siyám
*ay:ay	*?uháy	*?uwáy	*pílay
*uy:uy	*bábuy	*hagúnuy	*apúy
*↔y:ay	*?aná?↔y	*pár↔y	
*aw:aw	*karabáw	*líŋaw	*bul∞al∞áŋaw
*iw:iw	*paksíw		

NAC

Substitution

C→ { ? / h / y }	*bakukúl	*banaháw	
	*karabáw	*kimlát	*?akú?

Assimilation

Total	*?águs	*?a?rúŋ	*d8ána?

76

Partial	*ramúk	*buŋl∞áw	*dá?mug
Voicing	*d↔kdúk	*karámut	*kilád
Devoicing	*basúg9		
Fronting	*búŋa?	*rabnút	*gapúk
Raising	*gapúk	*suká?	*?ul∞↔≅g
Labialization			

$$u + \left\{ \begin{array}{c} ? \\ h \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$ *bu?áya
*?uháy

Dissimilation	*baliskád	*tind↔≅g	
Metathesis	*basúg9	*lisá?	*sakgáw
Reduction			
Single	*?úban	*dira?mús	*buhák
Cluster	*pu?sán	*dá?mug	*tambún
Addition			
C/V	*?urán		
Reduplication	*?aŋpú?	*?uy↔≅g	
Analogy	*rabnút	*guráŋ	
Borrowing	*?árak	*tarúŋ	*?úriŋ

5.20. Tbw
CR's

*i:i	*bílaŋ	*lisá?	*pitú?
*↔:↔	*?a?n↔≅m	*?↔≅mpat	*dak↔≅p
*a:a	*?anák	*báyad	*pápag
*u:u	*ba?g9ú?	*bál∞un	*du?ŋáw
*p:p	*?↔≅mpat	*dak↔≅p	*pápag
*b:b	*bábuy	*b↔bíg	*luŋkáb
*t:t	*?↔≅mpat	*batú?	*túlnaw
*d:d	*báyad	*dág9at	*túl∞du?
*d8:r	*band8út	*d8ál∞↔m	*had8íg9i?
*k:k	*?anák	*baks↔≅n	*kimdát
*g:g	*bayúg	*bilúg	*g↔ták
*g9:g	*ba?g9ú?	*daŋ↔≅g	*g9út↔m
*?:?	*b↔≅?ka?	*b↔?g9át	*?ú?na?
*s:s	*?asíp↔s	*l∞asúŋ	*s↔báw
*h:?	*hatpún	*banaháw	*hag9↔d8áŋ
*m:m	*?a?n↔≅m	*ramúk	*sampál∞uk
*n:n	*?a?n↔≅m	*hatpún	*niyúg
*ŋ:ŋ	*bílaŋ	*du?ŋáw	*ŋíp↔n
*l:l	*bilúg	*lub↔≅ŋ	*bílaŋ
*l∞:l	*l∞úmut	*lal∞áki?	
*r:r:l/CC	*burák	*dira?mús	*?úriŋ
	*túrsuk		
*w:w	*daruwá?	*tú?wad	*wal∞ú?

*y:y	*báyad	*laybúŋ	*yakáyak
*ay:ay	*?uháy	*?uháy	
*uy:uy	*bábuy	*?apúy	
*↔y:ay	*kagt↔≅y	*pár↔y	*?aná?Пy
*aw:aw	*du?ŋáw	*karabáw	*l∞umtáw
*iw:iw	*paksíw		

NAC
Substitution

$C \rightarrow \left\{ \begin{array}{c} ? \\ y \end{array} \right\}$ *buhák   *burák   *d↔kún

*pawíkan

Assimilation

Total	*?a?n↔m	*hakl∞úŋ	*l∞umtáw
Partial	*ramúk	*kíglat	*kimdát
Voicing	*k↔mkúm		
Devoicing	*gat↔≅l∞		
Fronting	*laybúŋ		
Backing	*dak↔≅l∞a	*pawíkan	

Labialization

$u+ \left\{ \begin{array}{c} ? \\ k \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$ *bituk↔≅n

*bu?áya?

Reciprocal   *bulág

Dissimilation	*baliskád
Metathesis	*lisá?

Reduction

Single	*búŋa?	*l∞úha?	*la?úya?
Cluster	*?↔≅mpat	*baks↔≅n	*tatl∞ú?

Addition

Reduplication	*burák	*?alikalbúk	*ulíla?
Analogy	*?is↔d8á?		
Borrowing	*bádu?		

5.21. Agt

CR's

*i:i	*búlig	*díla?	*gipít
*↔:↔	*kals↔≅m	*b↔gás	*d↔pá?
*a:a	*?asúk	*?asáwa?	*dál∞an
*u:u	*búl∞an	*?asúk	*?úban
*p:p	*d↔pá?	*tah↔≅p	*pitú?
*b:b	*b↔g9ás	*hambúg	*halimbawá?
*t:t	*lúkut	*tah↔≅p	*gátuŋ
*d:d:r/V-V	*dál∞an	*kilád	*t↔≅hud
	*kádlit		
*d8:d	*had8íg9i?	*d8ál∞↔m	
*k:k	*kasín	*lúkut	*hul∞águk
*g:g	*búlig	*gátu	*habágat

*g9:l:g/u-	*b↔gás	*had8íg9i?	*ba?g9ú?
	*?ápug9	*?ug9át	
*?:k	*?asúk	*?urán	*díla?
*s:t:s/$^{-i}_{u-\#}$	*sulú?	*púns↔g	*suká?
	*siyám	*sakít	*gísi?
	*t↔bús	*nipís	*g9atús
*h:?	*had8íg9i?	*hul∞águk	*hagúnuy
*m:m	*kal∞s↔≅m	*dag9ámi?	*d8ál∞↔m
*n:n	*búl∞an	*?inúm	*niyúg
*ŋ:ŋ	*?uríŋ	*?aŋpú?	*ŋ↔sŋís
*l:l	*búlig	*laŋká?	*kal∞s↔≅m
*l∞:l	*búl∞an	*wal∞ú?	*biŋ↔≅l
*r:r	*ŋár↔n	*tar↔≅m	*?uríŋ
*w:w	*?asáwa?	*wal∞ú?	*giwáŋ
*y:y	*?áyam	*niyúg	
*ay:ay	*pí?lay	*gúlay	*hápay
*uy:uy	*?apúy	*hagúnuy	
*↔y:ay	*kagt↔≅y	*pár↔y	*?aná?↔y
*aw:aw	*gawgáw	*túlnaw	*s↔báw
*iw:iw	*paksíw		

NAC
Substitution

C → { ? / y }	*?iklúg	*niyúg	*síku
	*kal∞s↔≅m	*ŋár↔n	*ŋ↔sŋís

Assimilation

Total	*d8ána?	*giwáŋ	
Partial	*?uwák	*haŋ↔≅s	*napus
Voicing	*b↔g9ás	*wa?gát	*?umí?
Devoicing	*ta?gún		
Fronting	*?inúm	*?↔?sá?	
Labialization			
u + { h / b } → { uw / w }	*?uháy	*buhák	
	*túbig		
Metathesis	*?abmiyán	*wa?gát	

Reduction

Single	*dik↔≅t	*síku	*tah↔≅p
Cluster	*pal∞tík	*?↔≅mpat	*tatl∞ú?

Addition

Reduplication	*kíd8ay	*?uy↔≅g	*tulí?
Analogy	*bulág	*g9atús	
Borrowing		*banaháw	*súrat

5.22. Mar
  CR's

*i:i	*díla?	*?inúm	*ŋíp↔n
*↔:↔	*?at↔≅p	*dik↔≅t	*kal∞s↔≅m
*a:a	*?álnud	*?ásal	*tah↔≅p
*u:o	*búl∞an	*dáhun	*?inúm
*p:p	*kapúkap	*?apúy	*pawíkan
*b:b:w/#-a	*g9imbá?	*saráb	*búŋa?
	*bág9a?	*batú?	*báta?
*t:t	*?at↔≅p	*dik↔≅t	*tah↔≅p
*d:r/ a, o	*?álnud	*dik↔≅t	*likúd
-↔	*dág9at	*dag9ámi?	*du?ŋáw
		*túl∞du?	
*d8:d	*d8ál∞↔m	*band8út	*d8ána?
*k:k	*dik↔≅t	*kilád	*g9úsuk
*g:g	*búlig	*gat↔≅l∞	*?águŋ
*g9:g	*?ápug9	*g9imbá?	*?ug9át
*?:?	*p↔sá?	*?↔nús	*pa?↔≅n
*h:?	*halagá?	*hambúg	*had8↔≅k
*m:m	*kal∞s↔≅m	*maŋgá?	*?ámut
*n:n	*búl∞an	*?inúm	*niyúg
*ŋ:ŋ	*ŋár↔n	*?uríŋ	*báŋun
*l:l	*?ásal	*búlig	*likúd
*l∞:l	*búl∞an	*gat↔≅l∞	
*r:r:d/# -	*ŋár↔n	*karabáw	*rambúŋ
*w:w	*wal∞ú?	*ginháwa?	*pawíkan
*y:y	*?áyam	*yakál	*la?úya?
*ay:ay	*?ábay	*hápay	
*uy:uy	*?apúy	*bábuy	
*↔y:ay	*kagt↔≅y		
*aw:aw	*túlnaw	*karabáw	

NAC

Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ y \end{array} \right\}$$

	*kapúkap *d8ígus	*l∞áksut	*súkit

Assimilation

Total	*dál∞an	*g9imbá?	*tah↔≅p
Partial	*dapúg9	*girag↔≅s	*dá?mug
Voicing	*k↔mkúm		
Raising	*handá?	*t↔?núk	*t↔≅bu?

Dissimilation	*siyám	*gak↔≅p	
Metathesis	*kánmus	*gátuŋ	*talíŋa?

Reduction

Single	*lam↔tík	*túbig	*darága
Cluster	*?álnud	*kal∞s↔≅m	*kimdát

Addition

C/V	*kíd8ay	*bayú	*batú?
Gemination	*lub↔≅ŋ	*lisá?	
Analogy	*báŋun	*d8ayús	*kid8ay
Borrowing	*dapúg9	*banaháw	

5.23. Tau

CR's			
*i:i	*díla?	*tind↔≅g	*?iklúg
*↔:u	*?at↔≅p	*b↔g9ás	*tind↔≅g
*a:a	*?abága	*daruwá?	*l∞úha?
*u:u	*?iklúg9	*dag9ú?	*búŋa?
*p:p	*?apúy	*?at↔≅p	*pár↔y
*b:b	*bánhí?	*luŋkáb	*lub↔≅ŋ
*t:t	*tind↔≅g	*g9út↔m	*kimlát
*d:d	*?álnud	*díla?	*kimdát
*d8:l:d/C-	*kíd8ay	*d8ál∞↔m	*d8ayús
	*?is↔d8á?	*hag9↔d8áŋ	
*k:k	*?iklúg	*kamí?	*pakpík
*g:g	*búlig	*g↔ták	*bayúg
*g9:g	*g9amút	*?iklúg9	*dapúg9
*?:?	*?↔?sá?	*li?↔≅g9	*lisá?
*s:s	*?águs	*?is↔d8á?	*sakít
*h:h	*háyup	*tah↔≅p	*hakl∞úŋ
*m:m	*kal∞s↔≅m	*g9amút	*maŋgá?
*n:n	*?álnud	*búl∞an	*pu?sán
*ŋ:ŋ	*búŋa?	*gal∞apúŋ	*bátaŋ
*l:l	*?ásal	*búlig	*li?↔≅g
*l∞:l	*búl∞an	*l∞áksut	*kawíl∞
*r:r:l/#-	*?árak	*gurít	*súrat
-u	*dira?mús	*?a?rúŋ	
*w:w	*?asáwa?	*kawíl∞	*gawí?
*y:y	*siyám	*báyad	
*ay:ay	*kíd8ay	*pílay	*halayháy
*uy:uy	*bábuy		
*↔y:ay	*kagt↔≅y	*?aná?↔y	
*aw:aw	*karabáw	*túlnaw	*s↔báw

NAC
Substitution

C → { ?, h, y }	*ŋíp↔n	*babáyi	*bantí?is
	*?águs	*?adupáŋ	*?umí?
	*luŋkáb		

Assimilation

Total	*l∞asúŋ	*la?úya?	*b↔?g9át

Partial	*kimdát	*l∞↔≅mud	*gal∞apúŋ
Voicing	*balúk		
Devoicing	*gat↔≅l∞		
Backing	*kimdát	*tigás	
Metathesis	*baks↔≅ŋ		

Reduction

Single	*?águs	*had8ígi?	*dál∞an
Cluster	*?álnud	*kal∞s↔≅m	*túlnaw

Addition

Gemination	*lisá?		
Reduplication	*balúk		

5.24. Sub

CR's

*i:i	*tind↔≅g	*túbig	*pal∞tík
*↔:↔	*?at↔≅p	*kal∞s↔≅m	*b↔g9ás
*a:a	*?ábu?	*hat↔≅d	*p↔sá?
*u:u	*?ábu?	*búl∞an	*dag9ú?
*p:p	*?at↔≅p	*dapúg9	*pis↔≅l
*b:b	*b↔g9ás	*siláb	*túbig
*t:t	*túbig	*?ug9át	*hat↔≅d
*d:d	*?álnud	*dapúg9	*tind↔≅g
*d8:l:r/↔-a	*d8ayús	*had8↔≅k	*kíd8ay
a-u	*?is↔d8á?	*band8út	
*k:k	*kádlit	*g9úsuk	*saksák
*g:g	*búlig	*galíŋ	*halagá?
*g9:g	*?apúg9	*b↔g9ás	*g9úsuk
*?:?:Π/+ prefix	*suká?	*?ulí?	*daruwá?
*s:s	*?ásal	*b↔g9ás	*suká?
*h:?:Π/+ prefix	*hat↔≅d	*hatpún	*hútak
*m:m	*mará?	*kumíŋ	*limá?
*n:n	*niyúg	*tind↔≅g	*tambún
*ŋ:ŋ	*ŋár↔n	*?uríŋ	*báŋun
*l:l	*?ásal	*tulí?	*limá?
*l∞:l	*búl∞an	*gat↔≅l∞	*l∞úhak
*r:l	*darága	*mará?	*?árak
*w:w	*?asáwa?	*?uwák	*pawíkan
*y:y	*?áyam	*y↔tyúg	*báyad
*ay:ay	*pílay	*?ábay	*?uwáy
*uy:uy	*?apúy	*bábuy	
*↔y:ay	*kagt↔≅y	*pár↔y	*?aná?↔y
*aw:aw		*túlnaw	*s↔báw
*iw:iw	*balíw	*salíw	

NAC

82

Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*d8ayús	*gása?	*babáyi
	*dik↔≅t	*kusút	*laŋká?

Assimilation

Total	*kal∞s↔≅m	*d8ána?	*siláb
Partial	*galíŋ	*laŋká?	*púns↔g
Voicing	*y↔tyúg	*kilád	*kumíŋ
Devoicing	*gat↔≅l∞		
Fronting	*gurít	*tarúŋ	*ta?mís
Backing	*dak↔≅p		
Raising	*diŋdíŋ	*sandíg	*basúg9
Lowering	*sakít		

Labialization

$$u + \left\{ \begin{array}{c} ? \\ h \\ k \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*bu?áya?	*kapúkap	
	*l∞úhak		

Metathesis	*s↔l∞úg	*?udl∞áŋ	*lutbák

Reduction

Single	*tah↔≅p	*halagá?	*pakpúk
Cluster	*?álnud	*kal∞s↔≅m	*kádlit
Analogy	*d8ál∞↔m	*hag9↔dáŋ	
Borrowing	*gurít	*hál∞as	

5.25. Yak

CR's

*i:i	*?úbi	*kasín	*diŋdíŋ
*↔:↔	*p↔sá?	*sus↔≅p	*tah↔≅d
*a:a	*?aŋpú?	*ta?gún	*?útaŋ
*u:u	*pitú?	*si?pún	*?úban
*p:p	*p↔sá?	*si?pún	*háyup
*b:b	*kámbr	*búl∞an	*sárab
*t:t	*pal∞tík	*tábas	*súkit
*d:d:r/V-V:j◊/a-u,↔	*kilád	*sandíg	*dapúg9
	*kimdát	*?adupáŋ	*lutbák
*d8:l	*kíd8ay	*d8ál∞↔m	
*k:k	*pal∞tík	*kapúkap	*sál∞uk
*g:g	*galíŋ	*saŋgá?	
*g9:l	*bág9a?	*dapúg9	
*?:?	*díla?	*?uwák	*la?úya?
*s:s	*p↔sá?	*sampál∞uk	*sandíg
*h:h	*halagá?	*tah↔≅d	*háyup
*m:m	*ta?mís	*?inúm	*l∞imugmúg
*n:n	*si?pún	*?ántut	*dál∞an

83

*ŋ:ŋ	*galíŋ	*saŋgá?	*?útaŋ
*l:l	*limá?	*b↔lí?	*lal∞áki?
*l∞:l	*sampál∞uk	*gatál∞	*l∞úmut
*r:l	*rambúŋ	*urán	
*w:w	*?uwák	*wal∞ú?	*daruwá?
*y:y	*yakáyak	*siyám	*báyad
*ay:↔y	*kíd8ay	*?uwáy	
*uy:i	*bábuy		
*↔y:↔y	*?aná?↔y	*kagt↔≅y	*pár↔y
*aw:↔w	*buŋl∞áw	*karabáw	*líŋaw
*iw:↔w	*balíw		

NAC
Substitution

$$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$$

	*sandíg	*t↔≅hud	*hútak
	*kilád	*gurít	*kádlit
	*s↔l∞úg		

Assimilation

Total	*kígl∞at	*tah↔≅d	*ta?mís
Partial	*?aŋpú?	*kígl∞at	*túrsuk
Voicing	*kilád	*kádlit	*pal∞tík
Devoicing	*gurít	*gat↔≅l∞	*úbúd
Fronting	*túrug	*balúk	*báyad
Backing	*gurít	*kádlit	*si?pún
Raising	*tatl∞ú?	*hútak	*daruwá?
Labialization			

$$u+ \left\{ \begin{array}{c} b \\ k \\ ? \\ ŋ \\ l \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$$

	*b↔g9as	*búŋa?	*bu?áya?
	*ŋuká?	*bábuy	
Reciprocal	*gurít	*limá?	
Dissimilation	*baliskád		
N₁ > N₂	*tarúŋ		
Metathesis	*kilád		*ŋapús
Reduction			
Single	*púlu?	*ŋapús	*kapúkap
Cluster	*pal∞tík	*pakpúk	
Addition			
C/V	*?alíŋaw	*banhí?	*ba?g9ú?
Gemination	*?amáy	*p↔sá?	*sampál∞uk
Analogy	*hag9↔d8áŋ		

5.26. Bla
CR's

*i:i	*li?↔≅g9	*kasín	*díla?

*↔:a	*lub↔≅ŋ	*li?↔≅g9	*?at↔≅p
*a:a	*báyad	*dál∞an	*gat↔≅l∞
*u:u	*bayúg	*burák	*?inúm
*p:f	*?asíp↔s	*pakpík	*?at↔≅p
*b:b	*báyad	*g9imbá?	*lub↔≅ŋ
*t:t	*mulágat	*ug9át	*tar↔≅m
*d:d:l/u-#	*báyad	*dál∞an	*hat↔≅d
	*?úbud		
*d8:d:l/#-	*band8út	*d8ígus	*d8ayús
*k:k	*burák	*kilád	*paltík
*g:g	*g↔ták	*bayúg	*maŋgá?
*g9:l:g/C	*basúg9	*b↔?g9át	*li?↔≅g9
*?:?	*g↔tá?	*?ápug9	*díla?
*s:s	*l∞asúŋ	*siyám	*ŋapús
*h:?	*tah↔≅p	*hat↔≅d	
*m:m	*limá?	*mulágat	*?a?n↔≅m
*n:n	*búl∞an	*?inúm	*d8ána?
*ŋ:ŋ	*lub↔≅ŋ	*maŋgá?	
*l:l	*lub↔≅ŋ	*balúk	*kilád
*l∞:l	*l∞akíp	*búl∞an	*gat↔≅l∞
*r:l	*burák	*mará?	*?a?rúŋ
*w:w	*wal∞ú?		
*uy:o	*?apúy		
*↔y:ay	*kagt↔≅y		
*aw:u/o		*?ardaw	*?aliŋaw
*iw:iw	*paksíw		

NAC
Substitution

$C \rightarrow \left\{ \begin{array}{c} ? \\ h \end{array} \right\}$	*?anák	*band8út	*dá?mug
	*lisá?	*kasín	*kal∞ába?

Assimilation

Total	*lub↔≅ŋ	*?álnud	*d8ána?
Partial	*d↔kduk	*lub↔≅ŋ	*bagík↔s
Voicing	*kamí?	*mákut	*sikú
Devoicing	*mulágat	*gat↔≅l∞	*gísi?
Fronting	*?a?rúŋ	*?ámut	
Backing	*mará?	*kádlit	*d8ígus
Raising	*?a?rúŋ	*limá?	*bag9ík↔s

Labialization

$u + \left\{ \begin{array}{c} ? \\ h \end{array} \right\} \rightarrow uw$	*bu?áya?	*l∞úhak	
Reciprocal	*biŋ↔≅l∞	*d8ígus	

Dissimilation

	*kal∞ába?	*kádlit	
Stop > homor. N	*b↔lí?		

N > lat., stop	*bisín		
Metathesis	*búŋa?	*basúg9	*daruwá?
Reduction			
Single	*alimát↔k	*dag9ámi?	*lasu
Cluster	*g9imbá?	*?ugsá?	*?albúk∞
Addition			
C/V	*bituk↔≅n		
Gemination	*?asíp↔s	*baliskád	
Analogy	*?úbud	*d8ayús	
Borrowing	*saráb	*karabáw	*sampál∞uk
5.27. Bag			
CR's			
*i:i	*kilád	*pal∞tík	*ta?mís
*↔:↔	*had8↔≅k	*sups↔≅p	*tah↔≅d
*a:a:o/-#	*?abút	*sá?bit	*?ásu
*u:u	*kumíŋ	*g9úsuk	*tulí?
*p:p	*pawíkan	*sups↔≅p	*gak↔≅p
*b:b	*t↔≅bu?	*siláb	*búŋa?
*t:t	*?abút	*hat↔≅d	*tah↔≅d
*d:d	*kilád	*dá?mug	*túldu?
*d8:d:d/C	*had8↔≅k	*d8ál∞↔m	*d8ána?
	*hag9↔d8áŋ		
*k:k	*kilád	*g9úsuk	*pawíkan
*g:g	*g↔ták	*túbig	*limugmúg
*g9:l	*g9úsuk	*bág9a	*b↔g9ás
*?:?	*ti?↔≅s	*?útaŋ	*banhí?
*s:s	*pis↔≅l	*sálud	*tábas
*h:?	*had8↔≅k	*hag9↔dáŋ	*hútak
*m:m	*kumíŋ	*?inúm	*maŋá?
*n:n	*pawíkan	*nipís	*?a?n↔m
*ŋ:ŋ	*galíŋ	*maŋá?	*ŋ↔sŋís
*l:l	*galíŋ	*?álnud	*laŋká?
*l∞:l	*sál∞ud	*l∞↔≅mud	*lal∞áki?
*r:l	*saráb	*?urán	*burák
*w:w	*ginháwa	*pawíkan	*wal∞ú?
*y:y	*niyúg	*d8ayús	*la?úya
*ay:ay	*?uwáy		
*uy:uy	*?apúy		
*↔y:uy	*?aná?↔y	*pár↔y	
*aw:aw:o, □u/CC-	*túlnaw	*ardáw	*bulalaŋaw

In this language diphthongs may assimilate or may undergo metathesis:
*lumtáw > mut↔≅w, *líŋaw > laŋŋ↔≅w, *?uwáy > ?uwuy.

NAC
Substitution

$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right\}$ *kasín   *búlig
    *g9úsuk   *sá?bit
    *dág9at   *?úban

Assimilation

Total	*had8↔≅k	*ta?mís	
Partial	*ginháwa	*kíglat	*hag9↔d8áŋ
Voicing	*?akú?		
Devoicing	*?abút	*l∞akíp	*gak↔≅p
Fronting	*ginháwa	*hat↔≅d	*túldu?
Raising	*pís↔≅l	*ŋíp↔n	*daruwá?
Lowering	*dá?mug	*suká?	*díla?

Labialization

$u+ \left\{ \begin{array}{c} b \\ ? \\ k \end{array} \right\} \rightarrow \left\{ \begin{array}{c} uw \\ w \end{array} \right\}$ *?úban   *?úbi   *ŋuká?
    *dá?mug   *?ábu?

Reciprocal	*bulág	*hútak	
Metathesis	*balúgu?	*l∞akíp	*saŋgá?

Reduction

Single	*?anítu?	*kumíŋ	*pis↔≅l
Cluster	*tádru?	*kals↔≅m	*kimlát

Addition

C/V	*sikú		
Gemination	*?anítu?	*?abút	*balúgu?
Reduplication	*lúkut		
Borrowing	*banaháw	*tah↔≅d	*dapúg9

5.28. Buk
 CR's

*i:i	*díla?	*ŋíp↔n	*siyám
*↔:↔	*?at↔≅p	*b↔g9ás	*gat↔≅l∞
*a:a	*?ábu?	*díla?	*sakít
*u:u	*?asú	*búl∞an	*sulú?
*p:p	*?ápug9	*?at↔≅p	*p↔≅nu?
*b:b	*b↔g9ás	*siláb	*sá?bit
*t:t	*?at↔≅p	*sakít	*tind↔g
*d:d:r/V-V	*díla?	*diŋdíŋ	*kilád
	*hag9↔d8áŋ	*likúd	
*d8:r:l/i	*d8ál∞↔m	*had8↔≅k	*hag9↔d8aŋ
	*had8igi?	*kid8ay	
*k:k	*sakít	*wal∞sík	*kilád
*g:g	*?águs	*tind↔≅g	*guráŋ
*g9:g	*g9atús	*?apúg9	*b↔g9ás

*?:?	*díla?	*?apúg9	*d8ána?
*s:s	*bag9ík↔s	*?ásu	*sakít
*h:h	*banaháw	*hag9↔d8aŋ	*?uháy
*m:m	*d8ál∞↔m	*l∞úmut	*mará?
*n:n	*kasín	*tind↔≅g	*?úban
*ŋ:ŋ	*diŋdíŋ	*ŋíp↔n	*talíŋa?
*l:l	*siláb	*lá?tug	*pis↔≅l
*l∞:l	*gat↔≅l∞	*d8ál∞↔m	*l∞áksut
*r:l:r/u	*rabnút	*tar↔≅m	*lará
	*túrug	*?urán	*?a?rúŋ
*w:w	*walú?	*tu?wád	*wilíd
*y:y	*siyám	*?uy↔≅g	*báyad
*ay:ay	*halayháy	*?uháy	
*uy:uy	*bábuy		
*↔y:ay	*kagt↔≅y	*bal∞↔≅y	*?aná?↔y
*aw:aw	*banaháw	*túlnaw	*s↔báw

NAC
Substitution

$C \rightarrow \left\{ \begin{array}{c} ? \\ h \\ y \end{array} \right.$ *girag↔≅s   *handá?   *hat↔d
    *kíglat   *gása?
    *?urabáŋ

Assimilation

Total	*d8ána?	*wal∞sík	*sál∞ud
Partial	*suká?	*karámut	
Voicing	*sampál∞uk		
Devoicing	*gat↔≅l∞		
Fronting	*suká?		
Backing	*tah↔≅d	*li?↔g9	*?aliŋaw
Raising	*pal∞tík		*ta?mís
Labialization			
u + g → aw	*tágu?		

Dissimilation

| Stop > homor.   N | *kíglat | *túldu? | |

Metathesis   *lá?tug   *mayún   *sa?bit

Reduction

| Single | *l∞áksut | *la?úya? | *hat↔≅d |
| Cluster | *wal∞sík | *?aŋpú? | *tádru? |

Addition

| Gemination | *p↔≅nu? | | |
| Reduplication | *?uy↔≅g | *gak↔≅p | *l∞áwa? |

Analogy   *dag9ámi?   *likúd   *mará?

Borrowing   *ŋár↔n

5.29. Bah
    CR's

88

*i:i	*búlig	*bantí?is	*?inúm
*↔:↔	*ŋíp↔n	*?at↔≅p	*b↔g9ás
*a:a	*kasín	*?apúg9	*dál∞an
*u:u:ü/-#	*búl∞an	*?inúm	*?ug9át
	*sul∞ú?	*bul∞búl∞	
*p:p	*?at↔≅p	*ŋíp↔n	*p↔nú?
*b:b	*búl∞an	*sárab	*?úban
*t:t	*kagt↔≅y	*lúkut	*tah↔≅p
*d:d	*dál∞an	*l∞↔≅mud	*kádlit
*d8:d	*?is↔d8á?	*hag9↔d8áŋ	*d8ígus
*k:k	*kíd8ay	*laŋká?	*sál∞uk
*g:g	*búlig	*maŋgá?	*g9atús
*g9:g	*?ápug9	*b↔g9ás	*g9úsuk
*?:?	*binhí?	*sá?bit	*dá?mug
*s:s	*b↔g9ás	*is↔d8á?	*sakít
*h:h	*tah↔≅p	*habágat	*banaháw
*m:m	*?inúm	*mayún	*dá?mug
*n:n	*kasín	*?inúm	*niyúg
*ŋ:ŋ	*laŋká?	*ŋíp↔n	*hásaŋ
*l:l	*búlig	*laŋká?	*limá?
*l∞:l	*búl∞an	*wal∞ú?	*l∞akíp
*r:d	*ŋár↔n	*sárab	*daruwá?
*w:w	*?uwák	*wal∞ú?	*giwáŋ
*y:y:j/#-a a-	*niyúg	*d8ayús	*báyad
	*bayú	*?uyád	
*ay:ay	*kíd8ay		
*uy:uy	*hagúnuy	*bábuy	
*↔y:↔y	*kagt↔≅y	*?aná?↔y	
*aw:↔w	*tulnáw	*sakgáw	
*iw:iw	*paksíw		

NAC
Substitution

C → { ?, h, y }	*siyám	*girag↔≅s	*gapúk
	*kapúkap		
	*sál∞uk	*l∞úmtaw	*l∞uha?

Assimilation

Total	*d8ána?	*ŋár↔n	*yakál
Partial	*l∞↔mud	*daŋ↔≅g	
Voicing	*padk↔≅t	*kilád	
Devoicing	*gísi?	*?adupáŋ	
Fronting	*darága	*daŋ↔≅g9	*bul∞al∞áŋaw
Backing	*tind↔≅g	*li?↔≅g9	
Raising	*?aná?↔y	*hat↔≅d	*?uháy
Labialization			

u + { g } → { uw}   *tágu?

Reciprocal	*p↔nú?	*l∞umtáw	
Metathesis	*gátuŋ		*dá?mug
Reduction			
Single	*?is↔d8á?	*l∞áksut	*?uwák
Cluster	*tatl∞ú?	*?antút	*rambúŋ
Addition			
C/V	*si?pún		
Reduplication	*tambún	*luŋkáb	*l∞áwa?
Analogy	*?uy↔≅g	*?urabáŋ	*kimdát
Borrowing	*kíd8ay	*?uríŋ	*tan↔≅m

CHAPTER 6: SAMPLE RECONSTRUCTIONS

The cognates which are chosen for discussion in this chapter are those which illustrate not only the regularly corresponding forms but also the different processes like CR's and NAC's which are operational in the PL's and which explain the seemingly aberrant forms.

The elements enclosed in parenthesis in the list of cognates are separate morphemes or segments of morphemes, which are not part of the cognates and therefore not considered in the comparison. The forms in each set are arranged to show as closely as possible the forms which are very much alike. Following each cognate set is a discussion of the proto-morpheme and how it was reconstructed. The different meanings of the morpheme reflexes are indicated, with morphemes having the same meaning placed together in a series. This study does not attempt to reconstruct the proto-meaning of the morphemes since the reconstruction of the proto-meaning would entail a separate methodology.

Each proto-phoneme is discussed following the order which best explains the reconstructed form. In the analysis of the changes within each correspondence set it was discovered that certain changes most probably preceded others. This means that the order in which the changes are discussed implies the order in which the CR's and NAC most probably took place.

Since Tag words were used to elicit the forms from the other PLs, each morpheme set is headed by a Tag word with its English gloss. The cognate set is followed by the PP form reconstructed from the preceding cognate set. A discussion of the reconstruction of the PP form follows.

Stress is indicated in the reconstructed form as explained in 3.6.5, that is, where it is found in the cognate most similar to the reconstructed form; when this procedure is not applicable, stress is indicated where it occurs most frequently in the cognates within the set.

agaw   'snatch, grab'

s a k g ↔≅w	Bah
s á g g a w	Tau
k á g a w	Buh
? a g á w	Kam Tbw
? á g a w	Tag Png Ilk Nag Vir Akl Mar War Buk
	Sub 'take by force'
? á g ↔ w	Yak
? á y o	Iba
*s a k g á w	

*-aw   All the languages show regular correspondences, except Iba where the diphthong was reduced to a single sound.

*-a-   The correspondences are regular.

*-g-   the correspondences are also regular, except in Iba where **-g-** underwent substitution by **y**.

*-k-   Only Bah, Tau and Buh retained this sound and therefore a **-CC-**, but in Buh the **-CC-** was subsequently reduced. All the other PLs underwent reduction dropping the first member of the cluster (**$C_1C_2 > C_2$**). In Tau **-k-** underwent assimilation to **g** while in Buh it underwent metathesis with **s** (see below).

*-s-   Bah and Tau retained this sound while all the other languages except Buh substituted for it. In Buh **s-** and **-k** underwent metathesis, then **s** was subsequently dropped resulting in the reduction of the **-CC-**.

asim   'sour'

? a l s ↔≅ m	Ilk
? a l h ↔≅ m	Iba
? a l s á m	Itw
? a l s ú m	Nag
? k a ? l ↔≅ m	Agt
? a k s ↔≅ N	Png
? a Y s ú m	Vir
? a l∞ s ↔≅ m	Bon
l ↔ s s ↔≅ m	Yak
? a s l á m	Kap
? a s l ú m	War Seb Akl
? á s l u m	Tau[1]
? á s u m	Tau[2]
? E s ó m	Isi
(m) á s s u ?	Ibg
(m) ↔ s ↔≅ m	Sub

91

(m) á s i	Bag
(m) á s ↔ m	Mar
? á s i m	Tag

*k a l∞ s ↔ m

*k- This sound is retained in Agt and Png. In the latter it underwent metathesis with **l** was subsequently lost (see below). Similarly, in Yak, it also changed positions with **l** then assimilated totally to the following **s**. In all the other languages **?-** substituted for **k-**, then the **-?** was covered on prefixation of a separate morpheme in Ibg, Sub, Bag and Mar.

*-l∞- As mentioned above, **k** and **l** in Png and Yak underwent metathesis. In Png **l** underwent further change and was substituted by **?-**. In Agt, Kap, War, Seb, Akl, and Tau[(1)] metathesis also occurred, this time between **l** and **s**. In Ibg **l** assimilated totally to the following **s**. In Isi, Sub, Bag, Mar, Tag and Tau[(2)], reduction of the cluster took place and **l** was dropped.

*-a- Yak and Sub **-a-** assimilated to the following **-↔-**. In Isi, **-a-** was pulled forward and raised by **s**. The rest of the correspondences are regular.

*-s- Ibg shows aberrant **s** where expected **t > s**, due to contamination from neighboring **s-** languages like Ilk and Png.

*-↔- Ibg shows aberrant **u** and Bag **i**, otherwise the correspondences are regular. In Ibg the expected **a > u** due to CR.

* ↔:a:u/-? (< p, -t, -k, -s).   Bag **i** is the result of assimilation to the front and high **s**.

*-m All the correspondences are regular, except Png, Ibg and Bag. Bag dropped **-m** while in Png distant assimilation took place. In Ibg there was probably assimilation of **-m** to the preceding **s**, then Ibg CR *s:t:?/-# applied.

atay 'liver'

? a l t ↔≅ y	Png
? a g t á y	Iba
? á g̶ s E	Igt
? o g t ú y	Kal
k a t ú y	Nag Vir
(g) á t a y	Sub
h á t ↔ y	Yak
? a t á y	Tag Itb Seb Akl War Tbw Agt Mar Tau Bla
	Itw 'bowel'
? á t a y	Buk
? á t ↔ y	Bon
? a t ↔≅ y	Bah
? E t ó y	Isi

? u t ú y	Bag
? a t é	Kap

*k a g t ↔≅ y

*-k   This is retained in Nag and Vir. Further proof for *k is Agt?, where a **k** would be expected if the correspondences were to *?. Yak **h** and **?** found in the other languages are the results of the substitution process. **k-** was dropped on the addition of **g-** in Sub, a separate morpheme.

*-a-   The correspondences are regular in almost all the languages except where the sound was subjected to the process of assimilation. In Kal and Bag **-a-** assimilated to **u**. In Isi on the pull of the **t**, which is articulated in the front of the mouth with the tongue raised , **a** was replaced by **E**, which is similarly articulated.

*-gt-   The majority of languages show a reduction of this cluster following the $C_1C_2 > C_2$ NAC. Png, Iba, Igt, and Kal retained the cluster with aberrant Png **l** and Igt **g** for the C_1. The Png **l** resulted from analogy to the *g_9:**l**. Analogy can also be cited as the process that resulted in the Igt **g**. That is, analogy to the environment: final position. (CR *g:g:g/-#), in this case final syllable position.

        The **t** is regular in all languages except Igt, where it assimilated to the preceding fricative **g**, resulting in the **s**.

*-↔y   The correspondences are regular, except for Igt where *↔y:i, which was then assimilated to the preceding **a**, consequently being lowered to **E**.

atip   'roof'

? a t ↔≅ p	Iba Ilk Png Itb Bon Tbw Bah
? á t ↔ p	Igt Mar Buk
(g) á t ↔ p	Sub
k á t ↔ p	Agt
? a t í p	Tag
? a t ú p	Nag War Seb Akl Buh Vir
? á t u p	Tau
? a t ú ?	Ibg
? a t ó k	Itw
? a t á p	Kap
? a t á f	Bla
? □ t □ ≅p	Bag
? a t ó p	Isi

*?a t ↔≅ p

*?-   The languages show very regular correspondences of **?-**, except where the correspondence is covered by the prefix in Sub.

*-t-   This reflex is common in all the languages.

*-p-   Only Itw shows an aberrant sound. In this case **-p** underwent substitution by **-ʔ**, which later on was assimilated to the preceding **t**, resulting in **-k**. The **-ʔ** in Ibg is the result of Ibg CR *↔:a:u/-ʔ (< -p, -t, -k, -s). Buh CR *p:f:p/u-# is illustrated here.

*-↔-   Itw shows aberrant **o** for expected **a**. This is due to the assimilation of **a** to the velar **k** which, needless to say, is a back sound, hence the articulation of a central **a** in lieu of a back vowel **o**.

-a-   This is regularly reflected in all the languages except where it assimilated to □ (↔) in Bag.

apuy   'fire'

	ʔ a p ú y	Tag Iba Png Ilk Kal Bon Isi Igt Nag Agt Tbw Mar
(g)	á p u y	Sub
	h á p u y	Itb
	ʔ a f ú y	Itw Buh
	ʔ a f í	Ibg
	ʔ a p í	Kap
	ʔ á p i	Tau
	ʔ ó p u y	Bag
(l)	i f ó	Bla

*ʔa p ú y

*ʔ-   The **ʔ-** is common in all the languages, except when covered by an added morpheme or a segment of one, as in Sub and Bla, and where it is substituted for by **h** in Itb.

*-p-   The **-p-** is also quite regular in the languages. Ibg CR *p:p:f/ $^{-u}_{-i\ (*uy)}$ and Itw *p:pf/-u applied in this case.

*-a-   Bag **o** and Bla **i** are aberrant for expected **a**. In Bag **a > o** on assimilation to **a** following **u**, and the Bla reflex **a** was raised and fronted to **i** due to **l** and **f**.

*-uy   This is quite regular in all the languages. In Kap **-i** (*uy) took **-ʔ**. The Tau **-i** is probably due to contamination from Yak.

babuy 'pig'

	b á b u y	Tag Iba Ilk War Seb Akl Agt Buh Tbw Tau Bah Buk
	b a b ú y	Png
(g)	b á b u y	Sub

94

b á ƀ u y	Isi
b ↔≅ b u y	Mar
b á h u y	Itw
b á b i ?	Kap
b á w i	Yak
b á ƀ i	Ibg

*b á b u y

*b-, *-b-The correspondences are regular in all the languages except Itw and Yak. In Itw *-b- is substituted by -h-. In Yak the *-b->-w-, highly likely as the result of the accelerated movement from a to i, articulated with lips open, so that there was hardly time for the lips to close, resulting in the w.

*-a-   Only Mar is aberrant with ↔, which can be explained as the raising of the expected a due to the pull of high u which follows.

*-uy   The correspondences are regular.

bahin   'sneeze'

b á k ↔ n	Agt
b a k ↔≅ n	Tbw
b á s i s	Png
b ↔≅ s i t	Igt
b a ? ↔≅ n / N	Ilk
b a h í n / N	Tag
(m) b ↔≅ ? ↔ n	Mar
b á ? u	Bag
b □ ? □ ≅ n	Kal
b a h a ? (ón)	Akl
b a h á ? (↔≅n)	Buh Bah
b a h á ? (nun)	Tau
(ma) m a g h ú n	Seb

* b a k s ↔≅ n

*b-   The b- is common. except in Seb, with m- for b- due to assimilation to the nasal of the preceding added element which is possibly a fragment of a separate morpheme.

*-↔-   There is variation in the correspondences, Png and Igt show a raising and fronting of the expected ↔ to i due to the neighboring high and front s and t. The Bag □ correspondence is replaced by u on the influence of the high ?. In Akl, Buh, Bah and Tau a-↔ > a-a by total assimilation.

*-a-   The **-a-** is common with the following exceptions: Igt **a** is replaced by ↔ due to the following **i**; in Mar **a-↔ > ↔-↔** or total assimilation; in Kal **a-↔ > ↔-□** or reciprocal assimilation.

*-ks- This cognate set is indicative of a medical cluster which was reduced in all the PL's except Seb where the **k > g** on assimilation to the preceding voiced **m** and **a**. Following the rule on cluster reduction, $C_1C_2 > C_2$ (4.3.2.1), we see a loss of **k** in all the languages except Agt and Tbw where **k** was retained. This is possibly because metathesis took place in these forms before reduction. After reduction **-s-** was substituted for by **?** in Ilk, Mar, Bag and Kal and by **h** Tag, Akl, Buh, Bah, and Tau. In Igt the CR *s:t:s/i:s&/E applied.

*-n   There is variation in the correspondences. Png and Igt **-n** was assimilated completely to the preceding **s**. This **-s** underwent further change in Igt where it assimilated to the distant stop **b**, hence the change from fricative **s** to stop **t**. In Ilk and Tag **-n** and **-N** are in free variation as a case of NAC. Bag **-n** underwent reduction while Akl, Buk and Bah **-n > -?** due to substitution.

bigas   'uncooked rice'

b ↔ g á s	Tbw Bah
b ↔≅ g a s	Buk
(g) b ↔ g á s	Sub
b ↔ l á s	Png
b ↔ l á d	Agt
b i g á s	Tag
b a g á s	Ilk Nag Vir
b á g g a t	Itw
b a g g á	Ibg
f a kʰ á s	Bon
b a l l á s	Bag
? a b y á s	Kap
b u y á h	Iba
b u g á s	War Seb Akl Mar 'cooked rice'
b ú g a s	Tau
b o h á s	Isi
b ú w a s	Yak

*b ↔ g9 a s

*b-   Except for Bon **f-** (for *b:f:b/-#_-f) **b** is common. In Kap **b** and **a**, the normal correspondence of *↔ underwent metathesis, and as a result **-?** is automatic due to structural pressure.

*-↔-   In Ilk, Nag, Vir, Bon and Bag the normal correspondence **-↔-** underwent total assimilation to the following **a**. In Iba, Mar and Yak, the expected retention of **↔ > u**

on assimilation to the initial **b** took place. The correspondences in the other languages are regular.

*-g9-   Ilk, Isi, and Yak show aberrant correspondences, Ilk with **g**, Isi with **h**, and Agt with **w**. In Ilk the expected positional variant is **r** but due to analogy to the **g** (<*g9) and possible contamination from neighboring languages, the **r > g**. In Isi the anticipated **l** is substituted by **h**, while in Yak the expected **l** was labialized due to the preceding **u**. the rest of the correspondences are regular, with gemination in Itw and Bag.

*-a-   The correspondence **-a-** is common in all the languages.

*-s   Only Agt shows aberrant **d**. the expected **t** was voiced to **d** due to the preceding voiced sounds. In Ibg the expected correspondence, **-?**, was dropped completely.

buwig 'bunch of fruits (as bananas)'

b ú l i g	Ilk Nag War Seb Akl Buh Tau Tbw
(g) b ú l i g	Sub
b u l í g	Kap Agt Buh Bah
ƀ ú l i g	Kal
ƀ u l í g	Ibg
b ú l i ?	Bag
b ú l i ∣	Isi
b u Y í g	Vir
b ↔≅ l ↔ y	Iba
h ú l i g	Itw
b u w ↔≅ g	Png
b u w í g	Tag
? ó l i g	Mar

*b ú l i g

*b-   The **b-** is common, except for Kal and Ibg **ƀ -**, which is normal; Itw **h-** and Mar **?-** substituted for anticipated **b-**.

*-u-   Iba shows aberrant **-↔-** which resulted from fronting by **b-**. Mar **o** for ***u** is normal.

*-l-   Vir shows aberrant **Y** instead of the expected **l** in analogy to correspondence of *l∞, while the Png and Tag correspondences underwent labialization to **-w-** due to the preceding **u**.

*-i-   Iba and Png have aberrant correspondences. In Iba **i** is assimilated to the preceding ↔ while in Png there was backing of the **i** to ↔ due to the pull of **g**, a back sound.

*-g   Aberrant are Bag which substituted **ʔ**, Isi **|**, and Iba **y** for expected **g**.

dila   'tongue'

d í l a ʔ	Tag Kap Iba Nag Vir war Seb Akl Mar Tau Tbw Bla Buk
d í l a	Ilk Buh
d i l á	Png
r í l a	Itb
h í l a	Itw
z i l á	Ibg
č i l á	Kal Bon
d i l á k	Agt
d É l a ʔ	Bag
d ↔≅ l l a ʔ	Yak

*d í l a ʔ

*d-   The correspondence set is fairly regular. Only Itw shows aberrant **h** which substituted for the expected **z/#-i** for *d. Ibg shows the positional variants **z**, *d:d:g/ $_{C}^{-\#}$ (except n) :z/#-i.

*-i-   This is regular in all the languages, except Bag with aberrant **E** and Yak with **↔**. In both languages the sound underwent partial assimilation to the following **a**, in Bag it was lowered, in Yak it took the mid-central position.

*-l-   Vir shows aberrant **l**, Vir CR *l:l:r/-i did not apply. This could have been either due to analogy to the **l** positional variant or due to contamination from Nag or Tag. Yak **l** underwent gemination.

*-a-   This is regular correspondence.

*-ʔ   The correspondences are also fairly regular, with the normal loss of **-ʔ** in Ilk, Buh, Png, Itw, Ibg, Kal, and Bon, and Agt CR *ʔ:k. In the case of Itb, loss of **-ʔ** could have been due to reduction or contamination form Ilk.

gatus (obs)   'million'

g a t ú s	Nag Vir Seb War Agt Bah Kam Akl 'hundred'
g á t u s	Tag (obs) Tau Sub 'hundred' Kap 'hundred thousand'
g á t o s	Mar 'hundred'
(naN) g a t ú s	Buk
y á t u s	Iba
y a t ú s	Itb
g a t ú t	Ibg

	Itw 'debt'
g a s ú t	Ilk 'hundred'
kʰ a s ú t	Bon
l a s ú s	Png 'hundred'
l a s ú t	Isi 'hundred'

*g9 a t ú s

*g9   The correspondences are regular except Agt and Ilk. In Agt the regular CR is *g9:l:g/u-, making the **g** aberrant. This aberrance is a case of analogy to the similarly articulated **g** < *g. In the same manner, in Ilk **g** replaced expected **r** on analogy to **g** < *g.

*-a-   This is regular.

*-u-   This correspondence is also regular.

*-t-   In Ilk, Bon and Isi **-t-** underwent metathesis with **-s**. In Png it assimilated to **-s**.

*-s   Itw CR *s:s:t/$^{\#-}_{a-}$ applied here. In Ibg the expected positional variant is **-?**, but **? > t** by total assimilation to the preceding **-t-**. Agt CR *s:t:s/$^{u-\#}_{-i}$ was applied in this case.

gilagid 'gums'

g i l á g i d	Tag Kap
l a g ú s	Bag War
l a g ú s	Seb
g u s	Mar
g ú g u t	Iba Ilk
g ↔ ? ú s	Bah
N a r ↔ ≅ s	Itb Kam
N a Y ú s	Vir
N á r ↔ s	Png
N a r ú g	Ibg
n ú ? u s	Buk

* g i r a g ↔≅s

*g-   The languages that have a nasal for the **g-** show dissimilation of a stop to an homorganic nasal, a process operational in some of the languages as for example: Itb sa?mit which is Tag, Kap, Vir, Tau sábit (sa?bit) Itw súmsup/súnsut 'sip', which is Tag, Kap, Seb, Kal, sipsíp and Itb. Ilk, Png s↔ps↔≅p (*sups↔≅p); Png ?iknol 'egg' which is Ilk ?iklug, Tag, Ilk, Bon, Seb itlúg (*?iklúg9). Bag, War, and Mar show loss of this correspondence. The **N > n** in Buk was assimilation to **s**.

*-g-   This correspondence is regular in most of the languages but was lost in Itb, Kam, Png, Vir and Ibg and was substituted by **-?-** in Bah and Buk.

*-s   The correspondence is quite regular, except for a few aberrances. Ilk **-t** shows assimilation of the fricative **-s** to the preceding stop but retaining its voiceless quality. Similarly Tag and Kap also show assimilation to the preceding stop but this time more closely, which resulted in a voiced **-d**, Ibg **-g** shows total assimilation to the preceding **-g-** before this latter sound was lost (see above).

*i-   This is retained in Tag and Kap, was lost in Bag, War, Seb, Mar, Iba, Ilk, Bah, and Buk. In Png, Itb, Ibg, Kam and Vir, metathesis took place between **-i-** and **-a-**, with subsequent loss of **-i-**.

*-r-   Tag, Kap, Bag, Seb, Itb, Kam, and Vir show regular correspondences. Mar, Iba, Ilk, Bah, and Buk lost their correspondences to this sound while War shows contamination from Seb. In Png and Ibg the theory propsed is that an **u** (< *i) occurred before the ***r**, allowing therefore for the CR *r:g:r/u-V in these languages to operate. The operation of the CR occurred before the metathesis of **u** and **a** and the subsequent dropping of **u** (see *-i- above).

*-↔-   This is regular in Tag, War, Seb, Bah, Itb, Kam, Png, and Vir. In Kap it assimilated to the **d** and was, therefore, pulled front and raised, hence the **i**. In Bag *↔:□ which then assimilated to **s**, which is articulated with the tongue in a high position, resulting in □ > **u**. Iba, Ilk, Mar and Buk expected ↔ also underwent assimilation, this time the sound was pulled back by the **g**. This is also true for Ibg where the expected **a** assimilated to the **g**.

*-a-   The correspondences are regular, except Iba, Ilk, and Buk where total assimilation of **a** to **u** took place: Bah where **-a-** was raised to ↔ on the influence of the high **u**, and Mar where **-a-** was lost. Itb, Kam, Png, Vir and Ibg show metathesis of **a** with **i** (see above).

hagdan 'stairs'

h a g ↔ r á N	Buk
h a g d á n	Tag Seb War Bah
h á g d a N	Akl Tau
h a g y á n	Nag
h a g Y á n	Vir
? a d d a N	Ibg
? a d d á n	Itw
? á d a N	Igt
? a g d a n (án)	Kam
? á g d a n	Ilk Buh
? á g d a n	Tbw
? a g č á n	Bon
? á d d a	Bag

? á l d a n	Agt
(g) ↔ d d á n	Sub
? é č e n	Kal
? é r a n	Kap
h á r ↔ n	Yak

* h a g9 ↔ d8 á N

*h- The correspondences are regular, except Buh where the expected **h** was substituted by **?-**.

*-a- The correspondences of **-a-** are otherwise regular except that due to assimilation to the following dental or alveolar, **-a-** was replaced by a higher vowel, ↔ in Sub and Yak, **e** in Kal and Kap.

*-↔- Only Buk retained this sound, reduction having taken place in all the other languages.

*-g9- Where the correspondence of this sound is retained, its correspondence is regular, otherwise it assimilated to the following **d**, as in Ibg, Itw, Bag and Sub.

*-d 8- The correspondences are regular in a great majority of the languages. In Buk, Kap and Yak **d > r** between vowels while Nag substituted **y** for the expected **d**. The **Y** in Vir is a case of analogy. What could have happened was analogy first to the *d∞:l, then the **l** was replaced by the **Y** on analogy to the aforementioned *l∞ or *r.

*-N The **N** is retained in Buk, Akl, Tau, Igt, and Ibg but was assimilated to the preceding **d** in the rest of the languages, excepting Bag where it was lost.

halik 'kiss'

h a d ↔≅ k	Bah
h a d ú k	Nag[1] Vir
? a d ↔≅ k	Kam
h a r ú k	War
h a r ú ?	Akl
h a r ↔≅ k	Buk Itb
? á r u ?	Nag[2]
? á r ↔ k	Tbw Mar
h a l í k	Tag
? a l ↔≅ k	Iba
? □ l □ ≅ k	Bag
(g) á l ↔ k	Sub
? a g ↔≅ k	Ilk
h a w ú k	Seb

* h a d8 ↔≅ k

*h-   The correspondences of **h-** are regular, except Nag[2] where the expected **h-** is substituted by **?-**.

*-d∞- Nag[1] and Kam have **d** for expected **r** due likely to contamination from the neighboring Vir, Akl shows **r** due to contamination from War. Mar has **r** for expected **d** due to analogy to the *__d > r/V-V__. In Ilk expected **d > g** on assimilation to **-k**. Seb **w** for the expected **l** is labialization due to the following **u**.

*-k   Both Akl and Nag[2] show aberrant **-?** for expected **-k** due to substitution. All the other languages show regular correspondences.

*-↔-   The correspondences are regular.

*-a-   Only Bag shows aberrant □, and this can be explained by total assimilation to the following □. All the other languages have regular correspondences.

hamug 'dew'

h á m ? u g	Akl
d á m h u g	Bah
h a m ú g	Tag Buk
d á m u g	Tau
d á m □ w	Bag
g á m u g	Sub
y a m ú g	Nag Seb
y á m u g	Iba
? á m u g	Ilk 'vapor'
? a m ú g	Igt
? a m ú ?	Bla
n á m o g	Mar
n a m ú g	Buh

*d á ? m u g

*d-   The correspondence set of **d-** is a good illustration of the process of substitution by which I propose to explain the appearance of **h**, **?** and **y** in diverse correspondence sets. Buh, Tau, and Bag show a regular correspondence to *__d__. In Sub **d-** was expected but underwent total assimilation, a replacement by **g**, a sound identical to the final sound of the morpheme. Assimilation was also responsible for the replacement of **d-** by **n** in Mar and Buh, that is, the replacement took place due to the influence of the following **m**. In Akl **d** was substituted by **h**, in Nag, Seb and Iba by **y**, and in Ilk, Agt, Bla by **?**.

*-a-   This is normal in all the languages.

*-u-   This is also regular, except that in Mar it was lowered to **o**, and further lowered to
       □ in Bag, possibly due to its position in the final syllable and its being unstressed.

*-?-   Only Akl retains the sound while Bah substituted **h** for it. In both cases,
       metathesis took placed so that **-?m- >** Akl **-m?-** and Bah **-mh-**. The rest of the
       languages followed the non-automatic reduction of clusters, $C_1C_2 > C_2$.
*-m-   This is normal in all the languages.

*-g   In Bla expected **-g** was substituted by **-?**, in Bag expected **-g > -w** possibly due to
       the assimilative influence of the rounded articulation of neighboring □.

hikab   'yawn'

l a N h á b	Buk
? u N á b	Iba
? u ? N á b	Tbw
? u g á b	Kam
h á g a b	Vir
h ú y ? a b	Seb Akl[1]
k ú y ? a b	Akl[2]
h i k á b	Tag
h á k a y	Nag
N ú h a b	Yak
? ú y a b	Kap
y á b (an)	Tau
h ú y a m	War
? ú w a b	Itb
? u w á b	Ilk Bon
? u w é b	Kal
? á v a b	Igt
? u á b	Png
? a h w á b	Itb
w á w w a g	Ibg
? u w á w	Isi
g á b g a b	Bah

*l u N k á b

*l-   This sound was replaced in most of the languages and is retained only in Buk. Tag
       -i- gives evidence of an initial **l** which was articulated in the front of the oral
       cavity and with the tongue raised. In other words, I am proposing that the Tag **i**
       was the result of assimilation to the **l-** before substitution by **h** took place. In the
       rest of the languages substitution of **l-** by **?** or **h** occurred. In Akl and Yak
       metathesis between the substituted **?** and one of the C's of the following cluster
       occurred, that is between **?** and **k** in Akl, **?** and **h** (< *k, see below) in Seb, **?** and

N in Yak; in the latter, **ʔ** was lost on reduction of the cluster. Ibg and Bah also underwent reduction and lost the **l-**.

*-N-   As first member of the cluster **-N-** was dropped in the majority of the languages following the $C_1C_2 > C_2$. In the last two languages mentioned, it is theorized that metathesis between **N** and **k** took place before the latter sound was lost or substituted by **ʔ**. It was retained in Buk, Iba, and Tbw. In Seb and Akl it was substituted by **y**, and in Itb by **h**.

*-k-   As second member of the cluster **-k-** was substituted in the majority of the languages. It was dropped in Ibg, Bah, Png, and Iba, in the latter after metathesis with **N**. As mentioned above, it underwent metathesis with the initial **C** in Seb and Akl and subsequently was substituted by **h** in Seb and Akl[1]. While retained in Tag, Nag, Kam, Vir, and Bah, it was voiced in the last three languages, on assimilation to the vowels and the **-b**. In Buk, Tbw, Seb, Akl[1], Yak, Kap, Tau and War, it underwent substitution by **h**, **y** or **ʔ**. In Itw, Ilk, Bon, Kal, Isi, Itb, Ibg, and Igt, **-k-** was labialized, in the first languages due to a preceding **u**, while in Itb on assimilation to the following **-b**. Assimilation to **u** also took place in Ibg, but before the **u > a** (see *u below). In Igt **-k-** was also labialized but the change was **k > v** on the influence of **-b**.

*-a-   The correspondences are regular in all the languages except Kal where it was fronted on assimilation to the front **w** and **b**.

*-u-   Total assimilation to **a** took place in Buk, Vir, Nag, Igt, and Itb. Tag **i**, as mentioned earlier, assimilated to the **l**, a high sound articulated **i** the front of the mouth, before this **l** underwent substitution. In Ibg and Bah, **u** was lost.

*-b   Nag shows aberrant **y**, War, Ibg **g**, and Isi **w**. Nag **-b** underwent partial assimilation to **k > g**, before **k** was labialized. In Isi complete assimilation to the preceding **w** took place. The Ibg and Bah cognates were reduced to the second syllable and then this syllable underwent doubling. In Ibg the **g** of the second syllable after doubling was assimilated totally to the following **w**.

itlog   'egg'

ʔ i k l ú g	Ilk[1]
ʔ í k l u g	Tau
ʔ i k n ó l	Png
ʔ i k l ú ǀ	Isi
ʔ i t l ú g	Tag Ilk[2] Bon Seb
ʔ í t l u g	Akl
ʔ i l l ú g	Ibg
ʔ í ʔ l u g	Itw
ʔ i p L ú g	Kal
ʔ i p l ú g	Ilk[3]
ʔ i t t í y u y	Itb

k i ? y ú y   Agt

* ? i k l ú g9

*-g9   The correspondences in Ilk, Tau, Tag, Bon, Seb, Akl, Ibg, Itw and Ibg are regular.
       Isi and Agt it was substituted by │ and **y** respectively. In Png it assimilated to the
       preceding **l** before this **-l-** ($<$ *1) underwent dissimilation to **n** (see below). In Kal
       the regular correspondence is **L**, which underwent metathesis with **k** before the
       latter underwent assimilation (see below).

*-l-   Png shows aberrant **n**, Kal **g**, Itb and Agt both show **y**. In the last two languages,
        the **l** was substituted by **y**. In Png **l > n**, or dissimilation from a lateral to a
        homorganic nasal. In Kal **1 > g** by assimilation to **k** before **k** underwent further
        change (see below), then **g** and **l** ($<$*g9) underwent metathesis.

*-k-   The correspondences are regular in Ilk[1], Tau, Png, and Isi. In Tag, Ilk[2], Itb, Bon
        and Seb, it was partially assimilated to the following **l**, that is, the velar became
        dental due to **l**. In Ibg the assimilation was total. Itw and Agt show a substitution
        of **k** by **?**. The Kal and Ilk[3] **k** underwent assimilation but this time the sound was
        pulled even more forward than a dental or **t** (as it happened in Tag, Ilk, etc.) and
        was replaced by a bilabial **p**, possibly due to the front vowel which preceded it. In
        Itb gemination of the **t** took place.

*-?-   The correspondences are regular in all the languages.

*-i-   The correspondences are also regular in all the languages.

*-u-   The correspondences are also regular, except for Png where **u** was slightly
        lowered to **o**, possibly due to its position in the final syllable.

V addition: The Itb cognate contains an additional medial **i**, which is likely due to the
        transition from **t** to **y**.

kati   'itching'

       g a t ↔≅l   Png Ilk
       g á t ↔ l   Mar
       g a t á l   Kap
       g e t é L   Kal
       g a t ↔≅?   Iba
       g ↔ ? t ↔≅   Igt
       g á t t □   Bag
       g a t ú Y   Vir
       g a t ú l   Nag Buh
       g a t É   Isi
       k a t í   Tag

k a t ↔≅ l	Tbw Buk
k a t á l	Itw Ibg Bla
k a t ú l	War Seb
k a t ú g̵	Akl
k a t ↔≅ x	Itb
kʰ á t ↔	Bon
k á t ↔ l	Yak
kʰ á t ↔ l	Sub
k á t u l	Tau

*g a t ↔≅ l∞

*-t- This is regular in all the languages. In Bag it underwent gemination.

*g- This correspondence set illustrates the type of assimilation which is called devoicing. In this case ***g > k** on assimilation to the following voiceless **t** in Tag, Tbw, Buk, Itw, Ibg, Bla, War, Seb, Akl, Itb, Yak, Sub, and Tau. In Bon CR *g:g:kʰ/$^{\#-}_{V-V}$ explains the **kʰ**.

*-l∞ Png, Ilk, Mar, Kap, Kal, Vir, Nag, Buh, Tbw, Buk, Itw, Bla, Ibg, War, Seb, Akl, Itb, Yak, Sub, and Tau have regular correspondences. Other PLs dropped this sound completely, such as Bag, Isi, Tag and Bon. Iba substituted **-ʔ** for ***l∞** and in Igt the substituted **-ʔ** then underwent metathesis taking a pre-consonantal position.

*-↔- In Isi, with the loss of the final sound (see *-l∞ above) CR *↔:o:E/-# applied. The Kal CR *↔:↔:□:e/ explains **e**.

*-a- Igt ↔ can be explained by complete assimilation to the following ↔. Kal CR *a:a:e/j◊čLy explains the **e** for ***a**.

labnut 'snatch, pull out as hair'

	r a b n ú t	Nag Kam War
	l a b n ú t	Tag Kap Iba Png Buk
	Y á b n u t	Vir
	l a b n í	Seb
(ig)	l a n í t	Buh
	f á n u t	Bon
	l á ʔ n u t	Agt
	l ó ʔ n o t	Igt 'pull'
	l á r u t	Yak

*r a b n ú t

*r- Png, Buh, Agt, Igt show irregular correspondences. These languages have **l** instead of the expected correspondences, Png **g-**, Buh **y**, Agt **r**, Igt **d**, due to

analogy to the **l** < ***l**. In Bon ***r-** underwent metathesis with **f** (< ***b**) and subsequently was dropped in the reduction of the cluster.

*b-   The **-b-** was dropped in Buh due to cluster reduction. It underwent metathesis with ***-n-** in Yak and then assimilated to **-t**, becoming **-d-**. This **-d-** then was replaced by **-r-** since ***d:r/V-V** in Yak. Bon **f** underwent metathesis (see above).

*-n-   All the languages show regular correspondences, except Yak where **-n-** was dropped after metathesis with **-b-**.

*-t   The correspondences are regular in all the languages, except in Seb where it was lost.

*-u-   Seb and Buh show aberrant **i** and Igt **o**. In Seb ***u** was fronted to **i** on the pull of front **n**. In Buh ***u** is likewise fronted to **i** on the double pull of the contiguous consonants **n** and **t**, which are both articulated front. In Igt, the **u** was lowered, very likely due to its position in a final syllable.

*-a-   Only Igt shows an aberrant correspondence: **a > o** due to assimilation to the following **o**.

luksu   'jump'

l á k s u t	Tbw
l á k s u	Tau Buk
(pa) l á k s ú	Yak
y a k s ú	Bah
l u k s ú	Tag Kap War Seb Buh
Y u k s ú	Vir
g u k s ú	Akl
l u k h ú	Iba
l u k t ú (n)	Itb
k u d t ú t	Png
l á g t u	Ilk Bon
l á d t u	Igt
l á p t u ?	Isi
l á t t u	Itw
l í t t u ?	Ibg
l ↔≅ t u ?	Mar
l ↔≅ sʰ u	Sub

*l á k s u t

*l-   Itb shows aberrant **l** and Png **k**. Itb **l**, instead of the expected **x**, could be due to analogy to the **l** < ***l**. Png, on the other hand, underwent metathesis of **l** and **k** with subsequent partial assimilation of **l** to **d** due to **t**. All other correspondences are regular.

*-s-   In Itb, Png, Ilk, Bon, Isi, Itw and Mar **-s-** is assimilated to the final **t** before it was dropped or underwent substitution. The Sub **s > s^h** is most likely a recent change since **-s^h-** is not found in cognates in similar environments. The aspiration heard in cognates was only in initial position and analyzed as a separate morpheme, and therefore is indicated by the unaspirated **s** for the roots. From the diachronic point of view, this probably was originally an unaspirated stop.

*-k-   As mentioned above Png **k** underwent metathesis with **l**. In Ilk and Bon **-k-** was voiced due to the preceding vowel and **l**. In Igt **-k-** underwent partial assimilation to **t**, hence, the **d**. In Isi **-k-** was assimilated partially to **t**, as in Igt, then it underwent dissimilation to a labial stop **p**. In Itw and Ibg total assimilation to **t** took place. In Mar **k** and **t** underwent metathesis then **-k-** was dropped due to cluster reduction. In Sub **-k-** was also dropped due to cluster reduction.

*-t   **-t** is retained in Tbw and Png and was substituted by **-?** in Isi and Mar and was dropped in the other languages. In Ibg the CR *t:?/-# applied.

*-u-   The correspondences are regular throughout.

*-a-   Complete assimilation took place in Tag, Kap, War, Seb, Buh, Vir, Akl, Iba, Itb and Png. In Ibg **a** was raised and fronted to **i** on the pull of **l** and **t**. In Mar and Sub, **a** was raised to ↔, also by its contiguous consonants.

lalim   'depth'

	d á l ↔ m	Ilk 'liver'
		Sub
(ka)	d á l ↔ m	Mar
	d a l ↔≅ m	Png
(a)	d á l ↔ m	Agt
	d á l u m	Nag[1]
	č á ? l ↔ m	Bon
	č e L á	Kal
	d E y ó m	Isi
(ma)	d á y ↔ m	Bah
(hi)	l á r u m	War
(?a)	l a r ↔≅ m	Ibg
	r á l ↔ m	Buk
(ha)	r á r u m	Nag[2] 'deep water, depth'
(?a)	r á r ↔ m	Tbw
(hi)	r a x ↔≅ m	Itb 'bottom'
	l á l i m	Tag
	l á l a m	Kap
	l á l ↔ m	Yak
	l á l l ↔ m	Bag

108

l á l ↔ ?	Iba
l á w u m	Seb
(ha) l a Y á m	Vir
l a ú m	Tau
(am) N a l á m	Bla

* d á l∞ ↔ m

*d-   Bag shows aberrant **l**, Sub likewise **l**, Nag[1] **d** and Bla **N**. All the rest have regular correspondences. In Bag expected **d > l** on assimilation to the following **l**. Sub expected **l > d** likely on analogy to the correspondence of ***d∞** or contamination from Mar. Similarly, expected **r > d** in Nag on analogy to the **d** reflex of ***d∞**, since borrowing from neighboring languages could be excluded. The nearest neighbor with a **d-** correspondence being Akl. Bla **N** is explainable as partial assimilation to the nasal of the added element, a separate morpheme. Ibg and War show metathesis of **r** and **l**, the correspondences of ***d∞** and ***l∞** respectively.

*-l∞-   Isi, Seb, Tau, Nag[2] and Tbw show irregularities. In Isi **y** substituted for expected **l**; in Seb expected **l > w** due to labialization caused by **a** following **u**; in Tau the sound was dropped, in Nag[2] and Tbw anticipated **l** was assimilated to the preceding **r**. The correspondence **l** underwent gemination in Bag. Kal **L**, Bah **y**, Itb **x**, Vir **Y** are all regular for ***l∞**.

*-a-   All the languages show a regular correspondence. The Isi CR *a:a:E/y, w is applicable to this case. In Kal metathesis between **a** and the correspondence of *↔ occurred.

*-↔-   Vir and Bag show irregularities. Vir expected **u > a** due to assimilation to the preceding **a**, and Bag expected □ > ↔ due to assimilation to **a** (both sounds articulated in the central portion of the mouth) or possible contamination from Buk. Kal CR *↔:□:e/$_l^L$ occurred after the metathesis mentioned above.

*-m   Kal and Iba show irregularities. In Kal ***-m** was dropped altogether while in Iba it was substituted by **-?**.

lunud 'drown'

l ú m u d	Kap
l a m m á d	Ibg
l ↔≅ n ↔ d	Sub 'sink, submerge'
(nay) g ↔ n ↔≅ d	Igt
l ú n u d	Tag War Tau
	Seb 'sink'
	Ilk 'melt'
l u n ú d	Ilk 'shipwreck'
l ú n n o d	Bag

y ú n u d	Vir
ǥ ú n u d	Akl
y u n ú d	Bah
l ↔≅ m b o	Yak
l ↔≅ n ↔ r	Png

*l∞ ↔≅ m u d

*-d Yak and Png show aberrant sounds. In Yak the **d** assimilated to **m**, hence the labial **b**, them metathesis took place between **o** and **b**. Png CR *d:d:r/$_{a,u-\#}^{u-V}$ occurred before the change in the preceding **V**, **u** > ↔ took place so that the environmental conditioning, with **u** was still operational to allow for the replacement of **d** by **r**.

*l∞- All the languages show regular correspondences. Igt CR ***l∞:l:g/↔,a** applied.

*-m- **-m-** is retained in Kap, Yak and Ibg. In Ibg gemination took place. The rest of the languages except Yak and Png, underwent partial assimilation to **-d** so that replacement by homorganic **n** occurred, and in Bag -**n-** underwent gemination.

*-↔- In Kap, Tau, Ilk, Bag and Bah the correspondences to *↔ underwent complete assimilation to the following vowel. All the other languages have regular correspondences.

*-u- In Ibg, Sub and Igt, this sound underwent complete assimilation to the preceding vowel. In Bag and Yak a lowering of **u** to **o** took place due to its position in the final syllable.

niyug 'coconut'

n i y ú g	Tag[1] Ilk Ibg Nag Akl Buh
n í y u g	Bah
n y u g	Sub Tbw Tag[2]
n í o g	Png Vir Tau Mar
n i z ú g	Igt
n y ú y	Agt
? í y u g	Itw Kal Bag
? i n y ú g	Bon
n i y ó |	Isi

*n i y ú g

*n- The correspondences are regular in all the languages, except that the sound was substituted by **?-** in Itw, Kal and Bag, and it underwent metathesis with **i** in Bon, resulting in the automatic **?-**.

*-i-   All the languages show a regular correspondence with subsequent reduction in Sub, Tbw, Tag[(2)] and Agt.

*-y-   This correspondence set is also quite regular. Igt CR *y:y:z/-u,o applied here. In Png, Vir, Tau, and Mar this was dropped.

*-u-   In Png, Isi, Vir and Tau, this is slightly lowered due likely to its position in the last syllable, otherwise the correspondence is regular.

*-g   Agt shows aberrant y and Isi │for *-g by substitution (the latter is the allophone of h in final position). The other languages show regular correspondence.

ngalan 'name'

N á l a n	Tag Iba Sub
N á Y a n	Vir
N a g̶ a n	Akl
N a r á n	Png
N á r o n	Isi
N a r a n	Itb Nag War Mar Tbw Buk
? a r a n	Agt
N á y a n	Buh
N á g a n	Ibg
n á d a n	Bah
N á ? č a n	Bon
N a j◊ e n	Kal
N á d ↔ n	Igt
N a á n	Tau
N a n	Seb
n á g a n	Ilk
n á h a n	Itw
? á l ↔ n	Yak
? i g a n	Seb

*N á r ↔ n

*-r-   The correspondence is regular except for Png and Buk r and Seb q. In Png the expected g > r possibly due to analogy. Let us examine the possibilities for the change in question. The occurrence of r in Png can be found in three correspondence sets: *r:g:r/u-V, *d:d:r/$^{V-V}_{a, u-\#,}$ *d∞:d:r/V-V. The environments of the first two CR's discount them as possible bases for analogy. If the possibility of replacing a certain positional variant with another is acceptable as due to analogy, even if the conditioning environment is not present, then we can posit the replacement of g by r on analogy to a positional variant. Now considering the presumed phonetic characteristics of *d∞, which is alveolar, and comparing it with r, also alveolar, it might also be possible to posit analogy to the r < *d∞, and

111

this time the conditioning environment is present, **V-V**. Another possibility is borrowing. But the cognates of the languages from which Png could have possibly borrowed show g (Ilk, Ibg) and **l** (Tag, Iba) for this **r** in Png. Isi is the only possible source of **r** left. A very similar situation can be pointed out for Buk since ***r:l:r/u** and the only other occurrence of **r** is as the correspondence of ***d**. None of the neighboring languages can be cited as sources of borrowing for this sound. In this case, therefore, either analogy to **r < *d∞**, or analogy to its own positional variant, is proposed as the likely explanation for the aberrance in Buk as well as Png.

The **g** in Seb was the result of the assimilation of the expected l to the velar nasal, resulting in a velar sound. This change occurred before the change in the nasal took place (see *n- below).   In the case of Ilk, Kal, and Bon, the CR's for positional variants applied, as: Ilk ***r:l/-χ:g/a-**, Kal ***g:j◊/-e**, Bon ***l:l/-χ:č/χ-**; therefore, Ilk shows **g**, since it occurs before **a**, Kal **j◊** before **e**, and Bon **č** after **?**. In Tau and Seb the correspondence for ***-r-** was lost. In Itw it was substituted by **h**. The **?** before **č** in Bon is an example of the non-automatic addition of the glottal stop before consonants or **χ** addition

*-a-   This proto-sound is regularly reflected in all the languages.

*-↔-   This sound was retained in Isi, Itw, Ibg, Igt and Yak. In Kal partial assimilation of the □ to the contiguous consonants which are articulated in the front part of the oral cavity, resulted in the **e**. The correspondence of ***↔** in the rest of the languages underwent total assimilation to the preceding **a**. In Seb the vowel sequence, the result of the loss of **l < *-r-**, was simplified, hence **a**.

*-n   The correspondence is regular throughout.

*N-   The Ilk and Itw correspondences underwent distant total assimilation to the **-n**. Yak and Agt substituted **?** for **N**. All the rest of the languages have regular correspondences.

palay   'unhusked rice'

p á r a y	War Agt Tbw
p a r á y	Itb
p á r u y	Nag[1]
p á l a y	Tag Nag[2]
p a l á y	Ibg
p á Y u y	Vir
p á ɠ a y	Akl
pʰ á l a y	Sub
p á l ↔ y	Yak
P á g a y	Ilk
p a g ↔≅ y	Png
p á g u y	Kal

p á kʰ ↔ y	Bon
p á h o y	Isi
f á y a y	Buh
p á l e	Kap
p á l i	Iba
p a á y	Tau
p á g̶ i	Igt
p á s i	Seb

*p á r ↔ y

*p-   The correspondences are regular.

*-a-   And similarly the correspondences for *-a-.

*-r-   Nag[2] and Ibg with -l- for expected -r- and -g- respectively, show contamination from Tag. Bon shows contamination from Kal or Ilk g, then this was replaced by kʰ on analogy to the CR *g:g:k/$^{\#-}_{V-V}$. In Ilk and Igt the environment calls for the positional variants g, g̶ following the CR's Ilk *r:r:l/-C:g/a- and Igt *r:g:d/u-. Isi r was substituted by h. In Tau the correspondence was dropped. Dissimilation took place in the replacement of Seb l by s. In this language non-automatic dissimilation of a consonant to s occurs sporadically, such as gakus 'embrace' *gak↔p.

*-↔y   The Iba cognate shows contamination from Kap, *↔y > e, except that e was replaced by a higher i. The correspondence in the other languages are regular.

pilay   'lame'

p í ? l a y	Bon
p é ? l o	Igt
p í ? d a y	Isi[1]
p í l a y	Iba Ilk Itw Kal Nag Tau
p i l á y	Tag Itb Vir
	Agt 'also tired'
p i l ↔≅ y	Png
p É l o y	Isi[2]
f í l a y	Buh[1]
p í l e	Kap
p i l é	Ibg
f ↔ l á y	Buh[2] 'fatigue'

*p í ? l a y

*-ay   Png ay > ↔y on assimilation to i. Possible borrowing from Png ey could be the explanation of Isi[2] with diphthong becoming oy on analogy to isi CR *ey:oy. The rest of the languages show regular correspondences.

*-i-   The correspondences are regular, except where the **i** underwent assimilation to the vowel of the diphthong: Igt **i** was lowered to **e** due to **o**, Isi[2] **E** likewise due to the following **o**. In the case of Buh[2], partial assimilation to the following **a** resulted in ↔.

*p-   All the languages show regular correspondences. Buh ***p:f** is normal.

*-?l-   The cluster was retained in Bon, Igt and Isi while all the other languages underwent reduction. Isi[1]-**d**- for expected **l** can be explained as assimilation to the preceding stops.

pisa   'hatch, crush'

p ↔ s á ?	Mar Buh
p ↔ s á	Png
p ↔≅ s a	Sub
p ↔ s s á ?	Yak
p ↔ s s á	Ilk 'hatch'
p E s s á ?	Bag
p ↔ t ↔≅ k	Agt[1]
? a ? t ↔≅ k	Agt[2]
? a p s á ?	Kap 'hatch'
	Itb 'crack as porcelain'
(na) p s á ?	Tbw
p á s a ?	Vir
p a s á ?	Nag[1]
p a s s á	Itw
(m) i s á ?	Bla
p i s á ?	Tag Nag[2] Seb
p o s á	Kal Isi
p u s á ?	Kam War Akl
p ú s a ?	Tau 'hatch, break round objects, breaking of waves'

*p↔sá?

*p-   The correspondences are regular in all the languages, except Agt where substitution of ***p-** by **?-** took place in the second entry. Kap **?apsá?** and Agt[2] **?a?↔≅k** show metathesis between **p-** and the following **V** and in Agt is substituted for by **?.**

*-↔-   In Bag ☐ > **E** by partial assimilation to **a**. In the second entry for Agt ↔ underwent metathesis with **a**. In Tbw this sound was lost. Total assimilation took place in Vir **pása?** and Nag **pasá?** while partial assimilation took place took place in Bla and Seb in the replacement of the expected Bla **a** and expected Seb **u** (< *↔) by **i** on the pull of the **s**, which is articulated high and front in the mouth.

Similarly, the expected Kal ☐ > **o** by the raising of **o** on the influence of **s**. In the second entry for Nag, pisá?, **i** is probably a borrowing from Tag just as in Kam pusá?, **u** for expected ↔ from Nag or Vir.

*-s-   The correspondences are regular, except for Itw where expected **t > s** which is possibly due to contamination from Ilk. Gemination is evident in Yak, Ilk, Itw and Bag.

*-a-   The correspondences are also quite regular except for Agt where it is assimilated to ↔ in the first entry.

*-?   The **-?** is automatically dropped in Png, Ilk, Itw, Isi, Kal, and Sub and is retained in the other languages.

puyu   'cowlick'

k l i f ú s	Bla
? a l i m p u r ú s	Isi
? a Y i m p ú r o	Vir
? a l i m p u p ú r o	Nag War
? a l i m p u ú s	Seb
? a l í m p u u s	Tau
? a l i m p ú y u ?	Kap
? a l i m p u y ú	Png
	Tag[(1)] 'whirl'
? a l i m p ú ǥ o s	Akl
? a l i p u s p ú s	Ilk Bon Kal
p ú l u ?	Buk
p u y ú ?	Iba
p u y ú	Tag[(2)]
? a l i f u r ú ?	Ibg

*k a l i m p u r ú s

*k-   Only Bla retains **k-**. It is lost in Buk, Iba and Tag[(2)] and is substituted by **?** in the rest of the languages.

*-r-   The correspondence is regular in Isi, Nag, War, and Akl. In Ibg CR ***r:g:r/u-v** applied, while in Vir the **Y** and the reflex of ***l** underwent metathesis. In this case ***l:l:r/-i** occurred before the metathesis of **Y** and **r**; this explains the **r** in the Vir cognate. In Kap, Png, Iba, and Tag, **y** substituted for the correspondences of ***r**. Buk CR ***r:l:r/u** was forgone, resulting in an **l** on analogy to the positional variant **l**, despite the environment, or possibly, it may likely be on analogy to ***l:l**. Bla, Seb, Tau, Ilk, Bon and Kal dropped **-r-**.

*-a-   All the languages retain **-a-**, except Bla where it was lost.

*-l-   The **-l-** was dropped in Buk, Iba and Tag, underwent metathesis with **Y** (< * r) in Vir and was retained in all the other languages.

*-i-   The correspondence is regular, except Buk, Iba, and Tag where it was lost.

*-mp- $C_1C_2 > C_2$ applied in Bla, Ibg, Ilk, Bon, Kal, Buk, Iba and Tag. The rest of the languages retained the cluster. Ibg CR ***p:p:f/-u** applied.

*-u-   The correspondences of **u** in both instances are regular, with a lowering of the second **u** to **o** in Vir, Nag, War and Akl due to its position in the final syllable.

*-s   The correspondence of this sound in Vir, Nag, War, Png and Tag was lost, while in Kap, Ibg, Buk and Iba it was replaced by **ʔ**. The rest of the languages show regular correspondences.

Reduplication – Ilk, Bon, and Kal show reduplication of the final syllable after simple and cluster reduction took place: while Nag and War reduplicated **-pu-**.

sipsip 'suck'

s i p s í p	Tag Kap Seb Kal
s ↔ p s é p	Itb Ilk Png
s ↔ ≅ s s ↔ p	Yak
s u s s ú ?	Ibg
s ↔ ? s ↔ ≅ p	Tbw
s u p s ú p	Isi Vir Nag Kam Buk
s ú p s u p	War Akl Bah
s ó p s o p	Mar
s □ ≅ s s □ p	Bag(1)
s □ ≅ p □ ?	Bag(2)
s ú s o p	Bon
s(h) ↔ p	Sub
h ↔ p h ↔ ≅ p	Iba
s ú m s u p	Itw(1)
s ú n s u t	Itw(2)
t ú p t u p	Igt

*s u p s ↔ ≅ p

*s-   The correspondences are quite regular, except in Iba, Ibg, and Itw. In Iba ***s-** is substituted by **h**. In Itw and Ibg, probably, contamination from Png or Ilk can account for **s** where **t** is expected. The second entry for Bag shows a reduction, possibly after metathesis with **-p-**, following the NAC $C_1C_2 > C_2$.

*-p, -p- The **-p** is regular except for the second entries of Bag and Itw. In Bag the expected **-p** was substituted by **-?** while Itw shows assimilation to the point of

-u
-i(< *uy)

116

articulation of **s**. Ibg CR *p:p:f/   :?/-# applied. The **-p-** is regular in most of the languages. Total assimilation to **s** took place in Yak and Bag (first entry). In Itw[2] replacement of the **-p-** by a homorganic nasal **-m-** is evident. In the second entry of Itw, this nasal (-m of the first entry) assimilated to the following alveolar sounds, becoming **n**. In Tbw **-p-** was substituted by **-?-** while in Mar, Bag (second entry), Bon and Sub it was dropped completely.

*-u-   In Tag **-u-** was assimilated totally to the following **i** < *↔, while in Kap, Seb, and Kal **i** can be explained by assimilation to the **s**, which is articulated high in the oral cavity, and to **p** which is **a** front sound. In Itb, Ilk, Png, Yak, Tbw, Bag and Iba *-**u-** is assimilated to the reflex of *↔ which follows. Sub dropped this first vowel. The rest of the languages show regular correspondences for *-**u-**.

*-↔-   In Kap, Seb, Kal, Kam, Bon, Bah, Itw, Isi, Igt and Buk, the regular correspondences assimilated to the preceding **V**. Ibg CR *↔:**a:u/-?** (< -p, -t, -k, -s) applied to this cognate.

tunaw 'melt, liquify'

t u n á w	Png Kam Tbw Agt
t ú n a w	Tag Ilk Iba Igt Nag Vir Seb War Akl Tau Buk
t u n á w (on)	Isi
(in) t ú n a w	Buh
(ma)t ú n a w	Sub
t ó n a w	Mar
t ú n □ w	Bag[1]
t ú n ↔ w	Yak Bah
t ú n o	Kap
t ú l a w	Kal
l ú n a w	Bon
l u ? n □ w	Bag[2]

*t ú l n a w

*-aw   The correspondences are regular.

*-u-   The correspondences are also regular.

*t-   In Bon and Bag[2] **t-** and **l** underwent metathesis before **t** was lost in Bon and was substituted by ?in Bag (see below). All the other languages show regular correspondences.

*-l-   Only Bag[2] retained the cluster, in all the other languages it was reduced to a single **C**. In Bag[2] the **-t-** was substituted by **-?**. In Kal **l** and **n** underwent metathesis before **n** was lost following the NAC $C_1C_2 > C_2$.

117

*-n-   The correspondences are regular in all the languages but was dropped in Kal, after
        metathesis with **l**.

uhay   'spike of palay'

? u h á y	Tag War Vir Seb Buk
? ú h a y	Png Akl
? u h ú y	Nag
? ú h ↔ y	Bah
? u w á y	Tbw Kam
k w á y	Agt
h á w a y	Buh

*? u h á y

*?-   The correspondences are regular but for Buh which substituted **h-** for **?**.

*-u-   Agt and Buh show aberrances. Agt dropped **u** completely while Buh **u** assimilated
        to the following **a**.

*-h-   The correspondences are regular in Tag, War, Vir, Seb, Buk, Akl, Nag and Bah.
        Png shows borrowing possibly from Tag because in Png *h:?. Labialization is
        evident in Tbw, Kam, Agt and Buh where the **h > w** due to the preceding **u**. This
        change must have occurred before the loss of u in Agt, or the assimilation of **u** to
        a in Buh (see above).

*-ay   The correspondences are regular in all the languages although in Nag and Bah
        assimilation took place. In Nag, total assimilation while in Bag **a** was raised to ↔
        due to the high **u** and **y**.

upus   'cigar or cigarette stub, up to the hilt'

N u p ú s	Isi
? a p ú s	Vir
? ↔≅ p u s	Bah
p u p ú d	Agt
pʰ ú p u s	Sub
? u p ú s	Tag[1] Nag War Seb[1] Akl Kam Bag Buk
? u p ú d	Seb[2] 'worn down'
	Tag[2]
? u p ú h	Iba
? u f ú s	Bla
? u g p ú	Yak
p o s	Mar

*N a p ú s

118

*N-   The correspondences for the first phoneme of this set pose a problem. The
      majority of the languages shows a **?-**, Agt and Sub **p** and Isi **N**, so that a *__?-__ might
      be taken as the original sound for this set, with assimilation to the following **p** for
      Agt and Sub and dissimilation of **a** stop to a homorganic nasal for Isi. Another
      possibility inferred by the correspondences is a *__p-__, with dissimilation to a nasal
      (though not homorganic in Isi) and substitution by **?-** in the rest of the languages.
      A third possibility is *__n-__, with assimilation to a following **-p-** in Agt and Sub and
      substitution by **?-** in the rest of the languages. Yak ?ugpú supports the first and
      second proposals with the **-g-** which can be explained as the result of the
      assimilation of **?-** or **N-** (as the case may be) to the **-p-** in the other languages, that
      is, after metathesis of **p-** from initial position to pre-consonantal position in Yak.
      This process would then have resulted in the automatic **?-** rule: $\chi\text{-} \rightarrow \text{?-}/\underset{\substack{CVC \\ C\text{->}\Theta}}{\quad}$ in
      Yak.

      The third possibility seems to be the most acceptable one since the processes
      involved are simpler and more widespread in the languages, i.e., assimilation and
      substitution. This does not mean to imply that dissimilation is unacceptable in
      accounting for aberrant sounds in the languages because dissimilation does occur
      in these languages, but not as frequently as assimilation and substitution. Besides
      this, influence from the environment or conditioned change should be given more
      weight than other types of change. Dissimilation should therefore be resorted to
      only when the environment cannot supply an explanation by way of the other two
      aforementioned processes.

*-a-   The **N-** is lost in Mar. The same arguments given for *__N-__ are used to support the
      decision to reconstruct an **-a-** for this correspondence set despite the fact that **-a-**
      is attested only in Vir. The majority of the languages have **-u-** for the
      correspondence in question. But if *__-u-__ is reconstructed here, only explanation for
      -a- in Vir would be dissimilation to the following u. Bah **-↔-** for expected **-a-** is a
      case of raising due to the following **u**. The **-↔-** was lost in Mar.

*-p-   All the languages show regular correspondences.

*-u-   The correspondences of **-u-** are also regular.

*-s   Agt, Seb[(2)] and Tag[(2)] show aberrant **-d**. In the three languages, the fricative **s** is
      partially assimilated to the preceding stop **-p-** and at the same time to the
      contiguous vowel, which accounts for the voicing of the assimilated stop, **d**.

walo   'eight'

         w á l u ?   Yak
         w a l ú   Tag Ilk Kap Iba Itw Ibg Png Bon Nag War
                              Kam Agt Mar Tbw Buh
         w á l u   Bla Buk
      (g) w á l u   Sub

w ó l u	Bag
w a x ú ?	Itb
w á y u	Bah
w E y ú	Isi
w a ǥ ó	Akl
w a L ú	Kal
w a Y ó	Vir
w a w ú	Seb
w a w	Igt

*w a l∞ ú ?

*w-   All the languages show regular correspondences.

*-l∞-   Only Isi **y** and Seb and Igt **w** are aberrant. Substitution of expected **l** by **y** took place in Isi. In Seb and Igt, the expected **l** was either assimilated or was labialized to **w** on the influence of a following **u**, which was subsequently lost in Igt.

*-u-   The correspondences are quite regular, except for the lowering of **u** to **o** due to its final position in Akl and Vir, and the loss of **u** in Igt.

*-?   The **-?** is retained only in two languages, Itb and Yak. All the other languages have dropped it.

*-a-   This is regular in all the languages except Bag where the **a** assimilated to the following **u** resulting in **o**. Isi CR *a:E/y, **w** applied.

CHAPTER 7: CONCLUSION

This study demonstrated how the comparative method is applicable to data taken solely from speakers of contemporary Philippine languages. It has also shown that the comparative method is effective in simultaneously comparing a large number of languages. In fact, after working with the data, I believe that certain significant points in the analysis would not have surfaced had I confined my work to only three or four languages.

The problem of dialect mixing constantly arose, especially when there was unrestrained and facile contact between the speakers of the languages. This of course does not imply that dialect mixing is not a problem to be encountered when texts are used as sources of the data to be compared. It is even possible that the problem would be greater in this case because there would be less chances of checking the material than when informants are used as sources for the data. I realize that this problem should be studied further because of the number and proximity of the Philippine languages and their dialects. In this present work, the only solution resorted to was the careful investigation of the data by rechecking with the informants to see whether it was possible to elicit a synonym which could turn out to be the actual cognate but which was initially inadvertently overlooked by the informant.

One problem which this study was not ready to pursue was the reconstruction of the proto-meanings of the reconstructed morphemes. The dictionary of proto-morphemes which is found in the appendix of this work, shows cognate sets which have cognates with different meanings. I did not find this problem grave enough to hinder the reconstruction of the morphemes.

The CR's and NAC's stipulated in this study are potential criteria for subgrouping. The NAC – Substitution is one instance. Further study into what sounds are substituted for by ?, h or y and what languages group together in this respect should be made. It is possible that morphologic and syntactic patterns might shed light on this phenomenon.

It is hoped that the reconstruction of the phonemes and a number of morphemes of the inferred PP has laid the ground work for studies leading to the reconstruction of the morphologic and syntactic structures of this proto-language.

It is also possible that this study may lead to a reassessment or confirmation of the position of Philippine languages in the greater Austronesian family. In connection with this, studies relating the results of this work to PAN, PIN and other established theories on the proto-language of the Austronesian family are possibilities that scholars in this field of research could pursue.

Finally, it is also hoped that researchers in related disciplines, such as Anthropology, Archaeology, History and Sociology, can make use of the results of this study in solving problems concerning language and culture.

[i] Hoenigswald (1950, 357) points out the need of a thorough phonemic investigation "Thus, in discarding analogical new formations one follows, roughly, a hierarchy of trustworthiness in which phonemes in morphologically isolated forms come first; then phonemes in paradigms where they alternate with other phonemes 9because many alternations result from conditioned sound change); and finally phonemes in regular paradigms because the regularity may be due to leveling" in a comment on the "task of weeding out material which is not directly inherited."

[ii] Haas (1966) believes that the comparative method is effective only when applied to three or four languages at a time. According to her, Bloomfield had the same sentiments. Hoenigswald (1950, 357-58) also implies this in his statement commenting on Meillet's (1922, 340) rule: ". . . in reconstructing the vocabulary of a proto-language we need the testimony of three, rather than two, independent witnesses. For many other purposes, however, reconstruction from more than two witnesses may well be reviewed as a mere extension of the fundamental operation involving only two." But faced with the massive data which I collected from the numerous Philippine languages, I found it worthwhile and challenging to involve a greater number of languages in my comparative study.

[iii] Hockett (1958, 487) points out that "the comparative method is applicable only to distinct languages."

[iv] Katičić (1970, 12) says that: "The linguistic relationship implies a variety of languages because the relationship of a language to itself, though very close, is trivial. It is the relationship of different languages that is worth investigating."

[v] The languages identified in this study as Naga, Virac and Kamalignon are often grouped together and recognized as Bicol by others.