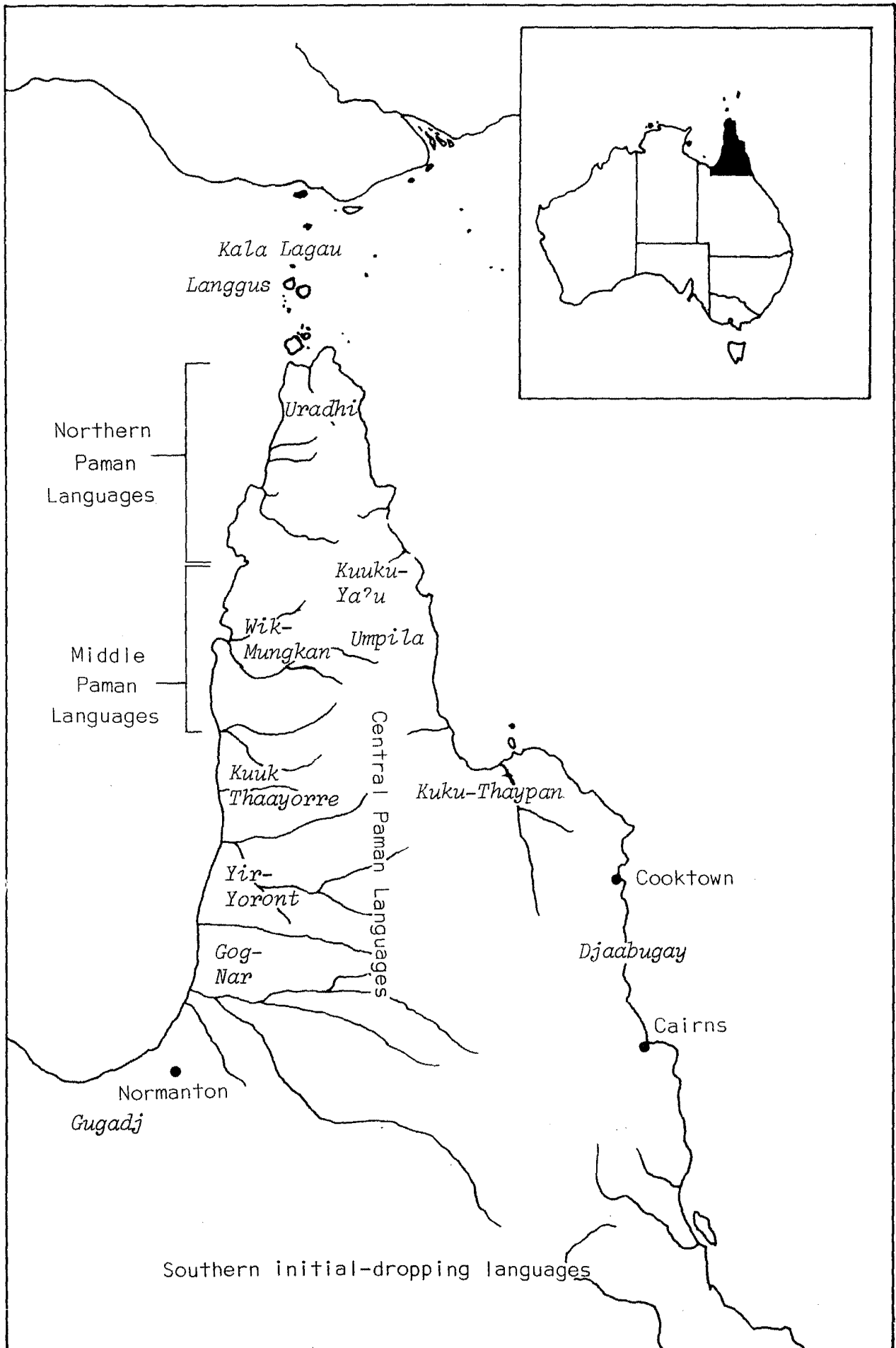# LANGUAGES OF CAPE YORK

Frontispiece CAPE YORK PENINSULA: languages referred to in titles of papers.

LANGUAGES OF CAPE YORK

Peter Sutton *Editor*

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PHONOLOGICAL DEVELOPMENTS IN PARTICULAR NORTHERN PAMAN[1] LANGUAGES

Kenneth Hale

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[1]This article is an edited version of the last three sections of a paper entitled 'Northern Paman' (Tucson, Arizona, 1964). The first section of that paper was published (with the addition of an introduction and cognate density matrix) as 'Classification of Northern Paman Languages, Cape York Peninsula, Australia: A Research Report' in *Oceanic Linguistics* 3:2, 1964, pp.248-64. It was re-published (augmented again by the cognate density matrix and also by a grammatical sketch of Linŋiṯiɣ) as 'The Paman Group of the Pama-Nyungan Phylic Family, Appendix to XXIX' in G.N. O'Grady and C.F. and F.M. Voegelin, *Languages of the World: Indo-Pacific Fascicle 6* (= *Anthropological Linguistics* 8:2), 1966, pp.162-97. These two published versions contained only pages 1-9 of the original 'Northern Paman' manuscript, which numbers 72 pages. Pages 11-13 and 57-58 of 'Northern Paman' contain an account of phonological developments in Uradhi. These sections are omitted here as Hale has presented a revised and expanded version of them in his paper on Uradhi in this volume. *(Ed.)*

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3 Attestation in suffixes

1. PHONOLOGICAL DEVELOPMENTS

In this section, Northern Paman languages are treated separately with respect to their reflection of Paman phonology. The languages are ordered from north to south.[1]

For each language, the discussion is divided into five sections according to articulatory class of Paman segmental phonemes: (1) stops, $*/p$ t t^y k/; (2) nasals, $*/m$ n n^y ŋ/; (3) liquids, $*/l$ r/; (4) glides, $*/w$ R y/; and (5) vowels, $*/i(\cdot)$ u$(\cdot)$ a$(\cdot)/$. At the end of each section, the inventory of consonants and vowels in the modern language is given.

The concern in this section is with phonological developments in stems exclusively. Developments in suffixes are not treated in detail because of the relatively small total of suffixes which can be reconstructed (but see section 3).

Luṯiɣ and Mpalit^Yan

These two dialects are very similar to one another, especially with respect to their vocabularies. In phonological development from Paman, however, they differ in certain details. In Luṯiɣ for example, Paman *R and intervocalic *t are reflected by /?/, as they are in Awnṯim and its sister dialects to the west. In Mpalit^Yan, both *R and *t remained apical, as in other inland languages. Also in Luṯiɣ, final *l > /y/, another development shared by its western neighbours. In Mpalit^Yan final *l remained as /l/, as it did in inland languages generally.

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[1]Hale places Uradhi, of the eight languages concerned, nearest the tip of Cape York Peninsula. Mbiywom, the last on the list, was spoken just above the Watson River. For details of the pre-contact distribution of these languages, see the publications (1964, 1966) mentioned in footnote 1 page 7. *(Ed.)*

Mpalit^{y}an̲ like its neighbour Yinwum, has a series of prenasalised stops which developed in the reduction of medial *NS after nasal *C_1. This series is absent in Lut̲iɣ where reduction of *NS left no trace of nasalisation.

Major developments in Lut̲iɣ and Mpalit^{y}an̲ have been: (1) reduction of medial *NS after nasal *C_1, (2) lenition of intervocalic stops after long *$V·_1$, (3) loss of *C_1, (4) metathesis of short *u from initial syllables, and (5) reduction of long *$V·_1$. Loss of *C_1 was invariable in these dialects as it was in all Northern Paman languages south of Uraði. Although medial *S was lenited after *$V·_1$, medial *NS was not; Lut̲iɣ and Mpalit^{y}an̲ lenition differs from Uraði lenition in this respect only.

In the following paragraphs, reflection of Paman non-initial phonemes is presented.

Stops

Lenited and non-lenited reflexes of intervocalic */p t^y k/ are as in Uraði (see: *yi·par(-), *t^{y}a·lpa, *t^{y}ipa, *wa·t^{y}a, *ku·t^{y}i(-ma), *pat^{y}a-, *ŋat^{y}i(-), *n^{y}at^{y}i-, *pi·ku, *yuku). Intervocalic *t is singly reflected in both dialects — by /t/ in Mpalit^{y}an̲, and by /ʔ/ in Lut̲iɣ (see: *kuta(ka)).

In Lut̲iɣ, medial *NS lost the nasal segment after *CV_1 in which *C_1 was a nasal; that is, in sequences of the type *NV(·)NSV, both nasals were lost in the reduction of the initial syllable. In Mpalit^{y}an̲, both nasals were lost only if *V_1 was short *i or *u — otherwise, the nasalisation itself remained as prenasalisation of *S. Prenasalised stops, /^{n}p/, /^{n}t/, etc. resulting in this manner are in contrast with modern clusters of nasal plus stop reflecting *NS where the preceding *C_1 was non-nasal (for examples of reduced and retained clusters, see: *ŋampu, *kampiy, *wantu(-) ~ ŋantu(-), *n^{y}untu ~ n^{y}intu, *pinta, *wanta-, *muŋka-, *n^{y}aŋka, *ŋuŋku, *n^{y}u·ŋka-, *pa·ŋkal, *t^{y}uŋku, *Cu·ŋku(-)).

Nasals

Intervocalic */m n^y ŋ/ > /m n̲ ŋ/ (see: *pama, *ŋami-, *min^{y}a, *paŋa-). Intervocalic and final *n > /n/ (see: *n^{y}i·na-, *ŋa·ni, *kulan, *t^{y}alan). The reflection of nasals in clusters has been given (see the section 'Stops' above).

Modern /n^y/ reflecting Paman *n^y is attested for Mpalit^{y}an̲ in the cluster *n^{y}t^y only (see: *pan^{y}t^{y}i-). Otherwise, /n^y/ in Lut̲iɣ and Mpalit^{y}an̲ is confined to stems not appearing outside Northern Paman.

Liquids

Intervocalic *l remained as /l/ in both dialects (see: *ŋali, *pu·la(-), *t^{y}alan). Final *l > /l/ in Mpalit^{y}an̲ and /y/ in Lut̲iɣ (see: *n^{y}upul ~ n^{y}ipul, *pa·ŋkal). In clusters, *l was lost (see: *kalka, *kalma-, *kalmpaR, *kulŋkul ~ kulŋkun, *t^{y}a·lpa).

The rare medial *r is not attested for Lut̲iɣ and Mpalit^{y}an̲. In two putative cognates, final *r > /ɣ/ (see: *ŋa·mur, *Cakur).

Glides

Medial *w and *y remained (see: *ka·way, *mayi, *ŋayu). Final *y was
lost but had a fronting influence on a preceding *a (see the section
'Vowels' below, and see also: *kampiy, *pakay).

In Mpalit^{y}an̠, *R was lenited to /r/ after long *V·$_1$ and after
*V$_2$ (see: *wa·Ri, *t^{y}aŋkaR-, *kalmpaR); after short *V$_1$, *R > /t̠/
(phonetically [ʈ] (see: *maRa, *t^{y}aRu, *waRi-).

In Lut̠iɣ *R > /ʔ/ (see: (maRa, *kalmpaR, *wa·Ri).

Vowels

With loss of initial consonants, short *V$_1$ was also lost in some cases.
The tendency toward loss of this vowel is greater in Lut̠iɣ than in
Mpalit^{y}an̠, but in neither case are the conditions for loss or retention
of *V$_1$ fully understood.

However, one regularity with respect to *V$_1$ emerges clearly —
short *u of an initial syllable metathesised with *C$_2$ if *V$_2$ was *a.
In its new position following *C$_2$, *u reduced to the corresponding
glide /w/ (see: *ŋula, *kulan, *muŋka-, *n^{y}ukal, *wuna-; see also
*kuta(ka) where the expected metathesis occurred in Mpalit^{y}an̠ but not
in Lut̠iɣ).

In *CV$_2$, that is, the second syllable of Paman stems, all vowels
were retained. The high vowels, *i and *u, are each singly reflected
in *CV$_2$ by /i/ and /u/ respectively (see: *ŋami-, *pipi, *ŋampu, *yuku).
The low central vowel, *a, is doubly reflected — *a > /æ/ before final
*y, and /a/ elsewhere (see *pakay and *kalka, now minimally distinct
in Mpalit^{y}an̠ after loss of final *y; see also *ka·way).

Long vowels became short: *i· > /i/, *u· > /u/, *a· > /a/ (see:
*n^{y}i·na-, *pu·la, *ŋa·ni).

The consonant and vowel inventories of the modern dialects are
as follows: /p t̠ t t^y k; β ð ɣ; m n̠ n n^y ŋ; l r; w y; i u æ a/, plus
/^{n}p ^{n}t̠ ^{n}t ^{n}t^y ^{n}k/ in Mpalit^{y}an̠, and /ʔ/ in Lut̠iɣ. Lut̠iɣ /r/ appears
only in stems which are confined to Northern Paman; the same is true
of many instances of Mpalit^{y}an̠ /r/, although the latter has at least
one source in Paman, namely *R.

Yinwum

Major phonological developments in Yinwum have been: (1) prenasalis-
ation of medial stops after nasal *C$_1$, (2) reduction of medial *NS
after nasal *C$_1$, (3) lenition of *NS after long V·$_1$, (4) vowel umlaut
under the influence of laminal *C$_1$, (5) metathesis of certain short *V$_1$,
(6) loss of *C$_1$ and certain short *V$_1$, (7) reduction of long *V·$_1$.

Although Yinwum shows lenition of *NS after long vowels, it does
not show lenition of single stops in that environment (compare
*Ca·n^{y}t^{y}a- and *pa·t^{y}a-).

Yinwum reflection of Paman phonemes follows:

Stops

Paman stops following long or short $*CV_1$ were prenasalised if $*C_1$ was a nasal — $*p > /^np/$ (see: $*n^yupul \sim n^yipul$, $*n^yipi(-ma)$), $*t^y > /^nt\ ^nt^y/$ (see: $*ŋat^yu-$, $*n^yat^yi-$, $*ŋat^yi$), and $*k > /^nk/$ (see: $*mukuR$). Stops remained as plain after $*CV_1$ where $*C_1$ was non-nasal (see: $*t^yipa$, $*kuta(ka)$, $*pat^ya-$, $*pakay$).

Clusters of nasal plus stop following nasal $*C_1$ lost the nasal segment itself, but the stop segment remained as prenasalised (see: $*ŋampul$, $*n^yuntu \sim n^yintu$, $*n^yu·ŋka-$; see also $*n^yuŋku- \sim n^yiŋku-$ where $*ŋk$ became lamino-alveolar $/^nt^y/$, presumably under the fronting influence of $*i$ in the preceding syllable).

Prenasalised stops derived in either of the two ways described above contrast with clusters of nasal plus stop which descended as such after short $*CV_1$ where $*C_1$ was non-nasal (see: $*kampiy$, $*kumpu$, $*yinta-$, $*Ruŋka-$, $*puŋku$).

After long $*V·_1$, clusters of nasal plus stop were lenited (see: $*Ca·n^yt^ya-$, $*Cu·ŋkan^yV$, $*Cu·ŋku-$). This development did not occur in at least one stem where $*C_1$ is known to have been a nasal (see: $*n^yu·ŋka-$).

Independent of these developments are the split of Paman $*t$ and $*t^y$. Paman $*t$ became $/t^r/$ in the cluster $*nt$ if the latter was flanked by $*a$; otherwise, $*t$ remained as $/t/$ (compare $*wanta-$ and $*yinta-$). Paman $*t^y$ became lamino-dental $/t\ ^nt/$ if flanked by back vowels (see: $*pat^ya-$, $*ŋat^yu-$); otherwise, $*t^y$ remained lamino-alveolar $/t^y\ ^nt^y/$ (see: $*ku·t^yi-$, $*n^yat^yi-$). These constitute true phonemic splits. The contrasts t/t^r, $\underline{t}/t^y$, and $^n\underline{t}/^nt^y$, although not always attestable in stems reconstructed for Paman generally, are well documented in the Yinwum corpus.

Nasals

Intervocalic $*/m\ n\ ŋ/ > /m\ n\ ŋ/$ (see: $*pama$, $*kami$, $*ŋana$, $*wuna-$, $*n^yuŋu- \sim n^yiŋu-$). Final $*n > /n/$ (see: $*t^yalan$). Laminal $*n^y$, like laminal $*t^y$, has both dental and alveolar reflexes: $*n^y > /\underline{n}/$ (see: $wa·n^ya$), $*n^y > /n^y/$ (see: $*min^ya$).

Liquids

Intervocalic and final $*l$ remained as $/l/$ (see: $*ŋali$, $*n^yulu \sim n^yilu$, $*ŋampul$). In clusters, $*l > /i/$ if followed by a single consonant (see: $*kalma-$, $*kalka$); if followed by $*NS$, $*l$ metathesised with the cluster and reduced to $/w/$ — $*lmp > /mpw/$, $*lŋk > /ŋkw/$ (see: $*kalmpaR$, $*kulŋkul \sim kulŋkun$).

Medial and final $*r$ are each attested by a single example only — medial $*r > /y/$ (see: $*n^yi·ri$), final $*r > /γ/$ (see: $*ŋa·mur$).

Glides

Paman $*w$ and $*y$ remained medially (see: $*ka·way$, $*mayi$). Final $*y > /R/$ (see: $*pakay$, $*kampiy$).

Medial *R, like medial stops, was prenasalised after nasal C_1 —
*R > /^{n}t^r/ (see: *maRa). Otherwise, medial *R > /t t^r/ (see: *waRi-,
*wa·Ri, *t^{y}a·Ra). Final *R > /t r/ (see: *t^{y}aŋkaR-, *kaImpaR, *mukuR).

Vowels

Initial laminal consonants had the effect of fronting central or back
vowels which followed in the same stem. After loss of *C_1, this front-
ing survived in Yinwum. Paman *a in *CV_2 was fronted to /i/ (see:
*t^{y}alan, *yinta-, *t^{y}ampa-, *t^{y}aŋkaR-, *yana-; see also *t^{y}a·Ra, in
which long *$V·_1$ apparently inhibited this fronting). Paman *u in *CV_2
was fronted to /e/ if *V_1 was also *u (see: *t^{y}uŋku, *yuku), and *u >
/yu/ if *V_1 was *a (see: *t^{y}aRu, *yapu(-t^{y}u)). Other patterns of
fronting are attested singly only (*u· > /i/ and *a > /e/ in *n^{y}u·ŋka-;
final *u > /i/ in *n^{y}untu ~ *n^{y}intu). Otherwise, *a and *u remained
as such in *CV_2 (see: *pama, *puŋku).

Paman *a(·) in *CV_1 had the effect of lowering *i in *CV_2 to /e/
if the intervening consonant, or cluster, was non-laminal (see: *waRi-,
*ŋali, *kampiy, *wa·Ri, *kami). Otherwise, *i > /i/ in *CV_2 (see:
*mayi, *n^{y}at^{y}i-, *n^{y}ipi(-ma)).

Short *u in *CV_1 metathesised with *C_2 (attested only in stems in
which *V_2 was *a); (see: *Ruŋka-, *kuta(ka), *kuna, *kuŋkar, *ŋula,
*wuna-). Short *i metathesised if *V_2 was *a or *u (see: *t^{y}ipa,
*n^{y}upul ~ n^{y}ipul, *n^{y}ulu ~ n^{y}ilu, *n^{y}uŋu- ~ n^{y}iŋu-; see also *min^{y}a in
which metathesis fails to occur). Short *i and *u which did not meta-
thesise were lost (see: *n^{y}ipi(-ma), *puŋku).

Short *a in *CV_1 remained where *C_2 was *y; otherwise it was lost
(see: *mayi, *ŋayu, *n^{y}at^{y}i-, *pat^{y}a-).

Paman *a· was shortened to /a/ (see: *wa·t^{y}a, *wa·n^{y}a, *ka·way).
Paman *i· and *u· also shortened, but a glide /y/ or /w/ sometimes
developed after *C_2 which followed them if *V_2 was *a (see: *yi·par,
*pu·la; see also *n^{y}u·ŋka- where the original rounding of *u· survives
only in the glide which developed after *C_2).

Yinwum consonants and vowels are: /p ţ t t^r t^y k; ^{n}p ^{n}ţ ^{n}t ^{n}t r
^{n}t^y ^{n}k; β ð γ; m ṇ n n^y ŋ; l r; w R y; i u e a/. Medial /r/ and /R/
cannot be accounted for in terms of regular development from Paman,
since both are confined to Northern Paman stems.

Linŋiţiγ[1] and Alŋiţ

These dialects agree in their reflection of Proto Paman phonology in
all respects except one — Alŋiţ shows metathesis of *V_1 with *C_2, while
Linŋiţiγ does not. Because Alŋiţ is so similar to Linŋiţiγ, and

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[1] See *Anthropological Linguistics* 8:2, pp.176*ff* for a grammatical sketch
of Linŋiţiγ. *(Ed.)*

because the Aḷṇiṯ data are extremely brief, the comments which follow will be restricted to Linṇiṯiɣ. Aḷṇiṯ metathesis, the only development which distinguishes the two dialects, is similar to that occurring in Awṇṯim (see below).

Major phonological developments are: (1) reduction of medial *NS after nasal *C_1, (2) lenition of medial *S and *NS after long *$V·_1$, (3) vowel umlaut, (4) loss of *C_1 and *V_1, and (5) reduction of *$V·_1$.

Stops

Lenition of stops and clusters after *$V·_1$ is exactly as in Uraði (for examples of lenited and non-lenited reflexes, see: *yi·par, *Ni·mpi, *n^yipi(-ma), *wa·t^ya, *Ca·$n^y t^y$imV, *pat^ya-, *n^yu·ŋka, *Cu·ŋkan^{y}V, *pakay). Split of *t^y after short *V_1 is also as in Uraði (see: *$n^y at^y$i-, *ŋat^{y}i).

Clusters of nasal plus stop following short *CV_1 lost the nasal segment if *C_1 was a nasal; otherwise, they remained as clusters (see: *ŋampul, *kampiy, *n^yuntu ~ n^yintu, *wuntu-, *pan$^y t^y$i-, *n^yaŋka, *ŋuŋku, *puŋku). In the cluster *nt, *t > /t^r/ (see the stems cited above, and also: *wanta-, *pinta).

Nasals

Intervocalic */m n ŋ/ > /m n ŋ/, and final *n > /n/ (see: *pama, *n^yi·na-, *puŋa, *t^yalan). Paman *n^y > /n^y/ after short *i (attested by one example, see: *min^{y}a) and in the cluster *$n^y t^y$ after short *V_1 (also attested by a single example, see: *pan$^y t^y$i-); otherwise, where attested, *n^y > /n̠/ (see: *wa·n^ya, *pi·n^ya, *ŋan^{y}i).

Liquids

Intervocalic *l > /l/, and final *l > /y/ (see: *ka·la, *ŋali, *kali-, *ŋampul, *paŋkul). Paman *l in clusters is attested only twice for Linṇiṯiɣ — *lmp > /mpw/ (see: *kalmpaR), and *lŋk > /ŋk/ (see: *kulŋkul ~ kulŋkun).

Medial *r is attested twice, and final *r three times — medial *r > /R/ (see: *n^yura ~ n^yira, *n^yi·ri); final *r > /ð/ after *i, /ɣ/ after *u (see: *mulir, *ŋa·mur, *Cakur).

Glides

Medial *w and *y remained (see: *ka·way, *mayi, *ŋayu). Final *y > /R/ (see: *pakay, *kampiy).

*R > /ʔ/ (see: *maRa, *wa·Ri, *t^yaŋkaR-).

Vowels

In *CV_2, the back vowels, *a and *u, are each doubly reflected. The conditions for dual reflection of *a are statable in terms of the

phonetic nature of $*CV_1$, while the conditions for split of $*u$ cannot, as yet, be stated at all.

Paman $*a$ was fronted to /æ/ under the influence of short $*i$ in $*CV_1$ and, in at least one case, under the influence of an initial laminal; otherwise, it remained as /a/ (compare $*yinta-$ with $*wanta-$ and $*t^yuma$ with $*pama$, now minimally distinct; see also $*min^ya$ in which final $*a$ remained /a/ and only $*n^y$ was especially influenced by short $*i$).

Paman $*u$ in $*CV_2$ remained as /u/ in the following Paman stems: $*n^yuntu \sim n^yintu$, $*n^yulu \sim n^yilu$, $*ŋampul$, $*kumpu$. Otherwise where attested in Paman stems, $*u > $ /o/ (compare $*n^yupul \sim n^yipul$ with $*ŋampul$, now minimally distinct; see also: $*ŋat^yu-$, $*ŋuŋku$, $*puŋku$, $*pi\cdot muR$).

The high front vowel $*i$ in $*CV_2$ is singly reflected by /i/ (see: $*kali-$, $*ŋa\cdot ni$, $*wa\cdot Ri$).

In $*CV_1$, short vowels were retained where $*C_2$ was a glide or $*r$ (see: $*mayi$, $*ŋayu$, $*maRa$, $*n^yura \sim n^yira$). Otherwise, all short $*V_1$ were lost (see: $*min^ya$, $*n^yipi(-ma)$, $*yinta-$, $*puŋa$, $*mukuR$, $*t^yuŋku$, $*pat^ya-$, $*kat^ya-$, $*paŋkul$).

Long vowels became short — $*i\cdot > $ /i/, $*u\cdot > $ /o/, $*a\cdot > $ /a/ (see: $*n^yi\cdot na-$, $*n^yi\cdot ri$, $*n^yu\cdot ŋka-$, $*pu\cdot la$, $*wa\cdot t^ya$, $*ka\cdot la$).

Linŋitiɣ consonants[1] and vowels are: /p t̪ t t^r k ?; β ð ɣ; m n̪ n n^y ŋ; l r; w R y; i u æ o a/.

Modern /t/ and /r/ appear only in stems confined to Northern Paman.

Occurrences of modern /n^y/ are rare in stems attested for Paman — /n^y/ reflects $*n^y$ in $*min^ya$ and in $*pan^yt^yi-$; otherwise $*n^y$ became /n̪/. The total corpus indicates that /n^y/ is rare generally in Linŋitiɣ and only rarely in contrast with /n̪/. But compare /n̪a-/ 'to arrive' with /n^{y}a/ 'animal' (< $*min^ya$), /an̪a/ 'heart' (< $*wa\cdot n^ya$) with /an^{y}a-/ 'to rub', and /n̪t̪in/ 'sea' with /n^{y}t^{y}in/ 'burned, cooked' (< $*pan^yt^yi-n$).

Voiced fricatives and voiceless stops, where descended from $*C_2$, are in complementary distribution — the fricatives are preceded by a vowel (shortened from $*V\cdot_1$) and the stops are initial (after loss of short $*CV_1$). However, fricatives and stops contrast in one modern environment, namely, finally — compare /t̪oɣ/ 'inserted' with /t̪ok/ 'whale', and /lið/ 'tooth' with /lit̪/ 'will go'. The development of this contrast in final position cannot, as yet, be detailed in terms of regular development from Paman, partly because Paman morphophonemics, probably germane to this problem, are not fully understood, and partly because of the fact that, in most instances, morphemes involved in the contrast are not yet reconstructable for Paman generally.

Awŋt̪im and Nt^{r}a?ŋit̪

These dialects differ in their reflection of Paman phonology with respect to their treatment of vowels. Awŋt̪im shows extensive

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[1]See *Anthropological Linguistics* 8:2, pp.177-78 for discussion of the problematic voiced stops b d̪ d d^r d^y g. *(Ed.)*

metathesis; Nt^{r}a?ŋit̲ does not show metathesis but does show vowel umlaut. Both are also closely similar to Linŋit̲iɣ and Alŋit̲, but differ from the latter in retaining the nasal segment of medial *NS after all short *CV$_1$ regardless of the phonetic nature of *C$_1$; in this, they agree with Uraði.

The major phonological developments shared by Awn̲t̲im and Nt^{r}a?ŋit̲ are: (1) lenition of medial *S and *NS after long *V·$_1$, (2) loss of *C$_1$ and certain *V$_1$, and (3) reduction of *V·$_1$.

Stops

Lenited and non-lenited reflexes of medial, non-apical *S and *NS are precisely as in Uraði (for examples see: *yi·par, *Ni·mpi, *n^{y}ipi(ma), *kampiy, *ka·t^{y}a, Ca·n^{y}t^{y}imV, *n^{y}at^{y}i-, *ŋat^{y}i, *n^{y}u·ŋka-, *Cu·ŋku(-), *yuku, *puŋku). Intervocalic *t > /?/ (see: *kuta(ka)) and the apical cluster *nt > /nt^r/ (see: *wanta-, *pinta).

Nasals

In Awn̲t̲im, medial */m n n^y ŋ/ > /m n n̲ ŋ/ (see: *pama, *t^{y}uma, *n^{y}i·na-, *ŋana, *min^{y}a, *wa·n^{y}a, *puŋa, *paŋa-). Final *n > /n/ (see: *t^{y}alan, *kulan). Nt^{r}a?ŋit̲ reflection of nasals is the same except that *n^y > /n^y/ as well as /n̲/ (see: *min^{y}a).

Liquids

Intervocalic *l > /l/ (see: *ŋali, *t^{y}alan). Final *l > /y/ after *u (see: *ŋampul); after *a, final *l was lost but fronted *a to /e/ (see: *n^{y}ukal, *Cipal). The clusters *lmp and *lŋk > /mpw/ and /ŋkw/ respectively (see: *kalmpaR, *kulŋkul ~ kulŋkun).

Reflexes of *r are as in Linŋit̲iɣ (see above, and see: *n^{y}ura ~ n^{y}ira, *n^{y}i·ri, *ŋa·mur, *Cakur).

Glides

Medial *y and *w were lost in Awn̲t̲im and retained in Nt^{r}a?ŋit̲ (see: *ka·way, *ŋayu, *mayi). Final *y > /R/ in both (see: *pakay, *kampiy). *R > /?/ (see: *maRa, *wa·Ri, *t^{y}aŋkaR-, *kalmpaR).

Vowels

Nt^{r}a?ŋit̲ reflection of Paman vowels is as in Linŋit̲iɣ (see above), except that *a > /e/ before final *l (see: *n^{y}ukal, *Cipal).

In Awn̲t̲im, short *V$_1$ metathesised with *C$_2$ if not homorganic with *V$_2$ (see: *min^{y}a, *pinta, *puŋa, *kulan, *t^{y}uma, *mulir, *kampiy, *ŋami-, *ŋat^{y}i, *ŋampu; see also *ŋampul where the expected metathesis does not occur, and see *n^{y}at^{y}i-, where metathesis is apparently inhibited by laminal *C$_1$).

Where short *V$_1$ and *V$_2$ were homorganic, *V$_1$ was lost in Awn̲t̲im (see: *n^{y}ipi(-ma), *pipi, *puŋku, *yuku, *pama, *pat^{y}a-).

Long $*V\cdot_1$, where not homorganic with $*V_2$, have discontinuous reflexes which flank $*C_2$. Thus, $*i\cdot C_2 > /\partial C_2 y/$, $*u\cdot C_2 > /\partial C_2 w/$, $*a\cdot C_2 > /\partial C_2 a/$ (see: $*pi\cdot muR$, $*n^y u\cdot\eta ka-$, $*ku\cdot t^y i(-ma)$, $*\eta a\cdot ni$; see also $*n^y i\cdot na-$ and $*yi\cdot par$, where $/y/$ does not develop after $*C_2$ but $*a$ is fronted to $/e/$). Long $*V\cdot_1 > /\partial/$ if homorganic with $*V_2$ (see: $*n^y i\cdot ri$, $*Cu\cdot\eta ku$, $*ka\cdot t^y a$).

In $*CV_2$, $*i$ and $*u$ became Awṇṯim $/y/$ and $/w/$ after $/a/$ which metathesised from the initial syllable (see: $*kampiy$, $*\eta ampu$). Otherwise, they remained as $/i/$ and $/u/$ (see: $*n^y ipi(-ma)$, $*pu\eta ku$). Paman $*a > /e/$ before final $*l$ and after $*i\cdot$ in the initial syllable (see: $*n^y ukal$, $*Cipal$, $*n^y i\cdot na-$); $*a$ also became $/e/$ unaccountably in $*pula$, $*n^y ura \sim n^y ira$. Otherwise, $*a > /a/$ in $*CV_2$ (see: $*t^y alan$, $*mu\eta ka-$, $*maRa$).

Awṇṯim and Ntᴿaʔŋiṯ consonants and vowels are: /p ṯ t tᴿ t^y k ʔ; β ð γ; m ṉ n n^y ŋ; l r; w R y; i u e a/ plus /ə/ in Awṇṯim.[1]

Awṇṯim /n^y/, if phonemic at all, has not been recorded in stems reconstructed for Paman generally. In both Awṇṯim and Ntᴿaʔŋiṯ, /t/ and /r/ are restricted to Northern Paman stems.

As in Linŋiṯiγ, so also in Awṇṯim and Ntᴿaʔŋiṯ voiced fricatives contrast with stops in final position and are in complementary distribution otherwise.

Awṇṯim /ə/, derived by reduction and neutralisation of long vowels, is in contrast with its absence — compare /əlan/ *'sky'* and /lan/ *'tongue'* — but not with other vowels. Its assignment to any of the other vowel phonemes, however, would be arbitrary.

Ngkoṯ (/ŋkoṯ/)

Unlike languages so far discussed, Ngkoṯ does not show lenition of any $*C_2$ after long $*V\cdot_1$ whether single stop or cluster. And unique to Ngkoṯ is reflection by /n^y t^y/ of medial $*y$ after nasal $*C_1$.

Major phonological developments in Ngkoṯ are: (1) reduction of $*NS$ after nasal $*C_1$, (2) fronting of central or back $*V_1$ after laminal $*C_1$, (3) metathesis of certain short $*V_1$, (4) loss of $*C_1$ and certain short $*V_1$, and (5) reduction of long vowels.

Stops

Intervocalic $*/p\ t\ k/ > /p\ t\ k/$ (see: $*n^y ipi(-ma)$, $*n^y upul \sim n^y ipul$, $*kuta(ka)$, $*pakay$, $*mukuR$). As elsewhere in Northern Paman, $*t^y$ is doubly reflected — by $/t^y/$ if $*C_1$ was also laminal (see: $*n^y at^y i-$), and by $/\underline{t}/$ otherwise (see: $*\eta at^y i-$, $*pat^y a-$).

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[1] /a-y/ = [æ] only where morpheme boundary intervenes between /a/ and /y/ — ŋkwa-y [ŋkwæ] *'will eat'*, əlwa-y [əlwæ] *'father's father'*, əla-y [əlæ] *'mother's younger brother'*.

Medial *NS after short $*CV_1$ lost the nasal segment if $*C_1$ was nasal; otherwise, *NS remained as clusters (see: *ŋampul, *kampiy, *n^yuntu ~ n^yintu, *pinta, *Ca·n^y+^ya-, *pan$^y+^y$i-, *n^yuŋku- ~ n^yiŋku-, *Cu·ŋku, *puŋku).

In the apical cluster *nt, the stop segment is doubly reflected by /t/ and /t^r/ (compare *pinta and *wanta). The stop segment in the velar cluster *ŋk is also doubly reflected, by /t^y/ and by /k/ (compare *n^yuŋku- ~ n^yiŋku- and *puŋku).

Nasals

Intervocalic *n^y and *ŋ are each doubly reflected: *n^y > /n^y/ after short *i (see: *min^ya), and /n̲/ elsewhere (see: *pi·n^ya, *wa·n^ya, *ŋan^{y}i; *ŋ > /n^y/ and /ŋ/ (compare *n^yuŋu- ~ n^yiŋu- and *puŋa). The fronting of velar *ŋ and of *k in *ŋk (see above), although not amply documented, is certainly regularly conditioned, since the environments are identical in the two cases; it cannot yet be determined, however, exactly what the conditioning element is, since both laminal consonants and short *i are known to have fronting effects in Northern Paman phonology, and both occur in the stems involved here.

The remaining nasals are singly reflected: *m > /m/ (see: *pama, *kami), and *n > /n/ (see: *kuna, *ŋana, *kulan).

Liquids

Intervocalic and final *l > /l/ (see: *ŋali, *ka·la, *ŋampul, *paŋkul). In clusters, *l was lost (see: *kalma-, *kulŋkul ~ kulŋkun; see also *kalmpaR in which *lmp > /mpw/).

Medial *r is not attested for Ngkot̲; final *r > /γ/ in a single putative cognate (see: *ŋa·mur).

Glides

Medial *y > /n^y+^y/ after $*CV_1$ in which $*C_1$ was a nasal (see: *ŋayu, *mayi); otherwise *y > /y/ medially and finally (see: *wi·ya, *pakay). Medial *w > /w/ (see: *ka·way).

*R > /t^r t/ (see: *maRa, *waRi-, *wa·Ri, *pi·muR, *mukuR).

Vowels

Initial *t^y, and presumably other laminals as well, had the effect of fronting central or back vowels which immediately followed. The vowels fronted in this manner subsequently metathesised with $*C_2$ in the same way that short *i did (see: *t^yalan, *t^yampa-, *t^yuma; see also *t^yaŋkaR-, a counterexample to this).

Short *i and *u metathesised with $*C_2$ as in Yinwum and Awŋt̲im (see: *t^yipa, *yinta-, *pinta, *n^yupul ~ n^yipul, *kuta(ka), *kulan, *puŋa; see also *n^yulu ~ n^yilu, *n^yuntu ~ n^yintu, *n^yuŋku- ~ n^yiŋku-,

and *n^{y}uŋu- ~ n^{y}iŋu- in which final *u is completely replaced by /i/ metathesised from the initial syllable).

Short *a also metathesised, as in Awn̪t̪im, but only if *V$_2$ was *i (see: *ŋat^{y}i, *ŋali, *papi, *kami, *pan^y+^{y}i-; see also *n^{y}at^{y}i- where the fronting effect of the initial laminal inhibited metathesis, and see *mayi which also fails to show metathesis).

Short *V$_1$ which did not metathesise was lost (see: *n^{y}ipi(-ma), *puŋku, *pama).

In *CV$_2$, Paman *u > /u o/. The conditions for this dual reflection are only partially documented — /u/ appears where *V$_1$ was short *u, and /o/ appears where *V$_1$ was *a (compare *kulŋkul ~ kulŋkun and *paŋkul, now minimally distinct in Ngkot̪). Modern /u/ also appears where *V$_1$ was *i· (see: *pi·muR), and /o/ appears after *u· (see: *Cu·ŋku).

Paman *i > /y/ after /a/ metathesised from *CV$_1$ (see: *ŋali); otherwise, *i > /i/ in *CV$_2$ (see: *n^{y}ipi(-ma), *mini).

Paman *a remained as /a/ in *CV$_2$ (see: *kuna, *t^{y}alan).

Long vowels were shortened as follows: *i· > /i/, *u· > /o/, *a· > /a/ (see: *wi·ya, *Cu·ŋku, *wa·n^{y}a). As in Yinwum (see above), *i· and *u· sometimes have discontinuous reflexes flanking *C$_2$ — *i·C$_2$ > /iC$_2$y/ (see: *pi·pa), and *u·C$_2$ > /oC$_2$w/ (see: *pu·la).

Ngkot̪ consonants and vowels are: /p t̪ t t^r t^y k ʔ; β ð ɣ; m n̪ n n^y ŋ; l r; w R y; i u e ö o æ a/.

Glottal stop appears only in borrowings — for example, /ʔalan/ 'fingernail', from Awn̪t̪im where the form is analysable as /ʔa/ 'hand' < *maRa plus /lan/ 'tongue, extension' < *t^{y}alan; compare Ngkot̪ /t^{r}a/ 'hand' < *maRa in which the expected apical reflex of Paman *R occurs. The voiced fricatives /β ð/ are also restricted to borrowings as are medial occurrences of /ɣ/. Final /ɣ/ reflects final *r and also appears in at least one suffix which is not normally borrowed: -ɣ 'ergative' (Paman *-ŋku), combining with nouns to mark the subject of a transitive verb.

Occurrences of /r/ and /R/ cannot be accounted for in terms of regular development from Paman; similarly, the vowels /ö/ and /æ/ appear only rarely, and not at all in morphemes which can be reconstructed for Paman generally. The mid front vowel /e/ appears as the metathesised reflex of *a in *waRi-; other occurrences of /e/ are in stems confined to Ngkot̪ and, therefore, not reconstructed.

Aritinŋit̪iɣ

Aritinŋit̪iɣ agrees with Awn̪t̪im in its reflection of clusters of nasal plus stop — these were lenited after long *V·$_1$ but retained as clusters after all short *CV$_1$. And it agrees with Yinwum and Ngkot̪ in showing non-lenited reflexes of intervocalic stops after long *V·$_1$.

At least one dialect of Aritinŋit̪iɣ has been strongly influenced by Linŋit̪iɣ and has borrowed heavily therefrom.

Phonological developments are: (1) lenition of *NS after long *V·$_1$, (2) metathesis of certain *V$_1$, (3) loss of *C$_1$ and certain short *V$_1$, and (4) reduction of long vowels.

...ops

...ervocalic */p k/ > /p k/; intervocalic *t^y > /t^y/ when adjacent to
...i(·), and /t̲/ otherwise (see: *n^yupul ~ n^yipul, *t^yipa, *wi·pa, *ŋat̲^{y}i,
...ŋat̲^{y}a-, *wa·t̲^{y}a, *pakay, *yuku). Intervocalic *t is not attested for
Aritinŋit̲iy.

Medial *NS were lenited after long *V·$_1$ (see: *Ni·mpi, *Ca·n^{y}t̲^{y}a-,
*Cu·ŋku); otherwise, they remained as clusters (see: *kampiy, *ŋampul,
*wanta-, *puŋku).

The velar cluster in *n^yuŋku- ~ n^yiŋku- was fronted to lamino-
alveolar as in Ngkot̲ (see above).

Nasals

Intervocalic *n^y > /n^y/ when adjacent to *i (see: *min^{y}a, *ŋan^{y}i);
otherwise, *n^y > /n̲/ (see: *wa·n^{y}a). The velar nasal in *n^yuŋu- ~ n^yiŋu-
was fronted to lamino-alveolar as in Ngkot̲ (see above); otherwise, where
attested, intervocalically *ŋ > /ŋ/ (see: *puŋa).

Intervocalic */m n/ > /m n/ (see: *pama, *pi·muR, *ŋa·ni). Final
*n > /n/ (see: *kuman, *t̲^{y}alan).

Liquids

Intervocalic and final *l > /l/ (see: *ka·la, *ka·lu, *ŋampul, *paŋkul).
The cluster *lp remained (see: *t̲^{y}a·lpa); *lmp > /lw/ (see: *kalmpaR),
and in the clusters *lk and *lm, *l > /i/ (see: *kalka, *ka·lka-,
*kalma-).

Paman *r is not attested in Aritinŋit̲iy. Reflexes of Paman *n^yura ~
n^yira, *ŋa·mur, and *Cakur occur in the vocabulary of at least one
idiolect but are recognised as borrowings and are used in competition
with native Aritinŋit̲iy forms.

Glides

Paman *w and *y remained as such medially (see: *ka·way, *mayi, *ŋayu),
but in at least one exceptional case medial *y > /R/ (see: *wi·ya).
Final *y > /R/ (see: *pakay, *kampiy).

*R > /t̲/ (see: *maRa, *wa·Ri, *waRi-).

Vowels

Short *u in *CV$_1$ metathesised with *C$_2$ if *V$_2$ was *a or *u (see: *puŋa,
*ŋula, *kuman, *kulan, *puŋku, *yuku). Metathesis of short *i and *a
was also recorded — the former only where *C$_2$ was *nt, and the latter
only where *C$_2$ was bilabial (see: *n^yuntu ~ n^yintu, *yinta-, *papi,
*kami).

Short *a remained in *CV$_1$ if *CV$_2$ was *y (see: *mayi, *ŋayu);
otherwise, and where not metathesised, *a was lost in *CV$_1$ (see: *pama,

*pat^{y}a-). Short *i and *u were also lost in *CV$_1$ if not metathesised
(see: *mini, *t^{y}uli).

In *CV$_2$, *i > /y/ after /a/ metathesised from *CV$_1$ (see: *papi);
otherwise, *i > /i/ in *CV$_2$ (see: *ŋali, *ŋat^{y}i). Paman *u in *CV$_2$
remained as /u/ (see: *ŋat^{y}u-, *ka·lu). And Paman *a > /æ/ (see:
*yi·par) and /a/ (see: *wi·pa). The conditions for this dual reflec-
tion of *a are not known; /æ/, as a reflex of *a, is attested only
once, though the vowel is frequent in modern Aritinŋi̱t̠iɣ vocabulary.

Long *V·$_1$ became short (see: *n^{y}i·na-, *pi·muR, *pu·la, *Cu·ŋku,
*wa·n^{y}a, *wa·t^{y}u).

Aritinŋi̱t̠iɣ consonants and vowels are: /p t̠ t t^r k; β ð ɣ; m n̪
n n^y ŋ; l r; w R y; i u ʉ æ a/.

The occurrence of /æ/ in /ipæ-ntuw/ 'south', from *yi·par, is
unexpected. The vowel also appears in /iRwæ/ 'you pl.', from *n^{y}ura ~
n^{y}ira; this form is recognised as a borrowing and is used in competition
with native /pul/ 'you non-sg.' from *n^{y}upul ~ n^{y}ipul.

The vowel /ʉ/ appears in /lʉ/ 'he', probably a borrowing from
Linŋi̱t̠iɣ /lu/ (phonetically [lʉ]). The expected Aritinŋi̱t̠iɣ reflex
of the Paman 3rd sg. pronoun *n^{y}ulu ~ n^{y}ilu is /lu/ or /lyu/.

The borrowing of pronouns, rare in languages of the world, is well
documented in Aritinŋi̱t̠iɣ where borrowed pronouns are often used
interchangeably with native ones. Another pronoun introduced through
contact with Linŋi̱t̠iɣ is /lawul/ 'they du.' (compare Linŋi̱t̠iɣ /lawuy/)
used beside native /lwal/. Both /lawul/ and /lwal/ contain Paman *pula,
but only /lwal/ shows the expected metathesis of short *u from the
initial syllable.

Mbiywom

The treatment of Mbiywom is highly tentative due to the brevity of
the data available for it. More often than in the preceding sections,
multiple reflection of Paman phonemes is presented with no attempt to
state conditions.

Despite limitations in the data, it is possible to show that
reflection of Paman phonology is much the same in Mbiywom as in other
Northern Paman languages. Major phonological developments are: (1)
lenition of *NS after long *V·$_1$, (2) loss of *C$_1$ and certain *V$_1$,
(3) metathesis of certain short *V$_1$ from the initial syllable, and
(4) reduction of long vowels.

The data indicate that Mbiywom, unlike other Northern Paman
languages, has voiced stops in contrast both with voiceless stops and
with voiced fricatives. Although the development of this contrast
cannot, as yet, be detailed, at least one Paman source of Mbiywom
voiced stops has suggested itself, namely, Paman glides — compare
/id^{y}a-/ 'another' , from *wi·ya, and /it^{y}a-/ 'to put, apply' from
*ŋi·t^{y}a-. However, Paman glides also have glide reflexes (see:
*mayi, *ŋayu, *ka·way).

~~Stops~~

~~Inter~~vocalic */p t k/ remained as /p t k/; *t^y > /t^y/ when adjacent to ~~*i(·)~~, and /t/ otherwise (see: *papi, *t^{y}ipa, *kuta(ka), *ku·t^{y}i(-ma), ~~*pa~~t^{y}i, *ŋi·t^{y}a-, *pat^{y}a-, *ŋat^{y}u-, *pakay, *mukuR).

Medial *NS remained as clusters after short *CV$_1$ (see: *kampiy, ~~*pa~~nta-, *kun^{y}t^{y}a-, paŋkul; see also *n^{y}uŋku- ~ n^{y}iŋku- in which *ŋk ~~is~~ fronted to lamino-alveolar as in Ngkot and Aritinŋitiɣ). As usual ~~in~~ Northern Paman, stops following nasals are phonetically voiced. In ~~oth~~er Northern Paman languages, these voiced phones are assigned to ~~the~~ same phonemic units as the corresponding voiceless phones, since ~~the~~ two kinds of stops are in complementary distribution. In Mbiywom, ~~how~~ever, since voiced and voiceless stops are in contrast initially ~~and~~ intervocalically, the voiced phones appearing after nasals are ~~wri~~tten as such in the transcription used here. Our transcription, ~~the~~refore, is influenced by a consideration of phonetic similarity.

After long *V·$_1$, clusters of nasal plus stop were lenited (see: ~~*Co·~~n^{y}t^{y}a-, *Cu·ŋku, *Cu·ŋkan^{y}V). But mu·n^{y}t^{y}i- > on^{y}d^{y}i-.

~~N~~asals

~~I~~ntervocalic */m n n^y/ > /m n n̪/ (see: *pama, *n^{y}i·na-, *wa·n^{y}a). Final ~~*~~n > /n/ (*kulan). Modern /n^y/ from Paman *n^y is attested only in ~~c~~lusters (see: *pan^{y}t^{y}i-, *kun^{y}t^{y}a-), although it is likely that ~~l~~aminal *n^y split in the same way that laminal *t^y did and that /n^y/ ~~r~~eflects intervocalic *n^y where the latter was adjacent to *i.

Intervocalic *ŋ is attested only in *n^{y}uŋu- ~ n^{y}iŋu- where it is ~~f~~ronted to /n^y/ as it is also in Ngkot and Aritinŋitiɣ.

~~L~~iquids

~~I~~ntervocalic and final *l > /l/ (see: *ŋali, *ka·la, *ŋampul). In the ~~c~~lusters *lk and *lm following short *a, *l > /il/ (see: *kalma-, ~~k~~alka); in *lk following long *a·, *l > /l/ (see: *ka·lka-). The ~~c~~lusters *lmp and *lŋk > /mpw/ and /ŋkw/ respectively (see: *kalmpaR, ~~k~~ulŋkul ~ kulŋkun).

Medial *r > /y/ (see: *n^{y}i·ri). Final *r is not attested for ~~Mb~~iywom.

~~G~~lides

~~P~~aman *w > /w/ (see: *ka·way). Intervocalic *y > /d^y y/ (see: *wi·ya, ~~*~~mayi, *ŋayu). Final *y was lost (see: *pakay, *kampiy).

Intervocalic *R > /t/ (see: *maRa, *waRi-, *wa·Ri). Final *R > ~~*~~r/ (see: *kalmpaR, *pi·muR, *mukuR).

Vowels

In *CV_2, vowels are doubly or even multiply reflected. Paman *i > /i e/
(see: *mayi, *kampiy, *kami; for similar reflection of *i, see
Yinwum above). Paman *u > /u o/ (see: *ŋampul, *paŋkul). And Paman
*a > /a/ (see: *pama, *ŋana, *nⁿʸi·na-), /e/ (see: *tʸipa), /i/ (see:
*tʸalan, and for similar reflection, see Yinwum above), and /o/ (where
*V_1 was *u; see: *kulan, *kuman, *wuna-, *kunʸtʸa-, *kuta(ka)).

Short *u metathesised with *C_2 if *V_2 was *a or *u (see recon-
structions cited immediately above, and *puŋku, *mukuR). In at least
one instance, short *i also metathesised (see: *nʸupul ~ nʸipul);
otherwise, where attested, short *i was lost from *CV_1 (see: *tʸipa,
*mini).

Short *a in *CV_1 remained if *C_2 was *y; otherwise, it was lost
(see: *mayi, *patʸa-).

Long vowels became short: *i· > /i/ (see: *wi·ya, *pi·muR),*u· >
/o/ (see: *pu·la, *Cu·ŋku), and *a· > /a/ (see: *wa·tʸu, *wa·nʸa).

Mbiywom consonants and vowels are: /p ṯ t tʸ k; b ḏ d dʸ g; β ð ɣ;
m ṉ n nʸ ŋ; l r; w R y; i ü u e o a/.

Intervocalic /dʸ/ is attested in one Paman stem; the other voiced
stops do not occur intervocalically in stems so far reconstructed for
Paman, although they do occur in clusters which are reconstructed.
Modern /R/ and /ü/ are attested only in morphemes confined to Northern
Paman or, more narrowly, to Mbiywom itself.

2. ATTESTATION IN STEMS

In the presentation of Northern Paman cognates, the following abbrevia-
tions are used for language names: Ura (Uraði), Mpa (Mpalitʸaṉ), Lu
(Luṯiɣ), Yin (Yinwum), Lin (Linŋiṯiɣ), Al (Alŋiṯ), Awŋ (Awṉṯim), Ntr
(Ntʳa?ŋiṯ), Ngko (Ngkoṯ), Ari (Aritinŋiṯiɣ), Mbi (Mbiywom).

Stems

Stems which are normally dependent everywhere in Paman, as verbs and
oblique forms of pronouns, are reconstructed with a hyphen following
them, and their reflexes are likewise written with a hyphen. Stems
which are not normally dependent are written without a hyphen. How-
ever, many stems, although not dependent outside of Northern Paman,
are so in languages within the group. Kinship terms and non-oblique
forms of certain pronouns, for example, are often dependent in
Northern Paman, and their reflexes in these languages are accordingly
written with a hyphen even though no hyphen appears in the reconstruc-
tion, since outside of the group, the same stems occur as independent.

Some reconstructions are written with phonemic material in
parentheses, for example, *kuta(ka), *muku(R). Where this is done,
modern languages differ with respect to the reflection of the enclosed

material — some reflect it positively, while others give no indication of its former presence. This is, then, a shorthand convention for alternation which presumably existed in the parent language; thus, *muku(R) represents *mukuR ~ *muku. This longer convention is also used, but only where the shorter one is inappropriate — for example, *nᵞuntu ~ nᵞintu.

And in some instances, phonemic material is enclosed in parentheses in a modern reflex but not in the reconstruction. This is done where a modern form contains additive material unique to the particular language and, therefore, not reconstructable — for example, *tᵞaŋkaR- > Mpa ŋkar(ik)-, Yin ŋkit(aw)-, Ngko ŋkat(aŋ)-.

*kali- > Lin li-; Al lay-; Ntr li-; Ngko lay- *'to go'*

*kalka > Mpa aka; Yin, Ngko, Ari ika; Mbi ilka *'spear'*

*kalma- > Mpa ma-; Yin ima-; Ngko ma-; Ari ima-; Mbi ilma- *'to arrive'*

*kalmpaR > Mpa mpar; Lu mpa?; Lin, Al, Awŋ, Ntr mpwa?; Ngko mpwat; Ari lwat; Mbi mbwat *'flesh'*

*kampiy > Mpa ampi; Lu mpi; Yin mpeR; Lin mpiR; Al, Awŋ mpayR; Ntr mpiR; Ngko mpay; Ari mpayR ~ mpiR; Mbi mbe *'up'*

*kami > Ura ami; Mpa, Lu mi-; Yin me-; Lin mi-; Al, Awŋ may-; Ntr mi-; Ngko, Ari may-; Mbi me- *'mother's mother'*

**katᵞa > Ura ɣaṭa *'rotten'*

*katᵞa- > Lin ṭa- *'to tie'*

*ka·la > Ura ala; Lin, Al ala-; Awŋ əla-; Ntr, Ngko, Ari ala-; Mbi ala *'mother's younger brother'*

*ka·lka- > Ura alɣa- *'to fall, die'*; Yin aki-; Ari ika-; Mbi alka- *'to fall'*

*ka·lu > Ari alu *'ear'*

*ka·tᵞa > Lin, Al aða ~ aðo-; Awŋ əða- *'mother'*

*ka·way > Ura away; Mpa, Lu awæ; Yin, Lin, Al, Ntr awaR; Awŋ aR; Ngko away; Ari awa-ntuw; Mbi awa-m *'east'*

*kulan > Ura ulan; Mpa, Lu, Awŋ, Ngko, Ari lwan; Mbi lwon *'possum'*

*kulŋkul ~ kulŋkun > Ura, Mpa, Lu uŋkun; Yin ŋkwun; Lin ŋkon; Al, Awŋ ŋkwun; Ntr ŋkon; Ngko ŋkul; Mbi ŋgwun *'heavy'*

*kuman > Ari mwan; Mbi mwon (~ mwun ?) *'thigh'*

*kumpu > Yin, Lin mpu; Ari mpwu *'urine'*

*kuna > Yin, Ngko nwa *'excrement'*

*kunᵞtᵞa- > Mbi nᵞdᵞwo- *'to drink'*

*kuŋka(r) > Ura uŋki-ðu; Mpa ŋkwa-ðu; Lu ŋkwa-ð; Yin ŋkwa-ṭ; Al ŋkwa-ð; Lin ŋka-ð; Awŋ ŋkwa-ṭ; Ntr ŋka-ṭ; Ngko ŋkwi-ṭu; Ari ŋkwa-ntuw; Mbi ŋgwi-m *'north'*. Also in Lin, ŋkaR-il *'from the north'*

*kupan > Lin pan (normally in compound with /ka/ *'mouth'*, *'extremity'*; thus (/ka-pan/); Al, Ngko pwan *'short'*

*kuta(ka) > Ura utaɣa; Mpa twa; Lu uʔa; Yin twa; Awŋ ʔwa; Ntr uʔa; Ngko twa; Mbi two *'dog'*

*kutini > Mpa utin *'emu'*. Awŋ twin *'emu'* is certainly related to this stem but is probably borrowed; the expected reflex of intervocalic *t in Awŋ is /ʔ/)

*ku·t^{Y}i(-ma) > Ura uðy-ama; Mpa, Lu uði-m; Yin ut^{Y}i-m; Lin oði-ţiɣ; Al oði-ţ; Awŋ əðwi-ţ; Mbi ot^{Y}i-m *'two'*

*manu > Ura manu *'throat'*

*maRa > Ura mata; Mpa aţa; Lu aʔa; Yin ^{n}t^{r}a; Lin aʔa; Al, Awŋ ʔa; Ntr aʔa; Ngko t^{r}a; Ari, Mbi ta *'hand'*

*mayi > Ura mayi; Mpa, Lu, Yin, Lin, Al ayi; Awŋ ay; Ntr ayi; Ngko n^{Y}t^{Y}i; Ari, Mbi ayi *'vegetable food'*

*mini > Yin ne (the vowel correspondence here is irregular); Ari ni *'good'*. This stem also appears in Lin nin-ŋa-; Ngko ni-ŋa-; Mbi ni-koko- *'to fix, make good'*

*min^{Y}a > Ura miṉa; Mpa iṉa; Lu ṉa; Yin, Lin, Al n^{Y}a; Awŋ ṉya; Ntr, Ngko, Ari n^{Y}a *'meat, animal'*

*mulir > Lin lið; Al, Awŋ lwið; Ntr lið *'tooth'*

*muku(R) > Mpa ku-; Yin ^{n}kur; Lin, Al ko-; Awŋ ku-; Ntr ko-; Ngko kut (~ kot ?); Ari ku-; Mbi kwur- *'mother's older brother'*

*muŋka- > Mpa, Lu kwa-; Awŋ ŋkwa-; Ntr ŋka- *'to eat, drink'*

*mu·n^{Y}t^{Y}i- > Mpa u^{n}ţi-; Lin oði- (also oðimţi-); Ngko otay-; Ari uyi-; Mbi on^{Y}d^{Y}i- *'to swim, bathe'*

*n^{Y}aŋka > Ura ṉaŋka; Mpa a^{n}ka; Lu aka; Lin, Al ka; Awŋ Ntr ŋka *'mouth'*

*n^{Y}at^{Y}i- > Ura at^{Y}i-; Mpa, Lu t^{Y}i-; Yin ^{n}t^{Y}i-; Lin, Al, Awŋ, Ntr, Ngko t^{Y}i- *'to see'*

*n^{Y}ipi(-ma) > Ura ṉipi-ma; Mpa ipi-m; Lu pi-m; Yin ^{n}pi; Lin, Al, Awŋ, Ntr pi-m; Ngko pi-mam *'one'*

*n^{Y}i·na- ~ n^{Y}ina- > Ura, Mpa, Lu, Yin, Lin, Al ina-; Awŋ əne-; Ntr ina-; Ngko nya-; Ari, Mbi ina- *'to sit'*

*n^{Y}i·ri > (*Yaraikana* iri); Yin iyi; Lin, Al iRi; Awŋ əRi; Ntr, Mbi, iRi *'nose'*

*n^{Y}ukal > Ura ṉukaw; Lu kway; Lin kay; Awŋ kwe; Ntr ke *'foot'*

*n^{Y}ulu ~ n^{Y}ilu > Ura ulu(-βa); Mpa ilu ~ lu; Lu lu; Yin lyu; Lin, Al, Awŋ, Ntr lu; Ngko li; Ari lʉ; Mbi li *'he'*

*n^{Y}untu ~ n^{Y}intu > Ura antu(-βa) (initial /a/ is unexpected here; *Yaraikana* has /untu(-βa)/; Mpa, Lu ţu; Yin ^{n}ti; Lin, Al t^{r}u; Awŋ, Ntr ntru; Ngko ti; Ari ntyu; Mbi ndwi-n *'you sg'*

*n^{Y}uŋku- ~ n^{Y}iŋku- > Ura aŋku (*Yaraikana* also has /a/ here); Mpa, Lu ku-; Yin ^{n}t^{Y}u-; Lin, Al ko-; Awŋ ŋkyu-; Ntr ŋko- (?); Ngko t^{Y}i-; Ari n^{Y}t^{Y}u-; Mbi n^{Y}d^{Y}u- *'2nd sg. oblique'*

*nʸuŋu- ~ nʸiŋu- > Ura uŋu-; Mpa iŋu-; Yin ŋyu-; Lin ŋo-; Al,
        Awŋ ŋyu-; Ntr ŋo-; Ngko nʸu- ~ nʸi-; Ari, Mbi
        nʸu- *'3rd sg. oblique'*

*nʸupul ~ nʸipul > Ura ipul-a; Mpa ipul; Lu ipuy; Yin ⁿpyul
        'you non-sg.'; Lin poy; Al pyuy; Awŋ piy; Ntr
        poy *'you du.'*; Ngko pyul; Ari pul; Mbi pyul
        'you non-sg.'

*nʸura ~ nʸira > Lin, Al iRæ; Awŋ Rwe-; Ntr oRæ *'you pl.'*

*nʸu·ŋka- > Ura uɣa-; Mpa uⁿka-; Lu uka-; Yin iⁿkwe-; Lin,
        Al oɣa- *'to smell'*. Ari iwa-, and Mbi inʸdʸwa-
        'to smell' may also be cognate

*ŋali > Ura ali(-βa); Mpa li-; Yin le-; Lin li-; Al, Awŋ lay-;
        Ntr li-; Ngko lay-; Ari li-; Mbi le- *'we du. incl.'*

*ŋami- > Ura ami-; Mpa, Lu mi-; Al, Awŋ may-; Ntr mi- *'to hear'*

*ŋampu > Ura ŋampu; Mpa aⁿpu; Lu apu; Awŋ mpaw *'tooth'*

*ŋampul > Ura ampul-a; Lin, Al puy; Awŋ, Ntr mpuy; Ngko pol;
        Ari mpul; Mbi mbul *'we pl. incl.'*

*ŋana > Ura ana(-βa); Mpa, Lu ŋa-; Yin, Lin, Al na- *'we non-sg.*
        excl.' Awŋ na- *'we pl excl'*; Ntr, Ngko, Ari, Mbi
        na- *'we non-sg excl'*

*ŋantu ~ wantu > Ura antu-; Mpa aⁿtu-; Lu ʈu-; Lin, Al ʈʳo-;
        Awŋ ntʳaw-; Ntr ntʳo-; Ngko to-; Ari nto-; Mbi
        ndo- *'where'*

*ŋatʸi > Ura aʈi; Mpa, Lu ʈi-; Yin ⁿʈʸi-; Lin ʈi-; Al, Awŋ ʈay-;
        Ntr ʈi-; Ngko ʈay-; Ari, Mbi ʈʸi- *'mother's*
        father'

*ŋatʸu- > Ura aʈu-; Mpa, Lu ʈu-; Yin ⁿʈu-; Yin ⁿʈu-; Lin, Al
        ʈo-; Awŋ ʈaw-; Ntr, Ngko ʈo-; Ari ʈu-; Mbi ʈo-
        '1st sg. oblique'

*ŋa·mur > Lu amuɣ; Lin amoɣ; Al mawɣ; Awŋ əmawɣ; Ntr, Ngko
        amoɣ *'armpit'*

*ŋanʸi > Ura aɲi(-βa); Mpa, Lu ɲi-; Yin nʸi; Lin ɲi-; Al, Awŋ
        ɲay-; Ntr ɲi-; Ngko ɲay-; Ari nʸi *'1st sg.*
        direct obj.'

*ŋayu > Ura ayu(-βa); Mpa, Lu, Yin ayu-; Lin, Al ayo-; Awŋ aw-;
        Ntr ayo-; Ngko nʸʈʸo-; Ari ayu-; Mbi ayo- *'I'*

*ŋa·ni > Ura, Mpa, Lu, Yin, Lin, Al ani; Awŋ ənay; Ntr, Ngko,
        Ari, Mbi ani *'what'*

*ŋa·tʸi- > Ura aði- *'to lay an egg, give birth'*

*ŋi·tʸa- > Yin iⁿtʸa- *'to put on, apply*; Mbi itʸa- *'to put'*

*ŋula > Mpa, Lu, Yin, Ari lwa *'bye-and-bye'*. Mbi lwinʸdʸ *'bye-*
        and-bye' may also contain *ŋula.

*ŋuŋku(-na) > Lu ku; Lin, Al ko(-n) *'there, that'*

*pakay > Mpa akæ; Lu kæ; Yin, Lin, Al, Awŋ, Ntr kaR; Ngko kay;
        Ari kaR, ka-ntuw; Mbi ka *'down'*

*pama > Ura ama; Mpa ama ~ ma; Lu, Yin, Lin, Al, Awŋ, Ntr,
            Ngko, Ari, Mbi ma *'person'*

*pan^yt^yi- > Ura wan̪t̪i-; Mpa, Lin n^yt^yi-; Ngko n̪t̪ay- (also
            reduplicated /n̪tayn̪t̪/); Mbi n^yd^yi(-Ri)- *'to
            burn, to be burning'*

*paŋa·· > Ura aŋa- ~ aŋə-; Lu, Awŋ ŋa-; Ntr aŋa- (?) *'to dig'*

*paŋkul > Mpa ŋkul; Lu ŋkuy; Yin ŋkwul (/w/ is unexpected here);
            Lin, Al ŋkoy; Awŋ ŋkawy ~ ŋkuy; Ntr ŋkuy; Ngko
            ŋkol; Ari ŋkul; Mbi ŋgol *'wallaby'*

*papi > Ura api; Mpa, Lu pi-; Yin pe-; Lin pi-; Al, Awŋ pay-;
            Ntr pi-; Ngko, Ari pay-; Mbi pe- *'mother's father'*

*pat^ya- > Ura wat̪a-; Mpa, Lu, Yin, Lin, Al, Awŋ, Ntr, Ngko,
            Ari, Mbi t̪a- *'to bite'*

*pa·ŋkal > Ura aɣaw; Mpa aŋkal; Lu aŋkay *'shoulder'*

*pa·t^ya- > Yin at̪a- *'to eat, taste'*

*pinta > Ura winta; Mpa, Lu inta Lin, Al nt^ræ; Awŋ nt^rya;
            Ntr nt^ræ; Ngko ntya *'arm, upper arm'*

*pipi > Ura, Mpa, Lu ipi; Awŋ pi *'water'*

*pi·ku > Ura wiɣu; Mpa, Lu iɣu *'rib'*

*pi·mu(R) > Ura imur-; Mpa, Lu, Yin imu-; Lin imo-; Al myu-;
            Awŋ əmyu-; Ntr imo-; Ngko imyut; Ari imu-; Mbi
            imor- *'father's sister'*

*pi·n^ya ·> Yin in^ya-; Lin, Ngko in̪a- *'father's older sibling'*

*pi·pa > iβa-ða *'father'*; Lin iβa-y *'father's younger
            brother'*; Ngko ipya-y *'father'*

*pula > Ura ula(-βa); Mpa, Lu lwa-; Yin lwi- (/i/ is unexpected
            here); Lin lawuy; Al lwa; Awŋ lwe-; Ntr la-;
            Ngko, Ari, Mbi lwa- *'they du.'*

*puŋa > Ura wuŋa; Lin ŋa; Al oŋa; Ntr ŋa; Awŋ, Ngko, Ari ŋwa
            'sun'

*puŋku > Ura wuŋku; Mpa uŋku; Lu ŋku; Lin, Al ŋko; Awŋ ŋku;
            Ntr ŋko; Ngko ŋku; Ari ŋkwu; Mbi ŋgwu *'knee'*

*pu·la > Ura wula; Mpa, Lu ula-; Yin ulwa-; Lin, Al ola-; Awŋ
            əlwa-; Ntr ola-; Ngko olwa-; Ari ula-; Mbi olwo
            'father's father'

*Ruŋka- > Ura Ruŋka-; Yin ŋkwa-; Ari ŋkwa(la)-; Mbi ŋku(la)-
            'to cry'

*t^yalan > Ura lalan; Lu alan ~ lan *'tongue'*; Yin lin *'mouth'*;
            Lin, Al, Awŋ, Ntr lan *'tongue'*; Ngko lyan
            'mouth, tongue'; Ari lan *'tongue'*; Mbi lin
            (also /lyin/ ?) *'mouth'*

*t^yampa- > Yin mpi- *'to give'* (also reduplicated, /mpyampi-/
            'to throw'); Ngko mpya-; Ari mpa- *'to give,
            throw'*

*t^yana > Ari nya *'they pl.'*

*⁺ʸaŋkaR- > Ura aŋkar(i)- *'to laugh'*; Mpa ŋkar(ik)-; Lu
ŋka?(ik)-; Yin ŋkit(aw)-; Lin, Al, Awŋ ŋka?(ak)-;
Ngko ŋkat(aŋ)- *'laughter'*

*⁺ʸaRu > Mpa aṭu; Yin ⴕyu; Ngko ⴕʳo; Ari ⴕyu; Mbi ⴕwi (?)
'foot'

*⁺ʸa·lpa > Ura alβa; Mpa aβa; Ari alpa *'wind'*

*⁺ʸa·Ra > Yin atʳa in the compound /lin—atʳa/ *'tongue'* from
*⁺ʸalan plus *⁺ʸa·Ra.

*⁺ʸipa > Ura lipa; Mpa ipa; Yin pya *'liver'*; Ngko pya
'stomach'; Ari pa; Mbi pe *'liver'*

*⁺ʸuli > Ari li *'spearthrower'*

*⁺ʸulpi > Uri luⴕpi *'stomach'*

*⁺ʸuma > Ura uma; Lin, Al mæ; Awŋ mwa; Ngko mya *'fire'*. Ntr
mwa *'fire'* is probably borrowed from Awŋ.

*⁺ʸuŋku > Mpa uŋku; Lu ŋku; Yin ŋke; Lin ŋko(ðRo) *'black'*

*wanta- > Ura anta- ~ antə-; Mpa, Lu nⴕa-; Yin, Lin, Al, Awŋ,
Ntr, Ngko nⴕʳa-; Ari nⴕa-; Mbi nda- *'to put,
leave it'*

*waRi > Mpa ⴕi- (also reduplicated /aⴕiⴕi-/); Yin ⴕe-; Lin
i?i-; Al ?ay-; Ngko ⴕʳey-; Ari ⴕi- ~ iⴕi-; Mbi
ⴕi- *'to dig'*

*wa·nʸa > Yin, Lin, Al aṉa; Awŋ əṉa; Ntr, Ngko, Ari, Mbi aṉa
'heart'

*wa·Ri > Ura, Mpa ari-; Lu ?i-; Yin aⴕe-; Lin a?i-; Al, Awŋ
?ay-; Ntr a?i-; Ngko, Ari aⴕi-; Mbi aⴕi *'who'*

*wa·ⴕʸa > Ura waða; Mpa aða, Yin aṭa; Lin, Al aða; Ngko, Ari
aṭa *'crow'*

*wa·ⴕʸu > (*Yaraikana* /waðu/); Yin, Ari, Mbi aṭu *'armpit'*

*wi·pa > Ari ipa *'shade'*

*wi·ya > Mpa, Yin, Ngko iya; Ari iRa; Mbi idʸa ~ idʸi
'another'

*wu(-ⴕʸi, -ma) > Ura u(-ṭi, -ma) *'to give'*

*wuna- > Ura una-; Yin nwa-; Ntr na-; Mbi nwo-, nwona- *'to be
lying down'*

*wuntu- > Lin, Ngko nⴕʳo- *'to seek, look for'*. In Lin, this
form is normally in the idiom /iṉi nⴕʳo-/ *'to
seek'*; /iṉi/ *'place'*

*yana- > Ura ana-; Mpa ṅa (present tense; other tenses are
suppletive); Yin ni- (in future and present; other
tenses are suppletive) *'to go'*

*yapu-ⴕʸu > Yin pyu-y ~ pyu-ð *'younger brother'*

*ya·ⴕʸi- > Awŋ əðay-; Ntr aði- *'to burn'*

*yinta- > Yin nⴕi-; Lin, Al nⴕʳæ-; Ngko, Ari nⴕya-; Mpi ndi-
'to spear with a multi-pronged spear'

*yi·pa(r) > Ura iβi-δu; Mpa iβa-δu; Lu iβa-δ; Yin ipya-ṯ;
            Lin, Al iβa-δ; Awŋ əβe-ṯ; Ntr iβa-ṯ; Ngko
            ipi-ṯu; Ari ipæ-ntuw; Mbi ipi-m 'south'. Also
            in Lin, iβaR-il 'from the south'

*yuku > Ura yuku; Mpa, Lu uku; Yin ke; Awŋ ku; Ntr ko; Ari
            kwu 'tree'. Ngko ⁺ʸu, and Mbi ⁺ʸü 'tree' may
            also be cognate.

*yuru > Ura yutu 'elbow'

*NimpulV > Lu ipul; Awŋ mpyul(-pwa) 'short'

*Ni·mpi > Mpa iⁿpi; Lin, Al iβi; Awŋ əβi; Ntr, Ari iβi 'ashes'

*Cakur > Ura akuy; Mpa, Lu akuɣ; Al koɣ; Awŋ kawɣ; Ntr koɣ;
            Ari kuɣ 'skin'

*Ca·nʸ⁺ʸa- > Ura aδa- 'to hurt, pain'; Yin aδa-; Ngko anṯa-;
            Ari, Mbi aδa- 'to die'

*Ca·nʸ⁺ʸimV > Mpa, Lu anṯim; Lin aδim; Al aδaym; Awŋ əδaym(R);
            Ntr aδim 'hungry'

*Cipal > Mpa ipal; Lu ipay; Yin pyal; Lin, Al pæy-mam; Awŋ
            pe; Ntr pe-mam; Ngko pyal; Ari pal-mam; Mbi
            pel-mam 'near'

*Ci·puy > Lin iβoR; Al iβyuR; Awŋ əβyuR; Ntr iβoR 'smoke'

*Ci·⁺ʸula > Ura iδula; Mbi it ʸol-m 'west'

*Cut ʸuma > Lin ṯom 'dead'

*Cu·ŋkanʸV > Mpa uŋkaṉu; Lu uŋkaṉ; Yin uyanʸ; Lin, Al oɣaṉ;
            Awŋ əɣwaṉ; Ntr oɣaṉ; Ari uwaṉ ~ uɣaṉ; Mbi oɣaṉ
            'mountain'. Ngko oɣaṉ 'mountain' is probably
            borrowed; the expected Ngko cognate is *oŋkaṉ.

*Cu·ŋkü > Mpa, Lu uŋku-m 'long', uŋku-n 'far'; Yin uwu-m 'long',
            uwu-l 'far'; Lin, Al oɣo-m 'long', oɣo-l 'far';
            Awŋ əɣu-ʔuk 'long', əɣu-n 'far'; Ntr oɣo-ʔok
            'long', oɣo-n 'far'; Ngko oŋko-m 'long', oŋko-l
            'far'; Ari uɣu-m 'long'; Mbi oɣo-m 'long', oɣo-l
            'far'

3. ATTESTATION IN SUFFIXES

Morphological information on Northern Paman languages is spotty, since
in many cases sentences were elicited only in the course of collecting
a test list and more for the purposes of elicting lexicon than for
the purposes of assembling morphological data. However, enough sentences
were obtained for all the languages to demonstrate that the grammatical
apparatus — with categories marked principally by suffix — is essentially
the same throughout Northern Paman.

    Reconstructable suffixes — that is, suffixes having cognates out-
side Northern Paman as well as within the group — are listed below.

reconstructed morphs are simply listed, and each is followed by
and by language-name abbreviations to indicate its distribution
Northern Paman. Second, reconstructions are relisted individu-
for each language and their modern reflexes are given. Where
le, in the second listing, each suffix is exemplified in
ation with a reconstructable stem and, less often, in a short
ce. Where sentences are given, they are presented first in the
n language, in diagonals. Following this, in parentheses, are
reconstructions of stems and sequences of stem plus suffix included
ch sentence. This is followed by an English translation. Where a
which cannot be reconstructed for Paman generally appears in a
nce, it is represented in the parenthetic citation by V, if a
by N, if a noun, or by -suff, if a suffix. Although this is not
mount to reconstructing sentences for Paman as a whole, and
ugh no serious attempt is made to do this, the fact that it is
le to cite Northern Paman sentences, albeit banal ones, in which
or all of the constituent morphemes are widely shared as cognate
her Paman languages is strong evidence for the rather close
tionship between Northern Paman and languages to the south.

Reconstructable suffixes are now listed in three groups:
verb suffixes, (2) noun suffixes, and (3) pronoun suffixes. They
glossed according to their supposed meaning in the parent language —
individual modern languages, the meaning may be more restricted or
wide than the gloss. Suffixial morphs which stand in the rela-
ship of alternants to one another are listed together only if they
cend together in most of the modern languages — see for example the
n suffix *-lu ~ -ŋku 'ergative'; otherwise, they are listed
parately, as in the case of the verb suffixes *-ka, *-l, *-t^{Y}a, etc.
uture tense, imperative'. The relationship of alternation is
aptured in the second listing, where reconstructed morphs whose
flexes are submembers of a single morpheme in a given modern language
re grouped together with an alternation sign (~) separating them.

Verb suffixes

*-ka *past tense:* Mpa, Lu, Lin, Awŋ

*-ka *future tense, imperative:* Ari, Mbi.

*-ku *future tense, imperative:* Ura, Mpa, Lu.

*-l *future tense, imperative:* universal in Northern Paman.

*-ma *future tense:* Ura.

*-n *past tense:* universal in Northern Paman.

*-n^Y *past tense:* Ura, Mpa, Lu.

*-n^{Y}u *nominaliser:* probably universal in Northern Paman, although
          attested only in Lin.

*-ŋka *present tense:* Ari, Mbi.

*-t^{Y}a *future tense, imperative:* Lin, Al, Awŋ, Ntr, Ari.

*-t^{Y}i *future tense, imperative:* Ura, Yin, Al, Ntr, Ari.

Noun suffixes

*-ku *purposive, indirect object:* universal in Northern Paman.

*-la *locative:* Mpa.

*-lu ~ ŋku *ergative* (marking subject or instrument of a transitive
      verb): *-lu is attested universally in Northern Paman; *-ŋku
      is probably also universal, but it is not attested in Mpa, Al,
      Awŋ, Ntr, Mbi.

*-mu *elative:* Awŋ.

*-mun *elative:* Ura, Mpa.

*-muntu *elative:* Yin, Lin, Ntr.

*-na *locative, allative:* Lu, Lin, Al, Awŋ, Ntr.

*-namu *possessive:* combines with nouns and with pronouns; it is
      attested in combination with nouns in Ura, Yin, Lin, Ngko.

*-ŋku *indirect object:* Lin (also in combination with pronouns).

*-ŋu *locative, allative:* Ura, Yin, Awŋ, Ntr, Ngko, Ari, Mbi.

*-ŋuna *locative, allative:* Mpa, Lin, Al, Awŋ.

*-t^{Y}imV *possessed of, having:* Mpa, Lin, Awŋ, Ntr.

*-t^{Y}u *junior kin:* Yin.

Pronoun suffixes

*-mu ~ -namu *possessive:* *-mu is attested universally in Northern
      Paman; *-namu (usually in combination with non-singular
      pronouns) is attested in Yin, Lin, Ntr, Ngko, Ari.

*-na *indirect object:* universal in Northern Paman.

*-n^{Y}a *direct object:* universal in Northern Paman.

*-ŋku *indirect object:* Yin, Lin.

*-ŋu *indirect object:* Yin, Ntr, Ngko.

In Northern Paman languages south of Ura, certain pronouns are
dependent in that they are always in combination with some suffix —
with subject marker, object marker, or possessive marker. Subject
markers for the different pronouns are phonetically dissimilar —
because of diverse origins — but are, nonetheless, sub-members of a
single morpheme, being in complementary distribution in the modern
Northern Paman languages, since each is associated with a particular
pronoun stem or set of stems and since there is no possibility of
contrast among the different morphs. However, each alternant is
cognate with a morphemically distinct person marking suffix occurring
in other Paman languages where the marking of person by suffixial
paradigm is productive in the modern morphology — thus, Mpa -ŋ (in
ayu-ŋ *'I'*) is cognate with Umpila -ŋa *'1st sg. subj.'*; Mpa -n (in
na-n *'we excl.'*) is cognate with Umpila -na *'1st non-sg. excl. subj.'*;
Mpa -p (in lwa-p *'they'*) is cognate with Umpila -ʔa *'3rd non-sg. subj.'*
(non-initial *p > /ʔ/ in Umpila); and Yin -l (in le-l *'we du. incl.'*)
is cognate with Umpila -li *1st du. incl. subj.'* In Umpila -ŋa, -na,

(with alternant -la-), and -li are in contrast and participate in a
(in)ctive paradigm, while in Northern Paman, the corresponding morphs
(are) no longer morphemically distinct — they have merged to a single
(mor)pheme, marking *'subject'*. Morphemic contrast among these suffixes
(is at)tributed to the parent language; their reconstructions and modern
(dist)ributions are listed below.

1st du. incl. subj.: Yin, Ngko, Ari, Mbi.

1st non-sg. excl. subj.: Mpa, Lu, Yin, Lin, Ntr, Ngko, Ari, Mbi.

1st sg. subj.: Mpa, Lu, Yin, Lin, Al, Awŋ, Ntr, Ngko, Ari, Mbi.

(*-pa) ~ -la *3rd du. subj.:* *-pa in Mpa, Lu, Awŋ, Ntr, Ngko, Mbi; *-la
in Yin, Ari. Both alternants are attested outside Northern
Paman, in Umpila, and both are certainly related to *-pula,
also attested as a suffix with the same meaning.

Modern reflexes of reconstructed suffixes are now listed separ-
(ate)ly for each language. The ordering of languages is essentially as
(in 5).1.

Virtually nothing has been said about phonological developments
(in) suffixes, mainly because of the fact that the rather limited number
(of) reconstructed suffixes does not allow for sufficient documentation
(of) recurrent regularities. The principal regularity which does emerge
(in) this regard concerns suffix-final vowels — these were retained in
(Mpa) but lost, for the most part, elsewhere in Northern Paman (but see
(the) Mpa and Lu reflexes of the verb suffix *-ku).

Palityan and Luṯiɣ

Verb suffixes

-ku > -w ~ -ku *imperative:* *nʸi·na-ku > ina-w *'sit!'*; and in
mpani-ku (*V-ku) *'climb!'*

-l > Mpa -li ~ -l, Lu -y *future, imperative:* *nʸatʸi-l > Mpa tʸi-li ~
tʸi-l, Lu tʸi-y *'will see, look!'*, as in Mpa /ayu-ŋ lwa tʸi-l./
and Lu /ayu-ŋ lwa tʸi-y./ (*ŋayu-ŋa, *ŋula, *nʸatʸi-l) *'I will
see [him] bye-and-bye'*; *ŋami-l > Mpa mi-li, Lu mi-y *'will
hear, listen!'*, as in Mpa /ṯu ṉi-ṉ mi-li./ and Lu /ṯu ṉi-ṉ mi-y./
(*nʸuntu ~ nʸintu, *ŋanʸi-nʸa, *ŋami-l) *'you listen to me'*;
*muŋka-l > Mpa ꞷwa-li *'will eat, eat!'*; *wanta-l > Mpa nṯa-l, Lu
nṯa-y *'will put it, leave it; leave it!'*

-n ~ -nʸ ~ -ka > Mpa -n ~ -ṉ(u) ~ -ɣ; Lu -n ~ -ɣ (possibly also -ṉ)
'past': *wanta-n > nṯa-n *'put it, left it'*, as in Mpa /aⁿtu-l
ṯu nṯa-n./ and Lu /ṯu-ⁿ ṯu nṯa-n./ (*ŋantu-la, -na, *nʸuntu ~
nʸintu, *wanta-n) *'where did you put it, leave it?'*; *muŋka-nʸ >
Mpa kwa-ṉu (and possibly Lu kwa-ṉ) *'ate, drank'*; and in Mpa, Lu
aya-ɣ (*V-ka) *'gave'*

Noun suffixes

-ku > -w *purposive:* *minʸa-ku > Mpa iṉa-w *'for meat'*, as in /li-ŋk
awæ iṉa-w na./ (*ŋali-*suff*, *ka·way, *minʸa-ku, *yana-∅) *'we
will go east for meat'* *ŋa·ni-ku > ani-w *'what for, why'*

*-la > Mpa -l *locative:* *ŋantu-la > Mpa a^{n}tu-l *'where'*

*-lu ~ ŋku > Mpa (only *-lu is attested) -l; Lu -l ~ -ŋk *ergative:*
  *kuta-lu > Mpa twa-l, Lu uʔa-l *'dog erg.'*, as in Mpa
  /twa-l n̠i-n̠ t̠a-n./ and Lu /uʔa-l n̠i-n̠ t̠a-n./ (*kuta-lu,
  *ŋan^{y}i-n^{y}a, *pat^{y}a-n) *'the dog bit me'*; *yuku-ŋku > Lu
  uku-ŋk *'stick, tree erg.'*, as in /uku-ŋk n̠i-n̠ t̠æ-n./
  (*yuku-ŋku, *ŋan^{y}i-n^{y}a, *V-n) *'he struck me with a stick'*

*-mun > Mpa -mun *elative*, attested only in t̠u-mun (*N-mun) *'from
  there'*

*-na > Lu -n *locative:* *ŋantu-na > Lu t̠u-n *'where'*

*-ŋuna > Mpa -ŋun *locative:* *wi·ya-ŋuna > Mpa iya-ŋun *'on another'*

*-t^{y}imV > Mpa -t̠im *'possessed of, having'*, as in 'dinghy'-t̠im *'having
  a dinghy'*

Pronoun suffixes

*-mu > -m *possessive:* *ŋat^{y}u-mu > t̠u-m *'my'*

*-na > -n *indirect object:* *ŋat^{y}u-na > t̠u-n *'to me'*, as in /lu t̠u-n
  aya-ɣ./ (*n^{y}ulu ~ n^{y}ilu, *ŋat^{y}u-na, *V-ka) *'he gave it to
  me'*. In combination with non-singular pronouns, Mpa has
  -ŋun (from *-ŋuna) *indirect object*, as in *ŋana-ŋuna >
  n̠a-ŋun *'to us excl.'*

*-n^{y}a > -n̠ *direct object:* *ŋan^{y}i-n^{y}a > n̠i-n̠ *'me'*

*-ŋa, *-na, *-pa > -ŋ ~ -n ~ -p *subject:* *ŋayu-ŋa > ayu-ŋ *'I'*; *ŋana-na >
  n̠a-n *'we excl.'*; *pula-pa > lwa-p *'they'*. In combination with
  Mpa li- *'we du. incl.'*, the subject marker is -ŋk; this is
  not reconstructable for Paman but is certainly cognate with
  Lin -ŋkay and Awŋ, Ntr -ŋk which function in the same way.

Yinwum

Verb suffixes

*-l > -l *future, imperative:* *wanta-l > nt^{r}a-l *'will put it, leave it,
  leave it!'*; yinta-l > nti-l *'will spear, spear it!'* as in
  /ayu-ŋ n^{y}a nti-l./ (*ŋayu-ŋa, *min^{y}a, *yinta-l) *'I will
  spear meat (i.e., an animal, fish)'*, and in /^{n}ti n^{y}a nti-l./
  (*n^{y}untu ~ n^{y}intu, *min^{y}a, *yinta-l) *'you spear meat!'*

*-n > -n *past:* *wanta-n > nt^{r}a-n *'put it, left it'*; *kalma-n > ima-n
  'arrived', as in /na-n mpa-ŋ ima-n./ (*ŋana-na, *N-ŋu,
  *kalma-n) *'we arrived at camp'*

*-t^{y}i > -y *future:* *n^{y}at^{y}i-t^{y}i > ^{n}t^{y}i-y *'will see'*, as in /ayu-ŋ lwa
  ^{n}t^{y}i-y./ (*ŋayu-ŋa, *ŋula, *n^{y}at^{y}i-t^{y}i) *'I will see [him]
  bye-and-bye'*. Unlike -l, marking both *future* and *imperative*
  and combining with a relatively large number of stems, the
  suffix -y combines with relatively few stems in modern
  Yinwum and is in contrast with a suffix marking *imperative* —
  thus, ^{n}t^{y}i-y *'will see'*, beside ^{n}t^{y}i-Ri *'look, see!'* The
  suffix -Ri *imperative* is not reconstructable for Paman but
  is cognate with Ura -ri *imperative* — compare Yin ^{n}t^{y}i-Ri
  with Ura at^{y}i-ri.

-w *purposive:* *minᵞa-ku > nᵞa-w *'for meat'*, as in /le-l awaR ni nᵞa-w./ (*ŋali-li, *ka·way, *yana-Ø, *minᵞa-ku) *'we du. incl. will go east for meat'*; *ŋa·ni-ku > ani-w *'what for, why'*, as in /ani-w ⁿti ŋkwa-k./ (*ŋa·ni-ku, *nᵞuntu ~ nᵞintu, *Ruŋka-*suff*) *'why are you crying?'*

~ -ŋku > -l ~ -ɣ *ergative:* *kuta-lu > twa-l *'dog erg.'*, as in /twa-l nᵞi ṭa-n./ (*kuta-lu, *ŋanᵞi, *patᵞa-n) *'the dog bit me'*; *yuku-ŋku *'stick, tree erg'*, as in /ke-ɣ nᵞi ⁿka./ (*yuku-ŋku, *ŋanᵞi, *V-Ø) *'he struck me with a stick'*

ⁿtu > -munt *elative,* attested only in yu-munt (*N-muntu) *'from here'*, and in lyu-munt (*nᵞulu ~ nᵞilu-muntu) *'from there, after that'*. The more common alternant is -mp, as in mpa-mp (N-mp) *'from camp'*

amu > -nam *possessive:* *pama-namu > ma-nam *'person's, of a person'*

ŋu > -ŋ *locative*, as in mpa-ŋ (*N-ŋu) *'at camp'*, uɣanᵞa-ŋ *'on the hill'*, koko-ŋ *'in the water'*

-tᵞu > -y ~ -ð *junior kin:* *yapu-tᵞu > pyu-y ~ pyu-ð *'younger brother'*

ronoun suffixes

-mu ~ -namu > -m ~ -nam (-num after /u/) *possessive:* *ŋatᵞu-mu > ⁿṭu-m *'my'*; *ŋali-namu > le-nam *'our du. incl.'*; *ŋana-namu > na-nam *'our excl'*; *ŋampul-namu > ⁿpu-num *'our pl. incl.'*

-na ~ -ŋu ~ -ŋku > -n ~ -ŋ ~ -ŋk *indirect object:* *ŋatᵞu-na > ⁿṭu-n *'to me'*; *ŋana-ŋu > na-ŋ *'to us excl.'*; *nᵞuŋku- ~ nᵞiŋku > ⁿtᵞu-ŋk *'to you sg.'*

-nᵞa > -nᵞ *direct object:* *ŋana-nᵞa > na-nᵞ *'us excl.'*; *nᵞuŋu- ~ nᵞuŋu-nᵞa > ŋyu-nᵞ *'him'*, as in /ayu-ŋ ŋyu-nᵞ ⁿkaŋa-n./ (*ŋayu-ŋa, *nᵞiŋu-nᵞa, *V-n) *'I found him, met him'*. This suffix combines with non-singular pronouns and with *nᵞuŋu ~ nᵞiŋu- *3rd sg. oblique* in Yinwum.

*-ŋa, *-li, *-na, *-la > -ŋ ~ -l ~ -n ~ -l *subject:* *ŋayu-ŋa > ayu-ŋ *'I'*; *ŋali-li > le-l *'we du. incl.'*; *ŋana-na > na-n *'we excl.'*; *pula-la > lwi-l *'they'*

Linŋiṯiɣ

Verb suffixes

*-l ~ -tᵞa > -y, -ṭ *future, imperative:* *wanta-l > ntʳa-y *'will put it, leave it; leave it!'*, as in /ayo-ŋ mæ-ŋon ntʳa-y./ (*ŋayu-ŋa, *tᵞuma-ŋuna, *wanta-l) *'I will put it in the fire'*, and in /mæ-ŋon ntʳa-y./ (*tᵞuma-ŋuna, *wanta-l) *'put it in the fire!'*; *kali-tᵞa > li-ṭ *'will go, go!'*

*-na ~ -ka > -n ~ -ɣ *past:* *wanta-n > ntʳa-n *'put it, left it'*, as in /tʳo-n tʳu ntʳa-n./ (*ŋantu-na, *nᵞuntu ~ nᵞintu, *wanta-n)

'where did you put it?'; *nᵞu·ŋka-ka > oɣa-ɣ 'smelled it',
as in /nᵞa mpwaʔ ayo-ŋ oɣa-ɣ./ (*minᵞa, *kalmpaR, *ŋayu-ŋa,
*nᵞu·ŋka-ka) 'I smelled the meat'

*-nᵞu > -n̠ *nominaliser:* *nᵞi·na-nᵞu > ina-n̠ 'seat, human posterior'.
   This suffix is common in kinship expressions, for example,
   mi-nt̠ʳ t̠æ-n̠ 'mother's mother's brother's child', literally,
   'the one that mother's mother's brother (mi- from *kami, -nt̠ʳ
   ergative) begat (t̠æ- 'to beget')'

Noun suffixes

*-ku > -w ~ -ɣ *purposive:* *minᵞa-ku > nᵞa-w 'for meat', as in /li-ŋkay
   awaR li-t̠ nᵞa-w./ (*ŋali-*suff*, *ka·way, *kali-tᵞa, *minᵞa-ku)
   'we du. incl. will go east for meat'; *mayi-ku > ayi-w ~ ayi-ɣ
   'for vegetable food', as in /ayo-ŋ aðim ayi-w./ (*ŋayu-ŋa,
   *Ca·nᵞtᵞimV, *mayi-ku) 'I am hungry for vegetable food';
   *ŋa·ni-ku > ani-w 'what for, why' as in /ani-w t̠ʳu in̠i nt̠ʳo-tᵞ./
   (*ŋa·ni-ku, *nᵞuntu ~ nᵞintu, *N, *wuntu-*suff* (in̠i nt̠ʳo- 'to
   seek')) 'what are you looking for?'

*-lu ~ -ŋku > -l ~ -ŋk *ergative:* *pama-lu > ma-l 'person erg.', as in
   /ma-l n̠i-n̠ tᵞi-n./ (*pama-lu, *ŋanᵞi-nᵞa, *nᵞatᵞi-n) 'the
   person saw me'; *tᵞuma-ŋku > mæ-ŋk 'fire erg.', as in /mæ-ŋk
   n̠i-n̠ kayŋa-n./ (*tᵞuma-ŋku, *ŋanᵞi-nᵞa, *V-n) 'the fire
   burned me'

*-muntu > -mont̠ʳ *elative:* *tᵞuma-muntu > mæ-mont̠ʳ 'from the fire', as
   in /ayo-ŋ mæ-mont̠ʳ Ræ-y./ (*ŋayu-ŋa, *tᵞuma-muntu, *V-l) 'I
   will take it from the fire'

*-namu > -nam *possessive:* *pama-namu > ma-nam 'person's, of a person',
   as in /omin̠t̠a-ð ma-namo-ð n̠i-n̠ t̠a-n./ (*N-*suff*, *pama-namu-
   suff, *ŋanᵞi-nᵞa, *patᵞa-n) 'the person's dog bit me. The
   suffix -ð is a common alternant of *ergative* in modern Lin.
   Note that the final vowel in *-namu, lost in absolute final,
   is positively reflected by /o/ before this suffix.

*-ŋuna ~ -na > -ŋon ~ -n *locative:* *tᵞuma-ŋuna > mæ-ŋon 'in the fire';
   *ŋuŋku-na > ko-n 'there', as in /t̠ʳu ko-n ina-y./ (*nᵞuntu ~
   nᵞintu, *ŋuŋku-na, *nᵞi·na-l) 'you sit there'

*-ŋku ~ -ku > -ŋk ~ -w ~ -ɣ *indirect object:* *kami-ŋku > mi-ŋk 'to
   mother's mother', as in /mi-ŋk lu po-ɣ./ (*kami-ŋku, *nᵞulu ~
   nᵞilu, *V-ka) 'he gave it to mother's mother'; *pama-ku >
   ma-w 'to the person'; and in poŋka-ɣ (*N-ku) 'to the initiate'

*-tᵞimV > -yim ~ -ðim *possessed of, having:* *tᵞuma-tᵞimV > mæ-yim
   'having fire, matches'; and in alimp-ðim 'having a spear'

Pronoun suffixes

*-mu ~ -namu > -m ~ -nam *possessive:* *ŋatᵞu-mu > t̠o-m 'my'; *nᵞuŋku-mu >
   ko-m 'your sg.'; *ŋali-namu > li-nam 'our du. incl.'; *ŋana-
   namu > na-nam 'our excl.'; *ŋampul-namu > pu-nam 'our pl.
   inc.'
*-na ~ -ŋku > -n ~ -ŋk *indirect object:* *ŋatᵞu-na > t̠o-n 'to me';
   *nᵞuŋku-na > ko-n 'to you sg.'; *ŋali-ŋku > li-ŋk 'to us

du. incl.'; *ŋana-ŋku > na-ŋk 'to us excl.'; *ŋampul-ŋku >
pu-ŋk 'to us pl. incl.'

-nᵞa > -n̪ direct object: *ŋanᵞi-nᵞa > n̪i-n̪ 'me'; *ŋali-nᵞa > li-n̪
'us du. incl.'; *ŋana-nᵞa > na-n̪ 'us excl.'; *ŋampul-nᵞa >
pu-n̪ 'us pl. incl.'

-na, *-na > -ŋ ~ -n subject: *ŋayu-ŋa > ayo-ŋ 'I'; *ŋana-na > na-n 'we
excl.'. Lin lawuy 'they' is apparently *pula-pul, although
the second constituent is no longer separable in the modern
language. The subject marker combining with li- 'we du. incl.'
(from *ŋali) is -ŋkay.

Verb suffixes

-l > -y future, as in tᵞa-y (*V-l) 'will hit'

-tᵞa ~ -tᵞi > -t̪ ~ -tᵞ future, imperative: *nᵞi·na-tᵞi > ina-tᵞ 'will
sit, sit!', as in /tʳu ko-n ina-tᵞ./ (*nᵞuntu ~ nᵞintu,
*ŋuŋku-na, *nᵞi·na-tᵞi) 'you sit there!'; *kali-tᵞi >
lay-tᵞ 'will go, go!'; and in n̪a-t̪ (*V-tᵞa) 'will arrive'

-n > -n past: *wanta-n > ntʳa-n 'put it, left it', as in /tʳo-ŋon
tʳu ntʳa-n./ (*ŋantu-ŋuna, *nᵞuntu ~ nᵞintu, *wanta-n)
'where did you put it?'

Noun suffixes

-ku > -w purposive: *ŋa·ni-ku > ani-w 'what for, why'

-lu > -l ergative: *pama-lu > ma-l 'person erg.'

-ŋuna ~ -na > -ŋon ~ -n locative: *ŋantu-ŋuna > tʳo-ŋon 'where';
*ŋuŋku-na > ko-n 'there'

Pronoun suffixes

-mu > -m possessive: *ŋatᵞu-mu > t̪o-m 'my'. The expected additional
alternant -nam (*-namu) probably also occurs but is not
attested.

-na > -n indirect object: *ŋatᵞu-na > t̪o-n 'to me'

-nᵞa > -n̪ direct object: *ŋanᵞi-nᵞa > n̪ay-n̪ 'me'

-na, *-pa > -ŋ ~ -w subject: *ŋayu-ŋa > ayo-ŋ 'I'; *ŋali-ŋa > lay-ŋ
'we du. incl.'; *ŋana-ŋa > na-ŋ 'we excl.'; *pula-pa > lwa-w
'they du.'

Awṉṯim

Verb suffixes

*-l ~ -t^{y}a > -y ~ ṯ *future:* *n^{y}at^{y}i-l > t^{y}i-y *'will see'*; *kali-t^{y}a > lay-ṯ *'will go'* (rare)

*-n ~ -ka > -n ~ - ɣ *past:* *wanta-n > nt^{r}a-n *'put it, left it'*, as in /nt^{r}aw-ŋ(un) nt^{r}u nt^{r}a-n./ (*ŋantu-ŋu(na), *n^{y}untu ~ ·n^{y}intu, *wanta-n) *'where did you put it?'*; and in ya-ɣ (*V-ka) *'gave'*, and in ṯaw-ɣ (*V-ka) *'inserted it, put it in'*

Noun suffixes

*-ku > -w ~ -k *purposive:* *min^{y}a-ku > ṉya-w *'for meat'*; and in murṯi-k (*N-ku) *'for fish, meat'*

*-lu > -l *ergative:* *kuta-lu > ?wa-l *'dog erg.'*, as in /?wa-l ṉay-ṉ ṯa-n./ (*kuta-lu, *ŋan^{y}i-n^{y}a, *pat^{y}a-n) *'the dog bit me'*

*-mu > -m *elative,* in nt^{r}wa?a-m (*N-mu) *'from here'*, and in ŋkaw-m (*N-mu) *'from there, after that'*

*-ŋuna ~ -ŋu ~ -na > -ŋun ~ -ŋ *locative,* -n *allative:* *ŋantu-ŋuna ~ -ŋu > nt^{r}aw-ŋun ~ -ŋ *'where at'*, *ŋantu-na > nt^{r}aw-n *'where to'*

*-t^{y}imV > -ṯim *possessed of,* as in 'dinghy'-ṯim (or in assimilated pronunciation ṯiŋk-ṯim) *'having a dinghy'*. This suffix also appears in the language designation awŋ-ṯim *having 'awŋ' for 1st sg. subj.*

Pronoun suffixes

*-mu > -m *possessive:* *ŋat^{y}u-mu > ṯaw-m (also ṯaw-mR) *'my'*

*-na > -n *indirect object:* *ŋat^{y}u-na > ṯaw-n *'to me'*

*-n^{y}a > -ṉ *direct object:* *ŋan^{y}i-n^{y}a > ṉay-ṉ *'me'*

*-ŋa, *-pa > -ŋ ~ -p *subject:* *ŋayu-ŋa > aw-ŋ *'I'*; *ŋana-ŋa > na-ŋ *'we pl. excl.'*; *pula-pa > lwa-p *'they du.'* Subject markers combining with lay- (*ŋali) and Rwe- (*n^{y}ura) are -ŋk and -ɣ respectively.

Nt^{r}a?ŋiṯ

Verb suffixes

*-l ~ -t^{y}a ~ -t^{y}i > -y ~ -ṯ ~ -t^y *future, imperative:* *ŋami-l > mi-y *'will hear, listen!'*; *n^{y}at^{y}i-l > t^{y}i-y *'will' see, look!'*; *kali-t^{y}a > li-ṯ *'will go, go!'*; *wanta-t^{y}i > nt^{r}a-t^y *'will leave it, leave it!'*; *muŋka-t^{y}i > ŋka-t^y *'will eat, eat!'*

past: *wanta-n > ntᶜa-n *'put it, left it'*, as in /ntᶜo-ŋ ntᶜu ntᶜa-n./ (*ŋantu-ŋu, *nᵞuntu ~ nᵞintu, *wanta-n) *'where did you put it?'*

suffixes

> -w **purposive:** *minᵞa-ku > nᵞa-w *'for meat'*, as in /li-ŋk awaR li-t̠ nᵞa-w./ (*ŋali-*suff*, *ka·way, *kali-tᵞa, *minᵞa-ku) *'we du. incl. will go east for meat'*; *ŋa·ni-ku > ani-w *'what for, why'*

> -l **ergative:** *kuta-lu > oʔa-l *'dog erg.'*, as in /oʔa-l n̠i-n̠ t̠a-n./ (*kuta-lu, *ŋanᵞi-nᵞa, *patᵞa-n) *'the dog bit me'*

ᵗu > -mont *elative,* attested in ntᶜaʔ-mont (*N-muntu) *'from here'*, and in ŋko-mont (*N-muntu) *'from there'*

-na > -ŋ ~ -n *locative:* *ŋantu-ŋu ~ -na > ntᶜo-ŋ ~ -n *'where'*

ᵐV > t̠im *possessed of, having,* as in 'dinghy'-t̠im *'having a dinghy'*

noun suffixes

ᵐu ~ -namu > -m ~ -nam *possessive:* *ŋatᵞu-mu > t̠o-m *'my'*; *ŋana-namu > na-nam *'our excl.'*

ᵃna ~ -ŋu > -n ~ -ŋ *indirect object:* *ŋatᵞu-na > t̠o-n *'to me'*; *ŋana-ŋu > na-ŋ *'to us excl.'*

-nᵞa > n̠ *direct object:* *ŋanᵞi-nᵞa > n̠i-n̠ *'me'*

ᵃ, *-na, *-pa > -ŋ ~ -n ~ -p *subject:* *ŋayu-ŋa > ayo-ŋ *'I'*; *ŋana-na > na-n *'we excl.'*; *pula-pa > la-p *'they du.'* As in Awŋt̠im, there are additional alternants, -ŋk and -ɣ, combining with li- (*ŋali) and oRæ- (*nᵞura) respectively.

Ngkot̠

Verb suffixes

-l > -l (rare) *imperative:* *nᵞatᵞi-l > tᵞi-l *'look!'*

-n > -n *past:* *nᵞatᵞi-n > tᵞi-n *'saw'*, as in /ŋkol li tᵞin./ (*paŋkul, *nᵞulu ~ nᵞilu, *nᵞatᵞi-n) *'he saw a wallaby'*

Noun suffixes

*-ku > -w *purposive:* *ŋa·ni-ku > ani-w *'what for, why'*; and in mot̠a-w (*N-ku) *'for meat, fish'*, as in /lay-l away mpi-y, mot̠a-w./ (*ŋali-li, *ka·way, *V-*suff*, *N-ku) *'let's go east for meat'*

*-lu ~ -ŋku > -l ~ -ɣ *ergative:* *kuta-lu ~ -ŋku > twa-l ~ -ɣ *'dog erg.'*, as in /twa-l (or twa-ɣ) n̠ay-n̠ t̠a-n./ (*kuta-lu ~ -ŋku,

*ŋanʸi-nʸa, *patʸa-n) 'the dog bit me'; *pama-lu > ma-l 'person erg.', as in /ma-l n̪ay-n̪ tʸi-n./ (*pama-lu, *ŋanʸi-nʸa, *nʸatʸi-n) 'the person saw me'

*-namu > -nam *possessive:* *pama-namu > ma-nam 'person's, of a person'

*-ŋu > -ŋ *indirect object, locative:* *pama-ŋu > ma-ŋ 'to the person'; *pi·pa-ŋu > ipya-ŋ 'to the father'; *wi·ya-ŋu > iya-ŋ 'on another'; and in pi-ŋ 'at camp', as in /pi-ŋ na-n ma-n./ (*N-ŋu, *ŋana-na, *kalma-n) 'we excl. arrived at camp'

Pronoun suffixes

*-mu ~ -namu > -m ~ -nam *possessive:* *ŋatʸu-mu > t̪ay-m (unexpected vowel correspondence here) 'my'; *nʸuŋu ~ nʸiŋu-mu > nʸi-m 'his'; *ŋana-namu > na-nam 'our excl.'

*-na ~ -mu ~ -ŋu > -n ~ -m ~ -ŋ *indirect object:* *ŋatʸu-na > t̪o-n 'to me'; *nʸuŋku- ~ nʸiŋku-mu > tʸi-m 'to you sg.' (also 'your sg.'); *ŋana-ŋu > na-ŋ 'to us excl.'

*-nʸa > -n̪ *direct object:* *ŋanʸi-nʸa > n̪ay-n̪ 'me'; *pula-nʸa > lwa-n̪ 'them'

*-ŋa, *-li, *-na, *-pa > -ŋ ~ -l ~ -n ~ -w *subject:* *ŋayu-ŋa > nʸtʸo-ŋ 'I'; *ŋali-li > lay-l 'we du. incl.'; *ŋana-na > na-n (also na-m) 'we excl.'; *pula-pa > lwa-w 'they'

Aritinŋit̪iɣ

Verb suffixes

*ka ~ -l ~ -tʸa ~ tʸi > -k ~ -l ~ -t̪ ~ -y *future, imperative:* *tʸampa-ka > mpa-k 'will give, will throw; give!, throw!'; *yinta-l > ntya-l 'will spear, spear it!'; *nʸi·na-tʸi > ina-y 'will sit, sit!'; and in tʸa-t̪ (*V-tʸa) 'will speak, speak!'

*-n > -n *past:* *yinta-n > ntya-n 'speared'; *patʸa-n > t̪a-n 'bit', as in /atala-l nʸi-n̪ t̪a-n./ (*N-suff, *ŋanʸi-n̪ʸa, *patʸa-n) 'the dog bit me'; *wanta-n > nta-n 'put it, left it', as in /ntu-t̪ ntyu nta-n./ (*ŋantu-suff, *nʸuntu ~ nʸintu, *wanta-n) 'where did you put it?'

*-ŋka > -ɣ *present:* *Ruŋka(-)-ŋka > ŋkwa(la)-ɣ 'is crying'

Noun suffixes

*-ku > -w ~ -ɣ *purposive, allative:* *minʸa-ku > nʸa-w 'for meat', as in /li-l awa-ntuw ari-k, nʸa-w./ (*ŋali-li, *ka·way-suff, *V-ka, *minʸa-ku) 'we will go east for meat'; *ŋa·ni-ku > ani-ɣ 'what for, why', and in uwan̪u-ɣ 'to the hill'

*-lu ~ -ŋku > -l ~ -ɣ *ergative:* *pama-lu > ma-l 'person erg.', and

*mini-ŋku > ni-γ *'good erg.'*, as in /ma-l ni-γ t̪u-n ayi mpa-n./ (*pama-lu, *mini-ŋku, *ŋat̪ʸu-na, *mayi, *t̪ʸampa-n) *'the good person gave me vegetable food'*

locative: *ŋantu-ŋu > ntu-ŋ *'where'* (Ari also has ntu-t̪ with the same meaning); *yuku-ŋu > kwu-ŋ *'in the fire'*, as in /ayu-ŋ kwu-ŋ ika-n./ (*ŋayu-ŋa, *yuku-ŋu, *ka·lka-n) *'I fell in the fire'*

suffixes

-namu > -m ~ -nam *possessive:* *ŋat̪ʸu-mu > t̪u-m (also t̪u-Rm) *'my'*; *ŋali-namu > li-nam *'our du. incl.'*; *ŋana-namu > na-nam *'our excl.'*

-n *indirect object:* *ŋat̪ʸu-na > t̪u-n *'to me'*

-n̪ *direct object:* *ŋanʸi-nʸa > nʸi-n̪ *'me'*

*-li, *-na, *-la > -ŋ ~ -l ~ -n ~ -l *subject:* *ŋayu-ŋa > ayu-ŋ *'I'*; *ŋali-li > li-l *'we du. incl.'*; *ŋana-na > na-n *'we excl.'*; *pula-la > lwa-l *'they du.'*

suffixes

> -γ *future:* *wanta-ka > nda-γ *'will put it, leave it'*

> -l *imperative:* *wanta-l > nda-l *'put it, leave it!'*

> -n *past:* *wanta-n > nda-n *'put it, left it'*

-ka > -γ *present:* *panʸt̪ʸi(-)-ŋka > nʸd̪ʸi(Ri)-γ *'is burning'*

suffixes

-ku > -w *purposive:* *ŋa·ni-ku > ani-w *'what for, why'*, as in /ani-w ndwi(n) nʸd̪ʸat̪—aða-γ./ (*ŋa·ni-ku, *nʸuntu ~ nʸintu, *t̪ʸaŋkaR—Ca·nʸt̪ʸa-ŋka) *'why are you laughing'* (lit., *'dying with laughter')?*

-lu > -l *ergative:* *pama-lu > ma-l *'person erg.'*, as in /ma-l nʸi-n̪ ne-y./ (*pama-lu, *ŋanʸi-nʸa, *V-suff) *'the person struck me'*

-ŋu > -ŋ *locative:* *ŋantu-ŋu > ndo-ŋ (also ndo-t̪, cp. Ari above) *'where'*, as in /ndo-ŋ ndwi(n) it̪ʸa-y./ (*ŋantu-ŋu, *nʸuntu ~ nʸintu, *ŋi·t̪ʸa-suff) *'where did you put it?'*

Pronoun suffixes

-mu > -m *possessive:* *ŋat̪ʸu-mu > t̪o-m *'my'*

-na > -n *indirect object:* *ŋat̪ʸu-na > t̪o-n *'to me'*

-nʸa > -n̪ *direct object:* *ŋanʸi-nʸa > nʸi-n̪ ~ n̪i-n̪ *'me'*; *nʸuŋu ~ nʸiŋu-nʸa > nʸu-n̪ *'him'*

*-ŋa, *-li, *-na, *-pa > -ŋ ~ -l ~ -n ~ -w *subject:* *ŋayu-ŋa > ayo-ŋ
'I'; *ŋali-li > le-l *'we du. incl.'*; *ŋana-na > na-n *'we
excl.'*; *pula-pa > lwa-w *'they'*