Roots and stems in Amis and Nêlêmwa (Austronesian): lexical categories and functional flexibility

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Abstract

In contrast with Nêlêmwa (Oceanic, New Caledonia) whose lexemes are most generally subcategorised as nouns or verbs and undergo category-changing derivations, in Amis (Formosan), roots are pervasively categorially neutral, yet they contain semantic features and instructions that allow or disallow combination with primary derivational affixes which specify their class and category. Lexical categories are expressed after derivation from roots to become morphosyntactic words projected in a syntactic frame; they are then quite rigidly subcategorised as verbal, nominal or adjectival-modifying heads. Still, word forms display some functional flexibility; for instance, nouns and derived nouns, pronouns, numerals may be predicative in equative, ascriptive and focus constructions, simply by being in the syntactic position of the verb. Such functional flexibility is asymmetrical and does not apply to derived verb stems which must be nominalised to achieve argument function.

Keywords: Austronesian, Formosan, Oceanic, alignment system, applicative constructions, categorial flexibility, primary and secondary derivation, conversion, asymmetrical derivation, category-changing derivation, categorially neutral roots, functional flexibility, stems, voice systems, verb classes.

1. Introduction

Austronesian languages, and within them, the Oceanic subgroup differ substantially as to their degree of categorial and functional flexibility. In some Formosan, Philippine (Western Austronesian), and in some Polynesian (Oceanic) languages like Tongan (Broschart 1997), Samoan (Mosel and Hovdhaugen 1992) or Tuvaluan (Besnier 2000), lexical roots are described as categorially neutral, i.e. nouns and verbs are subcategorised not in the lexicon, but as word forms at morphosyntactic level. Foley

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also analyses Tagalog roots as precategorial (1998), an approach discussed by Kroeger (1998) and Himmelmann (2005, 2007). Yet, there is extreme diversity among Austronesian languages; in Northern Amis (Formosan), lexical roots are pervasively categorially neutral, while lexemes in Nêlêmwa (Oceanic) are clearly subcategorised as nouns or verbs that must undergo derivational, category-changing processes.

Categorisation involves several possible levels of identification: roots, stems and morphosyntactic words (Lehmann 2008: 548). In an attempt to distinguish precategoriality from conversion, Evans and Osada (2005) profile three main criteria for precategoriality: (i) exhaustivity (i.e. all the lexemes of a language should be precategorial), (ii) bi-directionality, and (iii) compositionality, i.e. “any semantic difference between the uses of a putative ‘fluid’ lexeme in two syntactic positions —say argument or predicate— must be attributable to the function of that position” (ibid. 2005: 367).

2. Some characteristic features of Nêlêmwa and Northern Amis

With these notions in mind, the discussion will focus on Northern Amis\(^2\) (classified as East Formosan, Blust 1999), drawing some parallels with Nêlêmwa (Oceanic, New Caledonia), which is typologically very different. Roots in Amis are pervasively categorially neutral. Stems are derived from them, and are then inflected as word forms projected in a syntactic frame. In contrast with Amis, the notion of root is not needed in Nêlêmwa which does not display any “set of regular inflectional or derivational word-

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\(^2\) Amis is spoken along the eastern coast of Taiwan and has four main dialects (northern, central, coastal, southern, Tsuchida 1988) which display significant differences in phonology, lexicon and morphosyntax. Sakizaya, classified by Tsuchida as a fifth dialect, is now considered as a distinct language. Northern Amis is the variety spoken in and around Hualien by three communities living in the ‘villages’ of Natuaran, Pokpok and Lidaw. The data discussed here come from my fieldwork conducted with speakers from all three communities over a period of 10 months since 2011. Chen (1987) previously analysed the verb classes and voice system of Natuaran Amis. Other related studies of the central dialect are Wu (2006), Tsukida on Fataan Amis (2008).
forms related to a more abstract root sharing a common meaning” (Evans & Osada 2005). Nouns and verbs in Nêlêmwa are subcategorised in the lexicon.

Northern Amis and Nêlêmwa have a few common features: both have predicate-argument order; both lack a copula; in both languages, nouns and deverbal nouns can be predicative with no category-changing derivation, as shown in examples (1 to 4) below, they simply occur in the syntactic position of the verb. In all other respects, both languages are extremely different.

- **Characteristic features of Nêlêmwa**

Nêlêmwa displays very little lexical flexibility. Only 5% of the lexicon is categorically flexible (i.e. functioning as nouns or verbs) like English *call*; all other lexemes are subcategorised and undergo category-changing derivations. The category and function of the 5% flexible (N or V) lexical bases is identified by distributional criteria and behavioural features at syntactic level: for instance, determiners and numerals in DPs, TAM markers and subject indexes for VPs. When verbal, these lexical bases are intransitive (active or stative) verbs. Very few are transitive (Bril 2002, in press).

Consider *ciiva* ‘to dance, dance’: DP *hleena ciiva* ‘these dances’, VP with TAM or subject indexes: *io hla ciiva* (FUT they dance) ‘they’ll dance’; *hoot* ‘give a speech; discourse, story’; NumP *pwa-giik hoot* (CLASS-one speech) ‘one speech’, VP *i hoot (3SG deliver.speech)* ‘he gives a speech’. The noun form generally refers to an instance or result of the action for active verbs. On the other hand, the actor noun is derived with *aa- as aa-civa* ‘dancer’ and the action noun is derived as *u-ciiva* ‘dancing’.

Among the remaining lexical bases: 52% are nouns (bound or free), 42% of them are verbs (intransitive, transitive, stative-adjectival); these are the major lexical categories and subcategories. Verbs undergo category-changing, affixal derivation (transitivising, causativising, intransitivising, nominalisation). Word forms comprise a stem hosting

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3 A count conducted on the Nêlêmwa dictionary (Bril 2000).
distinct nominal or verbal affixes. Derivation is asymmetrical: there are no
denominational verbs, only deverbal nouns derived by affixes (see table 1). The only verb creating
process makes use of the light verb *thu* ‘do’ as in *thu naat* (lit. do oven) ‘cook in the
earth oven’ (*naat* ‘oven’), *thu cava-t* ‘hurry up’ (*cava-t* ‘speed’).

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<thead>
<tr>
<th></th>
<th><em>u-</em></th>
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<td>action Ns</td>
<td>agentive Ns</td>
<td>instrument,</td>
<td>locative Ns</td>
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<td>manner-of-action Ns</td>
<td>artefact Ns</td>
<td>artefacts, result of action</td>
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<td>Verb types</td>
<td><strong>ALL verbs including STATIVE</strong></td>
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Table 1. Deverbal (nominalising) prefixes in Nêlêmwa

Syntactic, functional flexibility is also asymmetrical: nouns and derived nouns are
the most flexible; this correlates with their ability to be predicates without derivation,
while verbs must be nominalised to serve as arguments. The predicative function thus
cross-cuts part-of-speech categories: nouns, pronouns, numerals can be predicative
simply via syntactic positions (Bril, in press). Subcategorised lexical bases (Ns or Vs)
are syntactically flexible, in relation to their propositional operation, i.e. reference,
predication, or modification (Lehmann 2008, Hengeveld and van Lier 2010), resulting
in functionally flexible forms such as (i) verb modifying verbs in VV constructions: *i â
wâлем* he leaves on foot’ (lit. leave walk) vs. *i wâlem â* ‘he walks from place to place’
(*wâlem* ‘walk’, â ‘go, leave’); (ii) nominal predicates: *i ak* ‘he (is) a man’, *kio i ak* (*NEG
3SG man) ‘he (is) not a man’; adpositional nouns like *shi-ny* ‘his/her arm, hand, side’
denoting a beneficiary in *na shi-ny* (put hand-POSS.1SG) ‘give it to me’, or a location *i oome
shi-ny* ‘he comes to me’ (lit. come to my side). The syntactic *functions* of heads, to be
distinguished from their *lexical* categories, are identified by their combinatorial and
behavioural properties in a given syntactic environment. As often pointed out (Lazard
1999, Sasse 1993, 2001, Croft 2000), there are only statistical frequencies in the
alignment between categories and functions, with frequent mismatches between
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ontological and formal categories.

Nêlêmwa thus has fairly rigid lexical categories. 95% of lexical bases are subcategorised and undergo category-changing derivations; derivation is asymmetrical (non-bidirectional), with no denominal affixal derivation. On the other hand, there is some degree of functional flexibility, also asymmetrical, since nouns are functionally much more flexible than verbs.

Comparing Amis and Nêlêmwa

By contrast, in Amis (Formosan), roots are pervasively –though not exhaustively– categorially neutral. But after derivation from roots, word forms are subcategorised as verbal, nominal heads or adjectival modifiers. Yet, as in Nêlêmwa, word forms display some functional flexibility: in the restricted contexts of equative, ascriptive and focus constructions, nouns and derived nouns, pronouns, numerals may be predicative without derivation; they retain the noun marker u (as in (1a, c)), occur in the syntactic position of predicates without any semantic change other than the predictable meaning triggered by the predicative function.

Examples (1) in N.Amis and (I) in Nêlêmwa illustrate this: in both languages, predicative nouns are negated and asserted by the same illocutionary markers as verbs (compare 1a-b, 1a-b); they have tense-aspect-mood markers and degree markers like verbs (compare 1c-d; 1c-d). In N.Amis, predicative nouns behave like non-actor oriented verb stems: in negative, non-declarative, non-finite constructions, the morph ka (non-finite) appears (Zeitoun and Huang 2000), compare (1a-b).

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4 Equative < X is a Y >, or ascriptive predications < X is Y >.
5 Unless otherwise indicated, all the data are from my own fieldwork and are mostly based on spontaneous data recordings. Examples from stories also originate from my fieldwork.
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When nouns function as predicative heads, they retain their nominal morphology, as shown in the focus construction in (2): the cleft predicative noun u saba=aku ‘my younger brother’ is flagged by the noun marker u, while its nominative argument is a derived Actor nominal ø-tayni-ay ‘the comer’. Free pronouns in predicate function, like aku in (2), are negated by caay and marked by ka like all non-actor oriented verb stems.

(2) N. Amis

Caay ka aku, [u saba=aku] k-u ø-tayni-ay.

‘It’s not me, it’s my younger brother who came.’

In Nêlêmwa (3), the focused noun thaamwa=ena ‘that woman’ is predicative, yet retains its deictic determiner. Its argument is the anaphoric pronoun hooli modified by a relative clause.

(3) Nêlêmwa

[Thaamwa=ena [hooli [i axi-e]].]

‘It’s that woman that he saw.’ (lit. this woman the one he saw-her) (Bril 2002: 328)

Non-verbal predicates may host TAM markers in Amis (4a) as in Nêlêmwa (4b):

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6 Abbreviations follow the Leipzig glosses, additional ones are: ANAPH: anaphoric; ASS: assertive; AV: actor voice; CONV: conveyance marker; CV: conveyance voice; DX: deictic; EXS: existential verb; FR: free pronoun; INST: instrumental marker; LNK: linker; LV: locative voice; NFIN: non-finite; NAV: non-actor voice; NM: noun marker; PFV: perfect; PN: personal noun marker; PROC: processual; QM: question marker; RED: reduplication; UV: undergoer voice; \ symbol for root.

7 The noun stem (u lipahak ‘joy’) and the static Ø-verb stem are derived from the root form lipahak.
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(4)a. N. Amis

\[
\begin{align*}
& \text{Ci Cidal=} \textbf{tu} \text{-} \text{k-} \text{u} \text{ mi-kutay-ay}. ^8 \\
& \text{PN Sun=} \text{PFV} \text{ NOM-NM AV-replace-NMLZ}
\end{align*}
\]

‘It was Sun (who was) the substitute.’ (U teker ni Adek.018)

(4)b. Nêlêmwa

\[
\begin{align*}
& \text{Hli baa} \text{-} \text{âlô}.^9 \\
& \text{3DU DUR} \text{ child}
\end{align*}
\]

‘They’re still children.’ (Bril 2002: 215)

3. Northern Amis (Formosan)

In Amis, the notion of root is central to dealing with its complex derivational morphology. Lexical roots are most generally categorially neutral; they are categorised only after being derived and inflected as stems and as morphosyntactic words. Roots carry lexical meaning as well as other semantic features (i.e. ± entity denoting, ± human, ± activity, ± state, ± property denoting, etc.). Derivational voice affixes also carry some semantic features and syntactic instructions such as the selection of the nominative pivot. Roots and primary voice affixes (AV mi- and UV ma-) thus co-select each other according to such semantic compatibilities. They also signal subcategories of verb stems which are derived with a specific type of case assignment. Further derivational and inflectional processes occur when stems are projected in a clause, and signal the syntactic functions of word forms as predicates, arguments or modifiers; their ultimate meaning is then processed. Lexical categories (nouns, verbs, adjectival modifiers) are thus expressed by morphosyntactic processes.

The discussion is organised as follows; the notion of categorially neutral roots and their primary derivation as noun or verb stems are first presented (§3.1); some cases contradicting neutral categoriality are discussed, but are shown not to invalidate the general pattern (§3.2). The main verb classes and their primary voice derivations are detailed in §3.3. Secondary voice derivations (sa- instrumental, si- conveyance-

\[^8\text{Compare with mi-kutay=} \text{tu ci Cidal ‘Sun replaced (him)’}.\]

\[^9\text{The circumflex accent marks nasal vowels, double vowels indicate length; the phonology of Nêlêmwa is detailed in Bril 2002.}\]
benefactive) are analysed in §3.4, §3.5: they have distinct functions and meanings when they are affixed to roots to derive word forms, or when they are affixed to already derived verb stems as applicative constructions with UV alignment. The distinct functions and meanings of causative, valency-increasing pa-, when it is affixed to roots and to already derived verb stems are investigated in §3.6. Another property of various affixes is their combined derivational and inflectional (aspectual) properties, this is the focus of §3.7. A number of category-changing, nominalising affixes are discussed in §3.8, they derive perfective action nouns, stative and resultative nouns, time and location nouns. All this leads to the conclusion (§4) that only word forms, derived and inflected from roots, are fully categorized. Yet they have some functional, syntactic flexibility. This flexibility is not bidirectional: i.e. while verbs and non-verbs can be predicative, only nouns and derived, nominalised verbs can have argument function.

Some brief notes on the phonological and spelling system follow: stress falls on the last syllable. There is no vowel length opposition. The glottal stop covers words beginning or ending with a vowel, it is rule-driven, and is not written. The epiglottal stop /ʔ/ is written <q>. In syllable or word final position, /h/ is realised as a pharyngeal fricative [h]. Other symbols are <d> [ð]; <b> [β]; <l> is a retroflex flap [ɺ]; <ng> [ŋ].

3.1. Categorically neutral roots and derivations
Lexical categories (N or V) are identified once roots have been derived and affixed as stems (see §3.2. for some contrary cases). Common noun stems, entity-denoting stems (concrete, shaped objects or concept-denoting) and instances of actions (like a bite, a

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10 In word medial position, two adjacent vowels are produced with a glottal stop between them, as in litaul [liʔaʔuʔl] ‘egg’, uyaan [ujaʔan], kaen [kaʔən]’. But in contexts where /i/ or /u/ are followed by another vowel, the glottal stop is phonemic and contrasts with glide insertion, as in lialac [liʔalac] ‘cure’ vs. liyal ‘sea’, tuud [tuʔud] ‘all’ vs. itakwan ‘(to) me’, kumiut [kumিʔut] ‘chayote shoot’ vs. kuniyu ‘land snail’.

11 In word final position, /ʔ/ is produced with an aspirate release [ʰ], like all unvoiced final stops (#p, t, k) (Edmonson 2005).
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ли, etc.) are primarily derived from roots as noun stems, flagged by the noun marker у, while proper nouns are flagged by i. The main difference between noun and verb stems lies in their markedness: noun stems are flagged by у, i, or by demonstratives; verb stems are generally derived by complex voice morphology. Only verb stems display voice morphology, non-verbal predicates do not, they simply appear in the sentence initial predicate slot (as in (4a)).

- Primary vs. secondary derivation

Primary derivation operates on roots and is basically category attributing; it derives noun stems and verb stems (and among the latter, action or property-denoting stems). Secondary derivation operates on already derived verb stems and subdivides (i) into applicative voices (locative, instrumental, conveyance), which modify alignment, and (ii) into category-changing derivation (see figure 1 below). Noun stems do not undergo secondary, category-changing derivation; when used as predicates, they simply occur in the sentence initial syntactic slot of predicates.

Figure 1. Primary and secondary derivation

Verbs are not cited under the root form, but as verb stems derived by primary voice affixes ми- or ма-, which also distinguish two classes of verb stems: AV mi- stems

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12 The notion of secondary derivation is used by Foley (1998) for Tagalog, by Keenan (2001) for Malagasy. 13 Mithun (1994) analyses similar voice affixes in Kapampangan as applicative affixes. So does Wu in central Amis (2006). To avoid confusion with the term applicative which standardly refers to the promotion of a non-core argument to core object/patient function, the term applicative voice is used here, since the promoted non-core term (locative, instrumental, conveyed) is the syntactic, nominative pivot of the derived verb form, with UV type syntactic alignment.
denote activities or accomplishments, while NAV \(<\text{um}>-<\text{em}>\)^{14}, \(\text{ma-}, \emptyset\)- stems denote non-actor, experiencer, undergoer-oriented events, also including states and psych states, properties, cognition (\(\text{ma-banaq} \ '\text{know}'\)), position and motion (\(\text{ma-nanuwang} \ '\text{move}'\)) (Chen 1987, Tsukida 2008).^{15} The roots’ ontology and semantic features pair up with the semantic and syntactic properties of voice affixes: \(\text{mi-}\) stems select an actor pivot, \(\text{ma-}\) stems select an undergoer pivot (including experiencer and more generally non-actor pivot). They also have different meanings: consider, for instance, the root \(\sqrt{\text{nanam}}\) from which are derived a noun \(\text{u nanam} \ '\text{thought, idea}'\), a cognitive activity verb \(\text{mi-nanam} \ '\text{think}'\), and a stative, property verb \(\text{ma-nanam} \ '\text{be used to, have the know-how}'\).

In non-declarative constructions (i.e. negative, imperative), these voice affixes appear in their nonfinite form: AV \(\text{mi-}\) occurs as \(\text{pi-}\), while NAV and UV affixes (\(<\text{um}>-<\text{em}>\), \(\emptyset\)-, \(\text{ma-}\)) occur as \(\text{ka-}\). Consider \(\sqrt{\text{suwal}}\), derived as the indicative verb \(\text{s}<\text{em}>\text{uwal cira} \ '\text{he’s speaking}', \) as imperative \(\text{ka-s}<\text{em}>\text{uwal}! \) (\(\text{NFIN-<NAV>Speak}\) ‘speak!’), as negative \(\text{caay ka-s}<\text{em}>\text{uwal cira} \) (\(\text{NEG NFIN-<NAV>Speak 3SG}\) ‘he’s not speaking’).

Secondary applicative voices

Secondary, applicative voices are affixed to already derived verb stems: AV \(\text{mi-}\) stems occur as \(\text{pi-}\) stems, while NAV \(<\text{um}>-<\text{em}>\), \(\emptyset\)-, \(\text{ma-}\) stems occur as \(\text{ka-}\) stems. Thus, the noun \(\text{u cadiway} \ '\text{fish-net}'\) and the AV verb \(\text{mi-cadiway} \ '\text{fish with net}'\) are primary derivations from the root \(\sqrt{\text{cadiway}}\), while the instrumental applicative verb form \(\text{sa-}\text{pi-cadiway} \ '\text{the net used for net-fishing}'\) is secondarily derived by \(\text{sa-}\) from \(\text{mi-cadiway}\).^{16} Similarly, the instrumental applicative verb form \(\text{sa-ka-nanuwang} \ '\text{the x}

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^{14} A small class of verbs is derived with NAV infix \(<\text{um}>-<\text{em}>\).

^{15} Tsukida (2008) also discusses verb classes in Fataan Amis, a different dialect.

^{16} The nominative pivot must be the instrument.
used to set in motion’ is a secondary derivation with an instrument pivot from the
NAV ma-nanuwang ‘move’, itself primarily derived from the root √nanuwang.

Compare with AV mi-nanuwang ‘blend’ and u nanuwang ‘motion’.

- Secondary, category-changing derivation

Secondary, category-changing derivation applies to voice-marked verb stems, yielding
deverbal nouns, such as locative nouns u pi-buting-an ‘fishing place’ (from mi-buting),
or actor nouns s<em>uwal-ay ‘speaker’, which is derived by the nominaliser -ay from
the verb s<em>uwal ‘speak’, or collective, plural nouns like sa-suwal-an ‘words’
derived by Ca-reduplication ….an. A noun stem is also primarily derived from the
root √suwal, as in u suwal nu Pangcah ‘the language of the Pangcah/Amis’.

From the root √takaw, primary derivation produces the noun u takaw ‘theft’ (u cawiq
k-u takaw [NM sin NOM-NM theft] ‘theft is a sin’), and the AV verb stem mi-takaw, while
secondary derivations produce the actor noun u mi-takaw-ay ‘thief’ (from mi-takaw
‘steal’) and the perfective event nominal u ni-pi-takaw ‘theft’ (lit. stealing) (see §3.8).

3.1.1. Noun stems: noun markers and case-marking

A common noun (primarily or secondarily derived) is flagged by the noun marker u.

Nouns, pronouns and NPs (and only them) are case-marked. The case markers are NOM
k-, OBL t-, GEN n-. Case-markers are prefixed (i) to the common noun marker u as k-u
(nominative), t-u (oblique), n-u (genitive), with no number distinction, (ii) to the
personal noun markers i (singular) and a (plural) prefixed as c-i or c-a (neutral,
subsuming nominative or oblique), n-i or n-a (genitive), (iii) and to demonstratives. The

\[ sa-pi-cadiway=a ku t-u buiting k-in a cadiway. \]
\[ INST-NFIN-net=GEN.1SG OBL-NM fish NOM-DX net \]

‘I used this net to fish’ (lit. this net was used by me for fishing)

17 Noun stems derived by Ca-reduplication ….an from action-denoting roots are mostly stative, collective
nouns such as na-namän-an ‘customs, habits’ (compare with ma-namän ‘be used to, have the know-
how’), √a-ʔadup-an ‘game, hunted animals’ (lit. the hunted) (√ʔadup is derived as AV mi-ʔadup ‘hunt’).
Location and time nouns are also derived by Ca-redup. ….an, like la-lingatu-an ‘the starting time’
(√lingatu is also derived as NAV ma-lingatu ‘start’).

18 Huang (1995) was the first to split these morphemes as k-u, t-u, n-u. See also Wu (2006).
only case suffix on nominal stems is the oblique case –an, which also encodes dative, locative, ablative, source (like ama-an in (5)). The clause in (5) thus has an AV mi-verb with a nominative Actor pivot, an oblique theme marked by t-u and a source ama-an.

(5) Mi-nanam k-aku ci ama-an t-u suwal n-u Pangcah.

AV-learn NOM-1SG PN father-OBL OBL-NM language GEN-NM Amis

‘I learned from my father the Amis language.’

3.1.2. Verb stems: voice affixes and verb classes

Verb stems s are derived from lexical roots by primary voice affixes (mi-, <um>, ma-, Ø-) which also identify verbs classes with a specific type of alignment (Actor or Undergoer pivot) and of case assignment (see §3.3).

Bare Ø- verb stems include many stative, property-denoting roots and a few deictic motion verbs like taynì ‘come’, tayra ‘go’.19 From stative, property-denoting roots, <u noun stems> and ma- verb stems or bare Ø- verb stems can be derived; consider Ø-tarakaw ‘high’ and u tarakaw ‘height’ (6). When used as modifiers, they are derived by –ay (see §3.3.2).

(6) Walu a ditek k-u tarakaw n-u tireng n-iya wawa.

LNK measure NOM-NM height GEN-NM body GEN-ANAPH child

‘Eight foot was the height of the child’s body.’ (Arikakay)

Table 2 illustrates primary derivation as <u noun stems> and as mi-, ma-, Ø-verb stems.

19 These motion verbs are derived compounds involving a motion morph ta- and deictic suffixes ta-ira (distal), ta-ini (proximal).
Voice-affixed verb stems have different, generally predictable, semantic interpretations and different alignment (see §3.3). Consider *mi-lecad ‘compare’ and stative *ma-lecad ‘be similar’, or *mi-patay ‘kill’ and *ma-patay ‘die, be dead’ (*patay is also derived as *u patay ‘death’)\(^{20}\). The root *√banaq is derived as *u banaq ‘knowledge’ (7a), as an extended intransitive verb *ma-banaq ‘know’ (7b), with an experiencer pivot (the seat of knowledge) and an oblique theme. Nouns and deverbal nouns are negated by the negative existential marker *awaay as in (7a-c), while verbs are negated by *caay; the negation of (7b) is thus *caay *ka-banaq *k-aku *iciraan ‘I don’t know him’.

\[(7)\text{a. } \text{*awaay } k-u \text{ banaq.}\]
\[\text{NEG.EXS } \text{NOM-NM knowledge}\]
\[\text{‘(He) is not intelligent.’ (lit. there is no intelligence)}\]

\[(7)\text{b. } \text{*ma-banaq haw k-isu } \text{iciraan ?}\]
\[\text{NAV-know } \text{QM } \text{NOM-2SG OBL-3SG}\]
\[\text{‘Do you know him?’ (belongs to } \text{ma-class,*mi-)}\]

\[(7)\text{c. } \text{*awaay } k-u \text{ ma-banaq-ay.}\]
\[\text{NEG.EXS } \text{NOM-NM NAV-know-NMLZ}\]
\[\text{‘Nobody knows.’ (lit. there is no know-er)}\]

\(^{20}\text{As shown in the following example:}\]
\[\text{Pa-ka-adada } t-u \text{ balucuq=aku } k-u \text{ patay n-i } \text{ama.}\]
\[\text{CAUS-NFIN-ache } \text{OBL-NM heart=GEN.1SG } \text{NOM-NM death } \text{GEN-PN father}\]
\[\text{‘Father’s death hurt me.’}\]
3.2. ‘Nounier’ and ‘verbier’ roots in Amis: a limit to categorially neutral roots?
A systematic investigation was conducted in order to find roots primarily derived only as noun stems or only as verb stems. Some action-denoting roots are actually ‘verbier’ in that their nominal forms are deverbal (§3.2.2). On the other hand, entity-denoting roots, even those referring to concrete, shaped entities like plants, animals, animate beings, body parts, etc. always appear to be derivable as verb stems with a variable range of derivational affixes (§3.2.1). Their distinct ontologies, semantic structure and class allowing, some of these roots allow the derivation of AV mi- activity verb stems, NAV ma- verb stems denoting resultant states, or Ø- verb stems denoting properties. Some less predictable combinations with other affixes are learned by usage and are stored in the speakers’ linguistic knowledge.

3.2.1. Entity-denoting roots
Not all roots display the same degree of categorial neutrality, nor the same potential of derivation. Proper nouns (and assimilated nouns such as address kinship terms) do not occur as verbs and only host case-marking and vocative –aw, like ina-aw ‘Mother!’.
Some entity-denoting roots referring to concrete, shaped objects, body-parts, kinship terms, and to more abstract entities, occur as verb stems derived by a more restricted range of affixes, like mi- or ma- (§3.2.1.2), sometimes by UV –en and by LOC –an (§3.3.3, §3.3.5); some can be derived by si- (§3.5), by causative pa- (§3.6), and some are derived by morphemes which conflate voice and aspectual features like mahr-, malar-

21 As many other affixes, –aw occurs on entity-denoting and on action-denoting stems: it is vocative on noun stems referring to humans like cabay-aw ‘friend !’, and it is an optative UV marker on verbs stems like radiw-aw numita cira ! (lit. sing-OPT GEN.1PL.INCL NOM.3SG) ‘let's sing to him ! (in praise)’ (lit. let him be sung to by us). Its function and meaning results from its composition with a derived stem, projected in a given syntactic frame where the final function and meaning of the word forms are interpreted.
3.2.1.1. Entity-denoting roots derived by *mi- and ma-*

Entity-denoting roots have variable derivational potential as verb forms, which correlates with the root’s ontology and semantic structure (as concrete objects, abstract notions, cognition or feelings). Verbal derivation is also restricted by the type of actions, events or relations that are culturally conceivable or that can be carried out with such entities. Kinship terms, tools and artefacts, for instance, have a wider range of relational ontologies than plants, insects or natural elements, and are thus expected to have a wider range of derivations. AV *mi-* verb stems which are derived from entity-denoting roots denote a prototypical activity conducted in relation with them; their meaning is generally predictable. Their potential for *mi-* derivation thus depends on their ability to be objects of activities, like *mi-kalang* ‘catch crab’ (*u kalang* ‘crab’), *mi-kasuy* ‘get, cut firewood’, *mi-piyu* ‘play the flute’, *ma-umah* ‘to farm, go and work in the field’ (*u umah* ‘field’). Some of these roots are derived with *mi-* and *ma-* (the latter denoting properties and (resulting) states): compare *mi-nanum* ‘drink water’\(^\text{22}\) with the property *ma-nanum* ‘be a water drinker’\(^\text{23}\); also compare *u tamaq* ‘game’, *mi-tamaq* ‘hunt game’, *ma-tamaq* ‘be hunted as game’.

3.2.1.2. Entity-denoting roots: semantics and derivations

The derivational patterns of entity-denoting roots can be classified into some basic ontologies and semantic types.

- Roots denoting human beings and kinship relations. Verb forms derived from such roots are presented in table 3 (the patterns discussed here are not exhaustive).

\(^{22}\) But *mi-nanum* does not mean ‘get, draw water’, this is expressed by a different root *mi-radum*. Radum ‘draw water’ is the reflex of PAN *daNum ‘fresh water’ (*d > r; *N > d); nanum ‘water’ results from more complex derivations of the same root. Finally, *u tebun ‘well, spring’ has no *mi-* derivation (*mi-tebun*).

\(^{23}\) There are other semantic restrictions, *mi-nanum* only means ‘drink water’; other types of drinks are expressed by another root *mi-qenip* ‘sip, drink (alcohol)’, but it is not derived from *qepah ‘alcohol’ as *mi-qepah*. Eating soup or drinking milk is expressed as *mi-kaen* or *k<em>æn* ‘eat’. 
1. DERIVATION OF ROOTS DENOTING HUMAN BEINGS

<table>
<thead>
<tr>
<th>NOUN STEMS</th>
<th>VERB STEMS</th>
<th>mi-</th>
<th>ma-</th>
<th>si-</th>
<th>mi-sa-</th>
<th>ma-sa-</th>
<th>pa-</th>
</tr>
</thead>
<tbody>
<tr>
<td>u kadabu</td>
<td>mi-kadabu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>child-in-law</td>
<td>marry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>u dapunuh</td>
<td>ma-dapunuh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>widow(er)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>u cabay</td>
<td>si-cabay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>companion</td>
<td>get a companion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>u tamdaw</td>
<td>mi-sa-tamdaw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>person</td>
<td>get acquainted, make friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>u babainay</td>
<td>si-babainay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>man</td>
<td>marry a man</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Illustration of root derivations

Also consider kinship terms derived with mi- and ma-: √kadabu, u kadabu ‘child-in-law’, mi-kadabu ‘marry’ (i.e. go as in-law into the spouse’s family); √dapunuh, u dapunuh ‘widow(er)’ vs. stative ma-dapunuh ‘be a widow(er)’.

- Body-parts, body excretions. Verb stems are derived from such roots by mi-, ma-, by causative pa-, like √tireng, u tireng ‘body’, NAV t<em>ireng ‘stand’, pa-tireng ‘erect, build’, secondarily nominalised as u pa-tireng-an ‘building’; √supaq, u supaq ‘saliva’, mi-supaq ‘spit’, pa-supaq ‘apply saliva’, UV supaq-en ‘spit it! (lit. let it be spit); √tayiq, u tayiq ‘faeces’, NAV t<em>ayiq ‘defecate’, AV mi-tayiq ‘cause to defecate’ (with an inanimate cause, effector pivot), t<in>ayiq ‘intestines’, and a locative noun derived by Ca-reduplication as ta-tayiq-an ‘toilets’.

- Animals: derivational restrictions depend on the kind of relations that can be entertained with them: u ayam ‘bird, hen’, mi-ayam ‘hunt birds’, mi-sa-ayam ‘raise hens’).

- Insects: derivations also depend on the kind of conceptually possible relations, u udal ‘bee’, mi-udal ‘collect honey’24 (lit. go for bees).

- Plants: derivational restrictions are conceptually related to their potential of

24 But ‘honey’ is waneng nu udal (lit. sugar of bees; waneng ‘sugar’).
Roots and stems in Amis and Nêlêmwa

cultivation, transformation and use, as with *u sadim* (*Millettia Taiwanica*, plant used as fish poison), *mi-sadim* ‘fish with fish-poison plant’, *ma-sadim* ‘fished with poison’; *u uway* ‘rattan’, *mi-uway* ‘gather rattan’.

- Instruments and tools: some are <u stems>; some are derived by sa- as instrument nouns (see §3.2.3).

Primarily derived voice-marked verb stems can further be causativised, nominalised, derived into modifiers, time nouns, locative nouns, etc., like *tipus, u tipus* ‘rice’, *mi-tipus* ‘harvest the rice’, *pi-tipus-an* ‘time of the rice harvest’; *cadiway, u cadiway* ‘fish-net’, *mi-cadiway* ‘fish with net’, *ca-cadiway-an* ‘the place where one fishes with net’.

### 3.2.2. Action-denoting and property-denoting roots

Some action-denoting roots are ‘verbier’ in that their nominal forms are deverbal. These include deictic motion stems which actually are compounds, like *ta-ini* ‘come, arrive’ (*ta-* ‘come here’), nominalised as a perfective event noun *ni-ka-tayni* ‘arrival’.

Similarly, *radum*, an action-denoting root, occurs as AV *mi-radum* ‘draw water’ or UV *ma-radum*, but does not occur as a <u noun stem>; the derived action nominal is *pi-radum* ‘water-drawing’, the locative noun is derived as *pi-radum-an* ‘a spring, a place to get water’ and the collective locative noun is derived by Ca-reduplication …–an as *ra-radum-an* ‘places where one draws water, wells’.

Ø-stems denoting properties also tend not to undergo derivation as <u nouns>, but there are numerous exceptions, among which *atekak* which is a verb Ø-atekak ‘hard’ or a noun *u atekak* ‘hardness’.

### 3.2.3. Tools and instruments as a testing ground of neutral categoriality

The following sections focus on the semantic features and morphosyntactic instructions carried by affixes, starting with the instrumental affix *sa-*.

Tools and instruments are of three types. Some are expressed by (i) categorically
neutral roots like \(\sqrt{pitaw}\) (u pitaw ‘(big) hoe’, mi-pitaw ‘to hoe’) and \(\sqrt{rarar}\) (u rarar ‘(small) hoe’, mi-rarar ‘to hoe’). (ii) A few are noun stems only: u hawan ‘big knife’, u puut ‘knife’, u bunus ‘machete’, u rinum ‘needle’; the corresponding actions are expressed by different roots like \(\sqrt{tais}\) ‘sew’, and the action of cutting is also denoted by various other roots. (iii) Instrument nouns are also quite productively derived by the instrumental prefix \(sa-\) from action-denoting roots like \(\sqrt{tuktuk}\) derived as \(u\ sa-tuktuk\) ‘hammer’ and as a verb \(mi-tuktuk\) ‘pound’, or \(\sqrt{?is?is}\) derived as \(u\ sa-?is?is\) ‘razor’ and as a verb \(mi-?is?is\) ‘shave’, and \(\sqrt{rusarus}\) derived as \(u\ sa-rusarus\) ‘a saw’ and as a verb \(mi-rusarus\) ‘saw’. The measuring instrument \(u\ sa-ditek\) is derived from the root \(\sqrt{ditek}\) which, as a noun \(u\ ditek\) denotes a ‘measure unit’ (±30cms), and as a verb \(mi-ditek\) means ‘to measure’. Many \(sa-\) instruments or artefacts tend to be newly introduced ones, in contrast with traditional instruments or tools like \(u\ pitaw\) ‘hoe’ or \(u\ rarar\) ‘hoe’. Instrument nouns derived from action-denoting roots by \(sa-\) are distinct from instrumental event nominals secondarily derived from verb stems by more complex patterns as \(sa-pi-,\ sa-ka-,\ sa-Ø\) verb forms (§3.4).

### 3.2.4. Summary
There is a slight tendency for some action-denoting roots, whose noun forms are deverbal, to be ‘verbier’ (i.e. less categorially neutral), while entity-denoting roots are derivable as verb stems (see Figure 2).

<table>
<thead>
<tr>
<th>Derivation of</th>
<th>Derivation of</th>
</tr>
</thead>
<tbody>
<tr>
<td>categorially NEUTRAL ROOTS</td>
<td>‘VERBIER’ ROOTS</td>
</tr>
<tr>
<td>(ENTITY, ACTION, EVENT DENOTING)</td>
<td>only ACTION, EVENT DENOTING</td>
</tr>
<tr>
<td>(u) NOUN stem (or) voice affixed VERB stem</td>
<td>voice affixed VERB stem (1\textsuperscript{ary} deriv.)</td>
</tr>
<tr>
<td></td>
<td>deverbial NOUN (2\textsuperscript{ary} deriv.)</td>
</tr>
</tbody>
</table>

Figure 2. Categorially neutral roots vs. verbier action-denoting roots
Despite such limits, the clearly dominant pattern of categorially neutral lexical roots is not invalidated. Only derived word forms have a category in Amis, their meaning results from the composition of stems and affixes in a given syntactic context.

3.3. Voice affixes and verb classes: argument structure and alignment

The analysis now turns to the argument structure and types of alignment of voice affixed verbs.

3.3.1. Primary voice affixes: *mi-, ma-, <um>, Ø-

Primary voice affixes *mi-, <um>, ma- carry semantic features and morphosyntactic instructions; they also select classes of roots with compatible properties (Lieber 2006 speaks of coindexation) and they derive these roots into verb stems. The argument structure, the type of alignment and case-marking is a property of the voice affixed verb stems (Foley 1998) and of the verb’s valency.

The nominative pivot of *mi- verb stems is an Actor; *mi- verbs can be intransitive or extended intransitive verbs with a *t-u marked oblique theme-patient. The nominative pivot of <um> and ma- verb stems is a Non-Actor (subsuming experiencer and patient).

Ma- verb stems with a non-actor pivot are (i) intransitive (including stative) verbs, or (ii) extended intransitive verbs with a non-actor nominative pivot and a *t-u marked oblique argument. On the other hand, UV transitive ma- verbs have an undergoer pivot and a genitive agent.

Some stems accept both *mi- and ma- with different meanings, like *mi-araw ‘watch’ and ma-araw ‘see’, *mi-libabui ‘bark’ and the property denoting verb ma-libabui ‘bark all the time’ (8), or like *mi-adup ‘hunt’ (activity) and the property denoting ma-adup ‘be

---

25 For the notion of extended intransitive constructions, see Dixon & Aikhenvald, 2000.
26 In Central Amis, Wu (2006: 109) distinguishes a neutral ma- occurring with stative verbs, intransitive verbs (denoting weather and natural phenomena), from AV ma- for verbs of involuntary actions or psych predicates (even though their semantic role are not actors but experiencers), and from UV ma- for constructions with an undergoer pivot and a genitive agent. By contrast, in this approach, NAV ma- (which often has middle voice properties) is distinguished from UV ma-.
good at hunting’ (9) (the actor noun is a secondary derivation as mi-adup-ay ‘hunter’).

(8)a.  Ma-libabui k-iya wacu.  vs.  b.  Mi-libabui k-ira wacu.
    NAV-bark  NOM-ANAPH  dog        AV-bark  NOM-DX  dog
    ‘That dog barks all the time.’ ‘That dog is barking.’

(9)  Ma-adup k-ira taw.
    NAV-hunt  NOM-DX  stranger
    ‘That stranger is good at hunting.’

NAV intransitive ma- verbs denote position, motion (motion verbs are not categorised as activities in Amis despite their dynamic feature), feelings, involuntary bodily, physical, or natural processes, states, properties (Chen, 1987: 60), like ma-talem in (13a) below. Their nominative pivot is not an actor; it can be an experiencer, the seat of some property or state, or entities engaged in motion. Some NAV ma- verb stems (i.e. psych verbs, ingestion, cognition verbs) like ma-banaq ‘know’, ma-talaw ‘be afraid’ have an extended intransitive construction with a nominative experiencer pivot and an oblique theme, as in (10). The root /talaw is also derived as a noun u talaw ‘fear’.

(10)  Ma-talaw cira t-u kawas.
    NAV-fear  NOM.3SG  OBL-NM  spirit
    ‘He’s afraid of/he fears spirits.’ (Chen 1987:272)

Thus extended intransitive NAV ma- verbs (10) and extended intransitive AV mi-verbs (11a) have an oblique theme. On the other hand, transitive UV ma- verb stems have a nominative undergoer pivot and a genitive agent as in (11b), the agent is optionally expressed; they denote undergoer-oriented events, achievements and resultant state.

(11)a.  Mi-radum k-ia babahi to nanom i tebon.27
    AV-draw.water  NOM-DX  woman  OBL-NM  water  LOC  well
    ‘The woman draws water from the well.’ (Chen 1987:66)

(11)b.  Ma-radum ko nanom i tebon n-ira babahi.
    UV-draw.water  NOM.NM  water  LOC  well  GEN-DX  woman
    ‘The water is drawn from the well by that woman.’ (Chen 1987:72)

27 /u/ and /o/ are allophones. Chen adopted <o>, but <u> is chosen here since it is the most common realisation. Before /h, k, t/, it is realised /o/.
Transitivity or intransitivity is a property of the voice-affixed verb stem and of its construction. The alignment pattern of transitive verbs with applicative voice affixes (locative -an, instrumental sa-, conveyance si-) also displays a nominative pivot matching the semantics of the voice affix and an optional genitive agent.

3.3.2. Property and quantifier stems: ma- and Ø-stems

Roots denoting properties fall into two classes, which are NAV ma-stems and Ø-stems. Life-stages and bodily functions are often expressed by categorially neutral roots, like tuas derived as u tuas ‘old age/time’ and ma- tuas ‘be old’. Other property and quantifier roots are Ø-stems, like adada, which occurs as a derived noun stem in (12a), and as a Ø-verb stem referring to a property in (12b).

A. Stative, property ma-verbs

A subclass of intransitive NAV ma-verbs denotes properties and states. Consider the root talem, derived as u talem ‘a blade’, and as a verb stem ma-talem ‘sharp’ (no *mi-form) (13). In modifying constructions [modifier a modified], the modifier is suffixed by -ay, like ma-talem-ay and tataak-ay (tataak is a Ø-verb stem) in (14).

---

28 In Nanwang Puyuma, to avoid mismatches between the voice affix labels (AV, UV) and the actual semantic of the pivot/controller, Teng (2008: 160) labels the voice affixes transitive and intransitive. But the claim here is that transitivity is a property of the affixed verb stem and its syntactic construction, not a property of the voice affix.

29 The suffix -ay is analysed as a nominaliser occurring in a relative clause. Starosta also analyses “adjectives as nouns” (2009: 366-367). Shibatani (2009) has a similar analysis in Tagalog. In support of this analysis are the many cases of commutation between the linker a and a genitive determiner n-u, such as the one below:

Amis: Awaay hen [k-u [ø-tayni-ay n-u/a] tamdaw].

‘Nobody has arrived yet.’ (lit. there is no coming person) (Bril)
Bril Isabelle

1 (13) Ma-talem k-u puut.
NAV-sharp NOM-NM knife
‘The knife is sharp.’

2 (14) Iya Ø-tataak-ay a tumay, iniyan haw ma-talem-ay a kanus.
ANAPH big-NMLZ LNK bear that.one ASS NAV-sharp-NMLZ LNK claw
‘This big bear, (it was) sharp-clawed.’ (Icep.025)

3 B. Bare adjectival and quantifier stems
The other type of adjectival, property stems are Ø- stems like Ø-atekak ‘hard’. Compare
the verbal construction (15a-16a), with the modifying construction (15b-16b) involving
the [modifier-ay LNK modified] construction.

Ø-hard NOM-DX stone NM Ø-hard-NMLZ LNK stone
‘This stone is hard.’ ‘(it’s) a hard stone.’

Ø-heavy NOM-DX table NM Ø-heavy-NMLZ LNK table
‘The table is heavy.’ ‘(it’s) a heavy table.’

Quantifiers are also Ø- stems. Like all predicates, they may host aspect and degree
markers, as in (17a-b):

6 (17)a. Ø-adidiq=tu i saqtiyan k-iya qepah.
Ø-little=PFV LOC glass NOM-ANAPH wine
‘There was a little wine in the glass.’

7 (17)b. Tada Ø-adidiq=tu k-u budui.
very Ø-little=PFV NOM-NM clothes
‘The clothes were too small.’

8 3.3.3. Ambient, natural phenomena: ma- and –an stems
Many intransitive verb stems are derived by ma- or by locative -an from (no *mi- form)
from roots denoting ambient, natural phenomena (rain, flood, earthquake, thunder) and
stars. LV -an stems denote natural processes or events affecting an experiencer, while
ma- stems denote a property. Consider u bali ‘wind’, ma-bali ‘be windy’; u cidal ‘sun’,
cidal-an ‘it is sunny’ and ma-cidal k-inu remiad (NAV-sun NOM-DX day) ‘this is a sunny
day’; u kutem ‘cloud’, ma-kutem or kutem-an ‘it’s cloudy’, si-kutem k-inu remiad
(CONV-cloud NOM-DX day) ‘the day got cloudy’; bulad ‘moon’, bulad-an ‘it’s moonlit’
and, with a different meaning, *ma-bulad* ‘have menses’.\(^{30}\) In (18) LV *bulad-an* denotes a situation superficially affecting the nominative pivot *k-ita*.

(18) *Bulad-an* \(k\)-*ita* \(anini\) \(a\) \(labi*.

moon-LV NOM-1PL.INCL now LNK night

‘We are moon-lit tonight.’

### 3.3.4. Uncontrolled processes, states affixed by *-an*

Apart from roots denoting atmospheric and natural processes, other root types are typically derived by *-an* or by *ma-*. They refer to spontaneous, uncontrolled (bodily) processes as in (19), or to states and properties such as *ma-bursen* ‘be stiff, numb’ (compare with *u bursen* ‘numbness’ in (b)). Roots denoting conditions and diseases are only derived by *ma-*, like \(\text{\textbackslash}b\text{iruuk, } u\text{ biruuk}\) ‘thyroid’, *ma-biruuk* ‘have goiter’, *ma-karim* ‘have an abscess’.

(19)a. *Bursen-an* \(k-u\) \(kuku\) \(numaku*.

nomb-LV NOM-NM leg GEN.1SG

‘My leg has gone numb.’

b. \(\emptyset\)-*adada* \(k-u\) \(bursen\) \(n-u\) \(kuku=aku*.

ache NOM-NM numb GEN-NM leg= GEN.1SG

‘The numbness of my leg is painful.’

When it is suffixed to transitive verb stems, LV *-an* also selects a location (20) or the superficially affected experiencer of an action or some uncontrolled process as its nominative pivot, with an optionally expressed genitive agent (21-22).

(20) *Cumud-an=*\(tu\) \(n-u\) \(nanum\) \(k-u\) \(lumaq*.

enter-LV=PFV GEN-NM water NOM-NM house

‘The house was invaded by water.’ (Llagawan.068)

(21) *Libabuy-an* \(n-iya\) \(wacu\) \(k-u\) \(mi-takaw-ay*.

bark-LV GEN-ANAPH dog NOM-NM AV-steal-NMLZ

‘The dog is barking at a thief.’ (lit. a thief is barked at by the dog)

(22) *Kalat-an*\(^{31}\) \(n-u\) \(deku\) \(k-iya\) \(wawa*.

peck-LV GEN-NM owl NOM-ANAPH child

‘The child was pecked at by the owl.’ (Frog story.086)

In all such cases, UV *ma-* is also available (*ma-cumud* ‘enter’, *ma-kalat* ‘peck’), and

\(^{30}\text{Ma-bulad=}tu k-iya babahi ‘this woman has menses’}.\)

\(^{31}\text{\textbackslash{k}kalat is derived as } u\text{ kalat ‘a bite, a peck’, and as AV mi-kalat ‘bite, peck’}.\)
1 denotes a resultant state with an affected undergoer.
2 On Ø-verb stems denoting bodily functions, the bare verb form is punctual (23a),
3 while the -an verb form tends to be processual and iterative (23b).

(23) a. Ø-seruuk cir.
   b. Ø-seruuk-an cir.
   ‘He burped.’
   ‘He has the hiccups.’

4 (23) a. Ø-seruuk cir.
   b. Ø-seruuk-LV cir.

5 The suffix -an also has nominalising properties, explored in §3.8.4.

8 3.3.5. The lability of roots hosting UV –en
9 UV –en32 is hosted by all types of roots, including property roots and some entity-
10 denoting roots (body-parts or tools for instance). The main difference between UV -en
11 and LV –an is that –en occurs in declarative, imperative and hortative clauses, while -an
12 is restricted to declarative sentences. Compare kalat-an in (22) with kalat-en (24), both
13 have undergoer pivot, left unexpressed in (24).

(24) Kalat-en a mi-ketun.
   bite-UV COMP AV-cut
   ‘Bite (it) off.’ (lit. let it be bitten to cut)

A. Action and property denoting roots
18 UV –en is affixed to action, state or property-denoting roots (i.e. on roots respectively
19 derived by mi-, ma- or Ø- as verb stems), like √dimataq (25), √subuc (27b-c), √adada
20 (26). √dimataq is derived as u dimataq ‘a load (on shoulder)’, as AV mi-dimataq ‘carry
21 on the shoulder’, as UV ma-dimataq and dimataq-en ‘be carried on the shoulder’ (25).

(25) Dimataq-en=tu [amin k-u ni-alal t-u buting].
   carry.on.shoulder-U=PFV all NOM-NM PFV.NMLZ-take OBL-NM fish
   ‘All the caught fish were carried on the shoulder.’
26 √adada is derived as u adada ‘sickness’, as a stative verb stem Ø-adada ‘sick, ache,
27 hurt’, and as adada-en ‘be hurt’ (26) which expresses a resultant state (no *ma- form),
the genitive agent is left unexpressed in (26).

32 The PAN *-en patient voice was reconstructed by Wolff (1973: 73).
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1. (26) Ø-adada-en k-inä wawa.
   Ø-hurt-UV NOM-DX child
   ‘The child is hurt.’ (Wacu.023)

2. (27a) Ø-hurt-UV NOM-DX child
   ‘The child is hurt.’ (Wacu.023)

3. (27b) Ma-subuc cira t-u wawa.
   NAV-bear NOM-3SG OBL-NOM child
   ‘She gave birth to a child.’ (lit. she bore a child)

4. (27c) Yu subuc-en k-aku, ira hen k-u bayi numaku.
   when bear-UV NOM-1SG EXS still NOM-NM grandma GEN-1SG
   ‘When I was born (lit. was given birth), my grandmother was still alive.’

5. Ma- and –en have undergoer pivots, but ma- is restricted to specific verb classes, while –en is not and has passive properties. The genitive agent is optional for V–en or ma-V, but while genitive agents of V–en must be animate and intentional, no such restriction applies to UV ma- or LOC –an verb stems. UV -en also expresses impersonal passives (Chen 1987).

6. B. Manner of action verbs derived from entity-denoting roots by –en
   Verb stems can be derived from entity-denoting roots such as artefacts and instruments like alapit ‘chopsticks’, or body-parts like kamay ‘hand’, taruduq ‘finger’. Thus, taruduq is derived as AV mi-taruduq ‘point at’, as UV ma-taruduq ‘be pointed at’, and by UV –en in complex verb constructions, like taruduq-en (28), expressing the manner of action carried out with the entity, just like alapit-en in (29). Compare with mi-alapit

---

33 Ma-subuc behaves like all other NAV ma- verbs expressing bodily functions like ma-cebu ‘wet one’s bed’, ma-tuhem ‘sweat’, ma-baqsing ‘sneeze’, etc. Some of them have extended intransitive construction like ma-talaw ‘be afraid of x’ (ex. 10).

34 Mi- and ma- do not express active vs. passive voice alternations.
Bril Isabelle

1 ‘take (food) with chopsticks’. A similar complex verb construction expressing manner
2 of action occurs in (24) kalat-en a mi-ketun (bite-UV COMP AV-cut) ‘bite (it) off.’ (lit.
3 let it be bitten to cut).

4 (28) Taruduq-en a mi-ala.
5 finger-UV COMP AV-take
6 ‘(they) are picked with fingers.’

7 (29) Alapit-en a k<em>em>an t-u titi !
8 chopsticks-UV COMP <NAV>eat OBL-NM meat
9 ‘Eat the meat with chopsticks!’

10 The fact that UV –en is suffixed to entity-denoting and to action-denoting roots is
11 further evidence that roots are categorially neutral and that only derived stems have a
12 category. Otherwise, two different –en forms for the same function would have to be
13 posited.

14 3.3.6. Summary
15 The discussion has so far focused on primary derivation from root to u noun stems and
16 from root to verb stems with AV mi-, NAV <um>, NAV or UV ma-, UV passive –en,
17 LOC –an. We now turn to affixes, instrumental sa- (§3.4) and conveyance si- (§3.5),
18 which occur on roots as primary derivation, and which occur on already derived verb
19 stems as secondary derivation.

20 3.4. The instrumental affix sa-
21 Instrumental sa- has two main functions summed up in Figure 3; the first one is the
22 primary derivation of instrument nouns from action-denoting roots (§3.4.1), the second
23 is the secondary derivation of primarily derived mi-, ma, Ø- verb stems as sa-pi-, sa-ka-,
24 sa-Ø- stems (i) into instrumental, purposive event nominals (§3.4.2), or (iii) into
25 applicative, alignment changing instrumental voice (§3.4.3).
Starosta, Pawley, Reid (1982) consider noun-derivation as the primary function of the PAN instrumental affix, the verbal instrumental voice function being a later development.

<table>
<thead>
<tr>
<th>PRIMARY DERIVATION</th>
<th>SECONDARY DERIVATION</th>
<th>APPLICATIVE INSTR. VOICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>u sa- noun stems</td>
<td>from 1st DERIV VERB STEMS</td>
<td>from 1st DERIV VERB STEMS</td>
</tr>
<tr>
<td></td>
<td>u sa-pi-, sa-ka-, sa-Ø-</td>
<td>sa-pi-, sa-ka-, sa-Ø- verb stems</td>
</tr>
</tbody>
</table>

### 3.4.1. Instrument nouns derived by sa- from roots

Some artefacts and instrument-denoting nouns (mostly recently introduced ones) are derived from action-denoting roots by sa-, like u sa-sait ‘scissors’ (\(\sqrt{sait}\) ‘cut’), u sa-kales ‘a comb’ (\(\sqrt{kales}\) ‘comb’), u sa-kalic ‘climbing device’ (\(\sqrt{kalic}\) ‘climb’), u sa-cukcuk ‘key’ (\(\sqrt{cukcuk}\) ‘insert, probe’) (see §3.2).

### 3.4.2. Secondary derivation: instrumental, purposive event nominals

Instrumental, purposive event nominals are secondary derivations from primarily derived mi-, ma- and Ø- verb stems, respectively yielding sa-pi-, sa-ka-, and sa-Ø-stems, which are then flagged by the noun marker u and are case-marked as in (30). In (30), which is a cleft construction, the predicative NP u sakubad nu ayam ‘bird’s wing’ takes the deverbal noun k-u sa-ka-baher (lit. the x used to fly) as its nominative pivot.

(30) [U sakubad n-u ayam] [k-u sa-ka-baher],

\[\text{wing GEN-NM bird NOM-NM INST-NFIN-fly}\]

‘It’s bird’s wings that were used to fly.’ (lit. the instrument for flying)

Like all nouns, these deverbal event nouns may function as argument (30), predicate (31), or modifier (32). In (31), u sa-pi-maan\(^{35}\) is predicative. In (32-33), which are modifying [modifier LNK modified] constructions, the deverbal event noun sa-pi-kasui tu

\(^{35}\) The interrogative root \(\sqrt{maan}\) is derived as a noun u maan? ‘a what?’, and as an AV verb stem mi-maan? ‘do what?'.
kilang (from mi-kasui ‘get fire-wood’) modifies u bunus, just as sa-pi-buting (from mi-
buting ‘to fish’) modifies u sarepet (33). These deverbal nouns retain verbal properties
and may govern oblique themes, like t-u kilang in (32), they have gerund properties.

(31) U sa-pi-maan k-ura sapad=isu ?
NM INST-NFIN-what? NOM-DX table=GEN.1SG
‘What’s the use of that table of yours?’ (lit. it’s a [x] to do what this table of yours?)

(32) U [sa-pi-kasui t-u kilang a] bunus.
NM INST-NFIN-fire.wood OBL-NM wood LNK machete
‘It’s a machete used to cut fire-wood.’

Ex. (32-33) answer a question such as u sa-pi-maan k-unian? ‘what’s this used
for?’

(33) U [sa-pi-buting a] sarepet.
NM INST-NFIN-fish LNK equipment
‘It’s fishing equipment.’

3.4.3. Secondary instrumental derivation: sa-pi-, sa-ka-, sa-Ø-

The alignment changing, applicative instrumental voice is also a secondary derivation
from primarily derived verb stems surfacing as sa-pi-, sa-ka-, sa-Ø verb stems. These
derived verb stems marked for instrumental voice select a nominative pivot which must
be the instrument or the purpose of the action, the (optional) agent is genitive as in (34-
35). Sa-pi- verb stems may govern an oblique theme like tu saqtiyan in (35).

(34) Sa-pi-dimataq numaku\textsuperscript{36} k-ina unuc.
INST-NFIN-carry.on.shoulder GEN.1SG NOM-DX carrying-pole
‘I used that carrying-pole to carry it.’ (lit. the carrying-pole is used by me to carry)

(35) Sa-pi-sangaq=aku t-u saqtiyan k-iya aul.
INST-NFIN-make=GEN.1SG OBL-NM cup NOM-ANAPH bamboo
‘I use this bamboo as a cup.’ (lit. this bamboo is used by me to make a cup)

To sum up, some instruments and tools are derived from action-denoting roots by sa-.
Instrument or purposive u sa-pi-, u sa-ka-, u sa-Ø event nouns, which are flagged by u,
are secondary, category-changing derivations from mi-, ma-, Ø- verb stems (§3.4.2).
They are distinct from applicative instrument voice constructions (§3.4.3) which are

\textsuperscript{36} The genitive agent is marked either as a clitic =aku or in its full form numaku.
secondary, alignment changing derivations as sa-pi-, sa-ka-, sa-Ø verb stems, and
whose argument structure displays a nominative pivot which must refer to the
instrument or the purpose of action.

3.5. The conveyance and benefactive si-
We now turn to the benefactive-conveyance affix si-, which is cognate with the
reconstructed PAN affix *Si- (Blust 1999, 2013); Ross (1995: 758) also reconstructs
*Si- ‘carry, wear’. Conveyance si- is affixed to roots as primary derivation; it is also
affixed to already derived verb stems as a secondary applicative voice morpheme. Verb
stems primarily derived from entity-denoting roots by conveyance si (glossed CONV)38
express some transfer such as ‘get, convey x’ (§3.5.1). On the other hand, the
applicative conveyance voice affix si- (glossed CV) is hosted by already derived verb
stems as si-pi-, si-ka- verbs, whose pivot must be a transported theme or a beneficiary
(§3.5.2).

3.5.1. Conveyance si- on entity-denoting roots
Verb stems derived from entity-denoting roots by CONV si- ‘get, convey’39 express
transfer of entity, or acquired property, as in si-budui k-uhni (CONV-clothes NOM-3PL)
‘they got/put on clothes’ (no *mi-budui form) they also express acquired relation like si-
cabay ‘get/have friend’ (36a) (no *mi-cabay form), or denote displaced or transported
objects (36b), as well as transitory states (37a). These derived verb stems have AV
alignment and may head an oblique argument like babahi (36a).

37 Teng (2014) also distinguishes the two forms, based on reflexes in different languages.
38 Possibly cognate with *Si ‘carry’.
39 Chen (1987) glosses this morpheme as existential or associative ‘with’, and translates it once by
‘carry’, but does not interpret it as a voice marker. Wu (2006) does not discuss it at all. In Puyuma, Teng
(2014: 137) discusses the morpheme m-i- (glossed AV-I, where i is analysed as a reflex of PAN *Si
‘carry, wear’). The functions of Puyuma m-i- are totally distinct from Amis mi-, but are quite similar to
Amis si-.
(36a) **Si-cabay=tu haw t-u babahi ci Buting ?**

CONV-partner=PFV QM OBL-NM woman PN.NOM Buting

‘Has Buting got a girl-friend?’

(36b) Tala lutuk k-uhni **si-hawan.**

go mountain NOM-3PL CONV-machete

‘They went to the mountain carrying a machete.’

Transitory states or properties (37a) are distinct from more permanent ones which are expressed as nominalised forms, like **si-...-ay ‘the x that has y’** in (37b).

(37a) **Si-adada k-u wadis.**

CONV-ache NOM-NM tooth

“(I)’ve got tooth-ache.”

(37b) **Si-adada-ay k-aku t-unian u tangnyaopin.**

CONV-ache-NMLZ NOM-1SG OBL-DX NM diabetes

“I’ve got diabetes/I’m (a) sick (one) from diabetes.” (Urip nu Balah.077)

Nominalised **si-...-ay** forms denote property-endowed entities ‘the x that gets/has y’.

u mata ‘eye’ > **si-mata ‘get eye/vision’** > u **si-mata-ay ‘a seer’** (of spirits)

u kawas ‘spirit’ > **si-kawas ‘get spirit’** > u **si-kawas-ay ‘a shaman’**

u kumes ‘hair’ > **si-kumes ‘get hair’** > u **si-kumes-ay ‘a hairy, furry x’**

u tangal ‘head’ > **si-tangal ‘be clever’** > u **si-tangal-ay ‘a clever person’**

u **banaq ‘knowledge’** > **si-banaq ‘get knowledge’** > u **si-banaq-ay ‘a learned person’**

**Si-** verb stems may be causativised with **pa-** with increased valency, as in **pa-si-banaq ‘teach’** (lit. cause to get knowledge) (38a); compare with the intransitive verb **si-banaq cira ‘he gained knowledge’** and with static **ma-banaq ‘know’**. **Pa-si-banaq** may be derived by **-en** with UV alignment (38b).

(38a) Ta-lumaq a **pa-si-banaq i ci baki-an.**

go-home CMP CAUS-CONV-know(ledge) LOC PM grandfather-LOC

‘(they) went home to tell Grand-father.’ (Lalagawan.042)

(38b) **Pa-si-banaq-en n-u Arakakay k-u lisin n-u tamdaw.**

CAUS-CONV-know(ledge)-UV GEN-NM A. NOM-NM rite GEN-NM people

‘The rites of men were taught by the Arakakay bird.’ (Arakakay.001)

3.5.2. **The applicative conveyance voice affix si-**

The CV applicative voice marker **si-** is affixed to already derived verb stems as **si-pi-**, **si-ka-** verb stems which take the conveyed entity as their nominative pivot, and have an

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40 Borrowed from Mandarin **tángniàobìng 糖尿病**.

41 **Tangal ‘head’** is distinct from **punuq ‘brain’**.
optional genitive agent, thus with UV alignment.

(39) Si-pi-balah n-ira hungti k-ira tatakulaq i hina-sera.

CV-NFIN-reject GEN-3SG king NOM-DX frog LOC ground

‘The king threw the frog onto the ground.’ (Tatakulaq atu Hungti.110)

Under causativisation, the two *si*- are distinguished by morpheme ordering: verb stems are first derived from entity-denoting roots by CONV *si*- ‘get, convey’, and causative *pa*- occurs in a higher position as *pa-si*- ‘cause to convey/get’ (*pa-si-banaq ‘inform’ in (38a) with AV like alignment), while the applicative CV voice *si*- occurs higher than *pa*- (40a-b), an expected situation for a voice marker, and has UV like alignment (see (40b)).

(40)a. Si-*pa*-cahcah cira i niyaruq n-u Balaisan.

CV-CAUS-wander NOM.3SG LOC village GEN-NM Balaisan

‘He was washed ashore at the village of the Balaisan.’ (Maciwiw.012)

(40)b. Si-*pa*-cakay\(^{42}\) numaku k-u seraq i cabay=aku.

CV-CAUS-trade GEN.1SG NOM-NM land LOC friend GEN.1SG

‘I sold the land to my friend.’ (Urip nu Balah.077)

*Summary*: Such differences lead to distinguish the CONV affix *si*- which derives verb stems from roots, from the alignment changing CV voice affix *si*-.

3.6. The case of caused transfer *pa*- and causative *pa*-: valency increase

This brings us to causative *pa*- which is also affixed (a) to roots, or (b) to derived verb stems as secondary derivations. *Pa*- occurs on all types of roots with slightly distinct functions and meanings, leading to distinguish a caused transfer\(^{43}\), processual *pa*- from a causative *pa*-.. Both are valency-increasing and display default AV alignment.

Verb stems derived by *pa*- from entity-denoting roots (§3.6.1) express some caused transfer involving that entity (< x transfers y (to z) >). Causative *pa*- (§3.6.2), on the other hand, is affixed to (i) stative, property roots which are derived into verb stems denoting a caused change of property or state; (ii) it is also affixed to perception,

\(^{42}\) Cakay is derived as mi-cakay ‘buy’ and pa-cakay ‘sell’.

\(^{43}\) Kuo (2015) also makes use of the notion of caused transfer.
cognition, position and motion denoting roots. Lastly, pa- is affixed to already derived verb stems as secondary derivation pa-pi-, pa-ka- and pa-Ø- stems (§3.6.3) with causative-indirective meaning (i.e. make someone do something) (Shibatani and Pardeshi 2002).

3.6.1. Deriving entity-denoting roots into caused transfer pa- verb stems
Some entity-denoting roots are derived by pa- into caused transfer verb stems, like √cilah (u cilah ‘salt’) and pa-cilah ‘to salt’ (no *mi- derivation, not even with the meaning ‘get salt’)\(^{44}\); √qepah (u qepah ‘alcohol’) is derived as pa-qepah ‘put alcohol’ (compare with mi-sa-qepah ‘make alcohol’, no *mi-qepah form); √lunan is derived as u lunan ‘boat’, pa-lunan ‘steer, row a boat’ (no *mi- or *ma- forms). These pa- verb stems have default AV alignment.

Caused processes are also derived by pa- from kinship and body-part terms (also excluding *mi- or *ma-), like √wawa, derived as u wawa ‘child’, pa-wawa ‘beget, engender a child’; √kamay, u kamay ‘hand, arm’, pa-kamay ‘punch’; √tusur, u tusur ‘knee’, pa-tusur ‘kneel down’, which denotes a change of position and can host UV -en as pa-tusur-en ‘be made to kneel down’ (compare with maka-tusur ‘be knee-deep’). Various roots denoting atmospheric, natural elements are also derived by pa-, like pa-cidal ‘put in the sun’ (41), also expressing caused transfer. The meaning of the derived lexemes is not always fully predictable.

- Alignment of caused transfer pa- stems
Caused transfer pa- stems have AV alignment with an Actor pivot and one to two more arguments: an oblique theme (41), an oblique beneficiary (42), and two obliques (theme and beneficiary) in (43).

\(^{44}\) The stative property is expressed by a distinct Ø-root ahcid ‘salty, salted’, which disallows *ma-ahcid.
Roots and stems in Amis and Nêlêmwa

(41) **Pa-**cidual k-aku t-ina tireng-an.
CAUS-sun NOM-1SG OBL-DX body-OBL
‘I’m sunbathing.’ (lit. I’m sunbathing this body)

(42) **Pa-**icep k-aku t-u ma-tuas-ay.
CAUS-betel NOM-1SG OBL-NM NAV-old-NMLZ
‘I give betelnuts to the elderly.’

The root √radiw is derived as u radiw ‘song’, as AV r<em>radiw ‘sing’, as a caused, assistive45 process pa-radiw ‘lead a song’ (43). The actor noun pa-radiw-ay ‘song leader, lead singer’ is a secondary derivation (44).

(43) **Pa-**radiw cira itamiyan t-ina radiw.
CAUS-song NOM-3SG OBL-1PL.EXCL OBL-DX song
‘He directs/leads us for the song.’ (or) ‘He teaches a song to us.’ (U lisin.093)

(44) **Pa-**radiw k-u pa-radiw-ay.
CAUS-song NOM-NM CAUS-song-NMLZ
‘The song-leader leads the song.’ (U lisin.093)

These pa- verb stems may host other voices. For instance, the AV aligned caused transfer, assistive process pa-huting ‘take (animals) to pasture’ (45a) (√huting, u huting ‘pasture’), is further derived as UV -en with an undergoer nominative pivot and a genitive agent (45b).

(45a) **Pa-**huting k-aku t-u rarapa.
CAUS-pasture NOM-1SG OBL-NM buffalo
‘I take the buffalo to graze.’

(45b) **Pa-**huting-en numaku k-u rarapa.
CAUS-pasture-UV GEN-1SG NOM-NM buffalo
‘I took the buffalo to graze.’

The caused transfer verb stem pa-bekluh ‘put stones’46 is suffixed by the applicative locative voice as pa-bekluh-an (lit. it was paved/filled with stones) (46), and selects a location as its nominative pivot, which is left unexpressed in (46), but is coreferent with sera ‘land’. The root √bek(e)luh is also derived as u bek(e)luh ‘stone’, and mi-bekluh ‘collect stones’.

45 See Shibatani & Pardeshi (2002) for the notion of assisted causative.
46 But ‘throw stones’ is expressed by a distinct stem mi-alud.
3.6.1.1. Comparing mi- verb stems with caused transfer pa- verb stems

Some entity-denoting roots are derived by mi- and pa- with distinct meanings. Mi- verb stems denote activities (often centripetal) done in relation with the entity, while pa- stems denote some caused transfer, centrifugal process.

\[
\begin{align*}
\sqrt{cudad} & \quad u \text{ cudad} \text{ ‘letter, book’} & \text{mi-cudad} & \text{ ‘study’} & \text{pa-cudad} & \text{ ‘write a letter’} \\
\sqrt{icep} & \quad u \text{ icep} \text{ ‘betelnut’} & \text{mi-icep} & \text{ ‘chew betelnut’} & \text{pa-icep} & \text{ ‘give betelnut to s.o.’} \\
\sqrt{kasui} & \quad u \text{ kasui} \text{ ‘fire-wood’} & \text{mi-kasui} & \text{ ‘go cut wood’} & \text{pa-kasui} & \text{ ‘fuel wood’ (in the fire)} \\
\sqrt{habay} & \quad u \text{ habay} \text{ ‘millet’} & \text{mi-habay} & \text{ ‘harvest millet’} \\
\sqrt{nanum} & \quad u \text{ nanum} \text{ ‘water’} & \text{mi-nanum} & \text{ ‘drink water’} & \text{pa-nanum} & \text{ ‘give water, to water’} \\
\sqrt{bekluh} & \quad u \text{ bekluh} \text{ ‘stone’} & \text{mi-bekluh} & \text{ ‘collect stones’} & \text{pa-bekluh} & \text{ ‘put stones’}
\end{align*}
\]

3.6.1.2. Comparing conveyance si- with caused transfer pa- verb stems

Caused transfer processes derived by pa- are dynamic, while si- stems refer to acquired property, transitory states or transitory events. None of the following roots may be derived by *mi-.

\[
\begin{align*}
\sqrt{budui} & \quad u \text{ budui} \text{ ‘clothes’} & \text{si-budui} & \text{ ‘be dressed up’} & \text{pa-budui} & \text{ ‘dress s.o.’} \\
\sqrt{cael} & \quad u \text{ cael} \text{ ‘necklace’} & \text{si-cael} & \text{ ‘wear a necklace’} & \text{pa-cael} & \text{ ‘put around neck’} \\
\sqrt{cabay} & \quad u \text{ cabay} \text{ ‘partner’} & \text{si-cabay} & \text{ ‘have, get a partner’} & \text{pa-cabay} & \text{ ‘accompany’} \\
\sqrt{labang} & \quad u \text{ labang} \text{ ‘guest’} & \text{si-labang} & \text{ ‘have guests’} & \text{pa-labang} & \text{ ‘host, greet’} \\
\sqrt{kawas} & \quad u \text{ kawas} \text{ ‘spirit’} & \text{si-kawas} & \text{ ‘host spirit, haunted’} & \text{pa-kawas} & \text{ ‘act as a shaman’}
\end{align*}
\]

Both pa- and si- constructions have AV argument structure. When these derived verb stems are nominalised by -ay, they denote permanent properties or status. Compare si-kawas ‘host spirit’ with si-kawas-ay ‘shaman’ (i.e. the one getting spirits); the latter can

\[\text{Pa-kasui} \quad \text{han} \quad \text{k-ira} \quad \text{lamal} \quad \text{‘fuel wood to the fire’ (lit. the fire is wood-fueled).} \]

\[\begin{align*}
\text{CAUS-wood} & \quad \text{do.so} & \text{NOM-DX fire}
\end{align*}\]
be derived by pa- into a causative verb pa-[si-kawas-ay] ‘call a shaman for consultation’.

3.6.1.3. Comparing caused transfer pa- with stative ma- verb stems
- Roots denoting atmospheric, natural elements. Stative verb stems can be derived from such roots by ma-, as well as pa- stems expressing caused transfer with increased valency and a different meaning. Compare ma-bali ‘be windy’ with pa-bali ‘inflate’ (u bali ‘wind’); ma-cidal ‘be sunny’ with pa-cidal ‘put in the sun, sunbathe’ (u cidal ‘sun’).
- Roots denoting bodily functions, properties, feelings or psychological features also host both affixes with distinct meanings, showing the compositional effects of the combination of roots and affixes.

\[
\begin{align*}
\text{hanhan} & \quad \text{u hanhan} \quad \text{‘breath, rest’} \quad \text{ma-hanhan} \quad \text{‘breathe’} \quad \text{pa-hanhan} \quad \text{‘rest’} \\
\text{urip} & \quad \text{u urip} \quad \text{‘life’} \quad \text{ma-urip} \quad \text{‘be alive’} \quad \text{pa-urip} \quad \text{‘revive’} \\
\text{seneng} & \quad \text{u seneng} \quad \text{‘pride’} \quad \text{ma-seneng} \quad \text{‘be proud’} \quad \text{pa-seneng} \quad \text{‘boast about’}
\end{align*}
\]

3.6.2. Deriving causative pa- verb stems from other root types
Causative pa- verb stems are also derived from property, perception, cognition, grooming, position, motion roots, then expressing some caused transfer, caused change (of property, position) or caused motion with increased valency. For instance:
- Perception or cognition roots like √ tegin ‘hear, audition’\textsuperscript{48} are derived by pa- into causative assistive verbs. Compare pa-tegin ‘explain’ with ma-tegin ‘hear’ and mi-tegin ‘listen’.
- Roots expressing grooming, position, configuration, are derived by pa- to form transitive, caused transfer verbs. Compare pa-silsil ‘lay sthg out’ with ma-silsil ‘stand in line’ and mi-silsil ‘arrange, lay out’.

\textsuperscript{48} The derived noun form is \textit{u tengil=aku} (lit. (according to) my hearing) ‘as I heard (it)’.
- Some intransitive motion roots are derived by pa- as transitive, caused transfer pa-Ø-verb stems, like ta-ngasa ‘arrive, reach’ > pa-Ø-ta-ngasa ‘transmit, pass on’; ta-hkal ‘go out, appear’, pa-Ø-ta-hkal ‘take out’; tayra ‘go’, pa-Ø-tayra ‘take, send’; tayni ‘come’, pa-Ø-tayni ‘bring’ (48a); kalamkam ‘hasten, hurry’, pa-Ø-kalamkam ‘cause to hurry’. They have default AV alignment as in (48a), but may host -en with UV alignment (i.e. nominative undergoer pivot, genitive agent) as in (48b).

(48)a. Pa-Ø-tayni cira to baro saka itakoan.

CAUS-Ø-come.here NOM.3SG OBL.NM flower for OBL.1SG

‘He brought some flowers for me.’ (Chen 1987:66)


CAUS-Ø-come.here-UV GEN-3PL LOC PN Balah-OBL

‘(They) were brought by them to Balah.

- Stative ma- stems (like ma-suqmet ‘damp’) or Ø-verb stems (like Ø-bangsis ‘fragrant’), primarily derived from property roots, are causativised as pa-(ka)-verb stems and denote a caused property change, with increased valency. The initiator of the caused change of state is the nominative pivot, the causee is oblique. The patterns of derivation are as follows:

<table>
<thead>
<tr>
<th>ROOT</th>
<th>NOUN</th>
<th>STATIVE VERB</th>
<th>CAUSATIVE VERB</th>
</tr>
</thead>
<tbody>
<tr>
<td>bangsis</td>
<td>Ø-bangsis ‘fragrant’</td>
<td>pa-Ø-bangsis ‘make tasty’</td>
<td></td>
</tr>
<tr>
<td>atekak</td>
<td>Ø-atekak ‘hardness’</td>
<td>pa-ka-atekak ‘harden, solidify’</td>
<td></td>
</tr>
<tr>
<td>suqmet</td>
<td>ma-suqmet ‘damp’</td>
<td>pa-ka-suqmet ‘dampen, humidify’</td>
<td></td>
</tr>
<tr>
<td>susu</td>
<td>ma-susu⁴⁹ ‘be fat’</td>
<td>pa-ka-susu ‘fatten’</td>
<td></td>
</tr>
<tr>
<td>biyaraw</td>
<td>ma-biyaraw ‘anxiety’</td>
<td>pa-ka-biyaraw ‘make anxious’</td>
<td></td>
</tr>
</tbody>
</table>

(49) Pa-ka-biyaraw k-su itakuwan.

CAUS-NFIN-anxious NOM-2SG OBL.1SG

‘You make me anxious.’

They can further host UV -en, then selecting the causee-undergoer as its nominative pivot (the agent initiator in the genitive is unexpressed in (50-51)).

(50) Pa-ka-atekak-en.

CAUS-NFIN-hard-UV

‘(it) was strengthened, solidified.’

⁴⁹ It may host the perfect marker =tu then expressing phasal changes as in ma-susu=tu cira ‘(s)he has put on weight’. 
Roots and stems in Amis and Nêlêmwa

(51) Pa-ka-susu-en k-u babui.
    CAUS-NFIN-fat-UV NOM-NM pig
    ‘The pigs have been fattened.’

3.6.3. Causative-indirective pa-pi-, pa-ka- verb stems

While caused transfer or caused change of property with pa- is affixed to the root, causative-indirective pa- is a secondary derivation, affixed to already derived verb stems, and surfacing as pa-pi- (mi- stems) and pa-ka- (ma- stems) forms, like ma-banaq ‘know’ derived as pa-ka-banaq ‘notify’ (lit. cause s.o. to know). Indirective constructions with pa- display AV alignment (52), i.e. a nominative initiator acting upon an oblique effector acting upon an oblique causee.

(52) Pa-pi-ala cira itakoan toper n-ira.
    CAUS-NFIN-take NOM.3S OBL.1S OBL hat GEN-3SG
    ‘He told me to fetch /made me fetch his hat.’ (Chen 1987:263)

Compare (i) AV mi-nanum ‘drink’ (53a), with (ii) the AV aligned caused transfer, assistive pa-nanum ‘to water, to give water’ (53b), and (iii) with the causative-indirective construction pa-pi-nanum in (53c) which is marked by UV –en (i.e. with a nominative effector acted upon by a genitive initiator, which is left unexpressed in (53c)).

(53)a. Mi-nanum cira.
    AV-water NOM.3SG
    ‘He’s drinking water.’

(53)b. Pa-nanum k-aku t-u ma-tuas-ay.
    CAUS-water NOM-1SG OBL-NM UV-old-NMLZ
    ‘I offer water to the old ones.’

(53)c. Pa-pi-nanum-en cira.
    CAUS-NFIN-water-UV NOM.3SG
    ‘He was made to drink water.’

Similarly, a caused transfer, assistive verb stem pa-liluc ‘give a bath’ is derived from the root /liluc ‘bath(e)’. It hosts UV -en in (54a), while pa-pi-liluc-en in (54b) is a secondary, indirective construction with UV –en, thus with a nominative effector acted upon by a genitive initiator (compare with mi-liluc ‘bathe’).
(54)a. Pa-liluc-en=aku k-u wawa.
   CAUS-bath-UV=GEN.1SG NOM-NM child
   ‘I gave the child a bath.’ (lit. the child was given a bath by me) (U lisin.093)

(54)b. Pa-pi-liluc-en k-aku n-ira.
   CAUS-NFIN-bath-UV NOM-1SG GEN-3SG
   ‘She made me have a bath.’ (lit. I was made to have a bath by her)

Summary: Causative pa- is thus affixed to roots (§3.6.1, §3.6.2) or to already derived
verb stems (§3.6.3) with different functions and semantics. By default, causative pa- is
valency increasing with AV alignment: (i) pa- verb stems derived from entity-denoting
roots refers to some caused transfer or caused centrifugal process involving that entity;
(ii) pa- verb stems derived from various perception, cognition, position, motion roots
have causative-assistive meanings, while pa- verb stems derived from property-
denoting roots express some caused transfer or caused change of property. Finally,
secondarily derived verb stems, i.e. occurring as pa-pi, pa-ka- stems, have causative-
indirective function and semantics. Again, this brings out one other important and
correlated feature of neutrally categorial roots: the same derivational affixes occur on
roots with different ontologies (e.g. entity, property, action- or event-denoting); the
morphosyntactic words derived from those roots have distinct functional and semantic
outputs that result from the compositional effects between the roots’ ontology and the
properties of affixes.

3.7. Derivational aspectual affixes

We now consider some affixes which conflate derivational and inflectional, aspectual
features: they are (i) inchoative AV mi-sa- or NAV ma-sa-, (ii) ongoing or immediate
process mah(a)-, (iii) change of state mala-. Like voice affixes, these affixes select roots
with specific ontologies. They are all affixed to entity-denoting roots. Mi-sa- and mala-
also derive verb stems from property-denoting roots, inchoative verbs with mi-sa- and
verbs denoting some change of state with mala-. Mah(a)- is also affixed to action or
motion denoting roots; the derived verb stems express immediate, ongoing process.
These affixes also display nonfinite forms such as (i) \textit{mi-sa-} \textgreater \textit{pi-sa-}, (ii) \textit{mah(a)-} \textgreater \textit{kah(a)-}, (iii) \textit{mala-} \textgreater \textit{kala-} and causative \textit{pala-}.

### 3.7.1. Inchoative actions, transformation activities: \textit{mi-sa-} derivations

\textit{Mi-sa-} selects entity-denoting roots and stative, property-denoting roots; it expresses inchoation, creation, elaboration processes. \textit{Sa-} could be a bound light verb ‘do’, affixed for AV by \textit{mi-}.

#### A. On entity-denoting roots

Entity-denoting roots are derived by \textit{mi-sa-} into activity verbs expressing some creation, processing or transformation applied to or conducted with the entity, like \textit{mi-sa-lumaq} ‘build a house’ (\textit{u lumaq} ‘house’), \textit{mi-sa-tebun} ‘dig a well’ (\textit{u tebun} ‘well’), \textit{mi-sa-turun} ‘make turun’ (\textit{u turun} ‘rice-pudding’), \textit{mi-sa-lunan} ‘build a boat’ (\textit{u lunan} ‘boat’), \textit{mi-sa-waneng}[^{50}] ‘make honey’ (\textit{u waneng} ‘sugar’), and more unexpectedly \textit{mi-sa-ayam} ‘feed, raise (the) hens’ (\textit{u ayam} ‘hen’), \textit{mi-sa-badisusuq} ‘grow grapes (or) use grapes for’ (\textit{u badisusuq} ‘grapes’). None of the preceding stems host \textit{mi-}, only \textit{mi-sa-}.

In contrast with \textit{mi-sa-}, the entity-denoting roots that are derived by \textit{mi-} generally denote some activity aimed at getting, ingesting, conducting some activity in relation with that entity. Compare for instance \textit{mi-dateng} ‘pick, collect vegetables’ and \textit{mi-sa-dateng} ‘plant, cultivate vegetables’ (\textit{u dateng} ‘vegetables’), \textit{mi-alapit} ‘eat with chopsticks’ and \textit{mi-sa-alapit} ‘make chopsticks’ (\textit{u alapit} ‘stick, chopsticks’).

The root \textit{umah} is derived as \textit{ma-umah} ‘work in the field’ (\textit{u umah} ‘field’), while \textit{mi-sa-umah} means ‘till, plough field’. Both stems can be nominalised, the former as \textit{ma-umah-ay} ‘peasant’, the latter as \textit{mi-sa-umah-ay} ‘ploughman’. Similarly, \textit{dipung} is derived as \textit{mi-sa-dipung} ‘make a nest’ (\textit{u dipung} ‘nest’) and nominalised as \textit{mi-sa-dipung-ay} ‘nestmaker’.

[^{50}]: \textit{Mi-sa-waneng ku udal} ‘the bee makes honey’.
**B. On stative, property-denoting roots**

Verb forms are derived by *mi-sa*- from stative, property-denoting roots then expressing inchoative processes, transformation and change of state, like *mi-sa-atekak* ‘harden’ (*∅-atekak* ‘hard’), *mi-sa-adidiq* ‘diminish, belittle’ (*∅-adidiq* ‘small’), with AV alignment and increased valency.

**C. Comparing AV *mi-sa-* with NAV *ma-sa-*

In contrast with AV *mi-* and *mi-sa-*-, NAV *ma-sa-* only indicates a change of state. Both occur on entity-denoting and state-denoting roots, with somewhat different meanings. Consider for instance, *mi-kaput* ‘join the group, team’ and *ma-sa-kaput* ‘make up/be a team’ derived from *√kaput* (*u kaput* ‘a team’). Also consider *ma-sa-muhting* (57), derived from the property-denoting root *√muhting* ‘black’ and denoting a change of state, and *ma-sa-terep* (58) also denoting a change of state and derived from *√terep* ‘stop, be quiet’.

**3.7.2. *Mah(a)-* derivations: immediate, ongoing process**

*Mah(a)-* also has derivational and inflectional-aspectual features; it is affixed to entity-denoting roots and to action, motion-denoting roots compatible with ongoing processes or immediate actions.
A. On entity-denoting roots: mah-(ka)- or mah(a)-Ca-

Verb stems derived by mah-ka- or mah-Ca- from entity-denoting roots denote processes conducted with that entity, like mah-ca-cukap ‘be putting on shoes’ (u cukap ‘shoe’) or mah-ba-budui ‘be dressing’ (59). Under the scope of negation, mah- changes to nonfinite kah(a)- (59b) just as ma- changes to ka-.

(59)a. Mah(a)-ba-budui k-aku.
   NAV.ASP-Ca.RED-clothes NOM-1SG
   ‘I’m getting dressed.’
(59)b. Caay hen k-aku kah(a)-ba-budui.
   NEG  yet NOM-1SG NAV.ASP.NFIN-Ca.RED-clothes
   ‘I’m not yet dressed.’

B. On action or motion denoting roots: mah(a)-(ka)-

With action or motion denoting roots, mah(a)- is only hosted by intransitive verb stems (belonging to the ma-, mu-51 or Ø-52 verb classes) and behaves like NAV ma-. Compare mah-cerem ‘be setting (sun)’ with mu-cerem ‘dive’. It occurs as mah(a)-ka on Ø-motion verb stems like mah-ka-tayni ‘just arriving’ (60) derived from Ø-tayni ‘come’, and on Ø-verb stems referring to time such as Ø-tangelal ‘dawn’53 (61).

(60) Mah-ka-tayni cira t-ina ca-cudad-an.54
   NAV.ASP-NFIN-arrive NOM.3SG OBL-DX Ca.RED-book-LOC
   ‘He’s just entering this school.’
(61) Nanu mah-ka-tangelal k-u remiad.
   since NAV.ASP-NFIN-dawn NOM-NM day
   ‘From the break of dawn.’ (lit. the time of day when dawn is breaking) (Male-paliw.013)

3.7.3. Deriving stative roots: mala- change of state and pala- caused change of state

Mala- also conflates derivational and inflectional-aspectual features; it selects entity-denoting and stative, property-denoting roots and expresses a change of state or property, while pala- denotes a caused change of state. The nonfinite form is kala-.

51 Affix mu- occurs on a few motion denoting roots.
52 It is not affixed to activity AV mi- verb stems. No *mah-pi- form are attested.
53 Compare with a time noun: tangasa i ka-tangelal=ta nu remiad ‘until the day has dawned’ (LOC NFIN-dawn=PFV GEN day) (lit. until the dawning of day) (Mosi.041)
54 Ca-cudad-an ‘school’ (lit. place where one studies); u ciudad ‘book, letter’.
A. Entity-denoting roots: expressing a change of state

Entity-denoting roots are derived by *mala-* as verb stems expressing a change of state, like ‘change into wine’ in (62a), while *pala-* expresses a caused change of state, with AV alignment and increased valency (62b).

(62)a. Mala-qepah^55^ k-u nanum.
  BECOME-alcohol NOM-NM water
  ‘The water is changed into wine.’ (lit. ‘winised’)

(62)b. Pala-qepah t-u nanum.
  CAUS.BECOME-alcohol OBL-NM water
  ‘(He) turned the water into wine.’ (lit. ‘winise’ the water)

Also consider *mala-heci* ‘become fruitful, be fulfilled’ and *pala-heci* ‘cause to become fruitful’ which are derived from *ḥeci* (*u ḥeci* ‘fruit, result’).

B. Stative, property roots

Inchoative verb stems are also derived by *mala-* from stative, property-denoting roots like *mala-adidiq* ‘diminish’ from *ḥadidiq* ‘small, little’. In negative context, *mala-* changes to *kala-* (63b), just like *ma-* changes to *ka-*.

(63)a. Mala-lahngang k-u cengel n-ira.
  BECOME-brown.red NOM-NM colour GEN-3SG
  ‘Its colour changed to brownish red.’

(63)b. Caay kala-lahngang k-u cengel=isu.
  NEG NFIN.BECOME-brown.red NOM-NM colour=GEN.2SG
  ‘Your colour has not changed to brownish red.’

To sum up, derivational-aspectual affixes and their allomorphs AV *mi-sa* ~ NAV *ma-sa* (inchoation, transformation), *mah(a)-* ~ *kah(a)* (ongoing action or process), *mala-* ~ *kala-* ~ *pala-* (change of state or property) are all hosted by entity-denoting roots and property or action denoting roots whose ontology and semantic structure is compatible with inchoation, ongoing processes, or change of state or property. Again, the semantic output results from the composition between the roots’ ontologies and the properties of affixes.

^55^ Compare *mi-sa-qepah* ‘make alcohol’, *pa-qepah* ‘give alcohol to drink’.
3.8. Category-changing derivation of verb stems

So far, the analysis has focused (i) on various types of primary derivation from root to noun stems or to verb stems, (ii) on secondary, applicative voice derivation reorganising alignment, (iii) on valency increasing, causative derivation and (iv) on various derivational-aspectual prefixes.

We now turn to category-changing affixes creating deverbal nouns. This is another complex domain. The following discussion is thus restricted to the most common nominalising affixes: (i) –ay (§3.8.1), (ii) the perfective event nominaliser ni- (§3.8.2), (iii) stative abstract and collective nouns (§3.8.3), (iv) stative place and time nouns derived by ka-…-an (§3.8.4).

3.8.1. Deverbal Actor or Undergoer nouns derived by –ay

The nominaliser -ay is a secondary, category-changing affix hosted by already derived mi-, ma-, Ø- verb stems, as well as by causative pa- stems and conveyance si- verb stems. In contrast with some other types of nominalisations, the voice affix (mi-, ma-) retains its finite form, yielding mi-…-ay and ma-…-ay nouns. Thus, the actor noun u mi-buting-ay ‘fisherman’ is a secondary derivation from the activity verb stem mi-buting ‘to angle, fish’ (u buting ‘fish’). Deverbal mi-…-ay nouns denote the x (neutral in terms of animacy) that performs some activity. Compare \telub, u telub ‘wrestling’, and u mi-telub-ay ‘wrestler’ derived from mi-telub ‘to wrestle’. These deverbal nouns are not restricted to animate entities as shown by (64); they also retain verbal properties and may govern an oblique argument like tu tangal, thus behaving like gerunds.

(64) Awaay=tu k-u mi-kawa-ay\textsuperscript{56} t-u tangal=isu.
NEG.EXS=PFV NOM-NM AV-block-NMLZ OBL-NM head=GEN.2SG
‘Your head is freed.’ (lit. there is no longer any trap for your head) (i.e. a glass jar)
(Frog story.054)

\textsuperscript{56} From the root \textsuperscript{\textbackslash}kawa, the AV verb mi-kawa ‘to block’, the UV verb ma-kawa ‘be blocked’ are derived, as well as the caused transfer verb pa-kawa ‘set obstacles’.
Deverbal *ma-...-ay* nouns derived from intransitive *ma-* verb stems denote occupation, status, properties and seats of properties (the x with property y). *Ma-...-ay* nouns derived from intransitive *ma-* position verbs and *ma-* motion verbs denote entities engaged in motion, like *u ma-baher-ay* ‘the flying x’, or entities in a given position like *ma-bukakang-ay* ‘the lying x’ (67). Ø- deictic motion verb stems are also nominalised as Ø-...-ay forms as in (65):

(65)  Inacila [na isu haw] k-u ø-tayni-ay?
      yesterday PAST FR.2SG QM NOM-NM ø-arrive-NMLZ
      ‘Is it you who came yesterday?’ (lit. is it you the comer?)

Property and state *ma-* verbs are also nominalised by –ay. They denote entities ‘that have property y’. Life-stage nouns belong to this group: the noun *u tuas* ‘long time’ is primarily derived from the root \(\sqrt{tuas}\), while *u ma-tuas-ay* ‘old people, parents’ is a secondary, category-changing derivation from *ma-tuas* ‘be old’. *U patay* ‘death’ is derived from the root \(\sqrt{patay}\), while *u ma-patay-ay* ‘the dead’ (66) is derived from *ma-patay* ‘die’.

(66)  Ø-adihay k-u ma-patay-ay.
      Ø-be.numerous NOM-NM NAV-die-NMLZ
      ‘The dead were numerous.’ (U teker ni Adek.035)

Deverbal nouns derived by –ay are also functionally flexible, acting as arguments, predicates (for instance in ascriptive constructions <x is a y>) or as modifiers like *ma-bukakang-ay* ‘the lying x’ (67) which modifies *babahi* ‘girl’, with the [modifier a modified] construction.

(67)  Mi-cekiw=tu t-u mata [n-iya [ma-bukakang-ay a] babahi].
      AV-extract=PFV OBL-NM eye GEN-ANAPH NAV-lay.down-NMLZ LNK woman
      ‘He had extracted the eyes of the girl who was lying.’ (Icep.027)

3.8.2. Event nouns derived with perfective *ni-*

Perfective event nominals are secondary derivations. They are derived by means of the nominaliser *ni-* which has derivational and inflectional-aspectual features.
A. Perfective event nominals derived from mi- and ma- stems

Ni- is prefixed to nonfinite verb stems to produce ni-pi-, ni-ka-, ni-∅- stems. Thus, AV

mi-patay ‘kill’ is nominalised as u ni-pi-patay ‘the killing’, while NAV ma-patay ‘die’

is nominalised as u ni-ka-patay ‘death, the fact of dying’, which is the nominative pivot

of ma-melaw ‘see’ in (68).

(68) Ma-melaw n-uhni k-u ni-ka-patay n-u hitai.

NAV-see GEN-3PL NOM-NM PFV.NMLZ-NFIN-die NOM-NM soldier

‘They saw the dying soldiers.’ (lit. the dying soldiers) (Mosi.051)

In (69), the perfective event noun u ni-pi-kasui, derived from mi-kasui ‘cut/get

firewood’, is the nominative pivot of the quantifier predicate adihay:

(69) Ø-adihay=tu k-u ni-pi-kasui, ta-lumaq=tu cira.

Ø-be.numerous=PFV NOM-NM PFV.NMLZ-NFIN-wood go-home=PFV NOM.3SG

‘A lot of firewood had been cut, he went back home.’ (lit. the woodcutting was

abundant …)

Some of these deverbal event nouns, like ni-ka-herek (70), retain verbal properties

and govern an oblique argument. Ni-ka-herek is secondarily derived from ma-herek ‘be

finished’, while the noun u herek is derived from the root ∪herek, as in awaay k-u herek

(NEG.EXS NOM-NM end) ‘there is no end’.

(70) …Ø-tangasa i ni-ka-herek t-u demak a ma-pa-paliw.

Ø-arrive LOC PFV.NMLZ-NFIN-end OBL-NM work COMP NAV-CA.RED-partner

‘until the ending of the work for which they collaborate.’ (lit. until finishing the

work …) (Male-paliw.027)

B. Perfective event nominals in LV : ni-...--an

Verb stems in locative voice V-an, are derived by ni-...--an into perfective event nouns.

They have all the functions of nouns: argument (71a), predicative and modifying (72).

In the cleft construction (71a), the deverbal noun k-u ni-subaw-an n-ira is the

nominative argument of the predicative numeral expression tusa a karias. Compare

with the declarative clause (71b), where tusa a karias ‘two plates’ is the nominative

undergoer pivot of the verb in locative voice subaw-an.
Bril Isabelle

(71)a. [Tada tusa a karias] [k-u ni-subaw-an n-ira].

   DEGREE two LNK plate NOM-NM PFV.NMLZ-wash-LV GEN-3SG
   ‘She has merely washed 2 plates.’ (lit. it’s merely 2 plates (those washed by her)
   (Masasiyay a tatusa.027)

(71)b. Subaw-an n-ira k-u tusa a karias.

   wash-LV GEN.3SG NOM-NM two LNK plate
   ‘She washed two plates.’ (lit. 2 plates were washed by her)

   In (72a), the deverbal noun ni-sa-ngasib-an modifies nanum ‘water’ which is the
   nominative pivot of the interrogative verb sa-pi-maan. Compare with the verb in
   locative voice sa-ngasib-an in (72b), with nanum ‘water’ as its nominative undergoer
   pivot.

(72)a. Sa-pi-maan=isu [k-ina [ni-sa-ngasib-an a] nanum] ?

   INST-NFIN-do.what=GEN.2SG NOM-DX PFV.NMLZ-do-boil-LV LNK water
   ‘What did you boil this water for?’ (lit. this boiled water is for you to do what?)

(72)b. Sa-ngasib-an n-ira k-ina nanum.

   do-boil-LV GEN-3SG NOM-DX water
   ‘She boiled this water.’ (lit. this water was boiled by her)

   Some of these perfective deverbal nouns are lexicalised and denote entities rather
   than events, like ni-buting-an57 ‘a catch of fish’, ni-kulit-an ‘a drawing’ (ṅkulit, u kulit
   ‘colour’, mi-kulit ‘draw’), ni-surit-an ‘written words’ (ṅsurit, u surit ‘sign, inscription’,
   mi-surit ‘write’).

3.8.3. Distinguishing perfective event nominals from stative, abstract nouns

   Perfective event nominals in LV (ni-pi-....-an, ni-ka- ...-an) are distinct from stative pi-
   ...-an, ka-....-an noun stems denoting abstract or collective nouns, where –an is not the
   LV suffix, but a locative nominaliser (see §3.8.4 for other uses). Consider:

<table>
<thead>
<tr>
<th>STATIVE DEVERBAL NOUN</th>
<th>PERFECTIVE DEVERBAL NOUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ma-umah ‘cultivate’</td>
<td>ka-umah-an ‘cultivation’</td>
</tr>
<tr>
<td>ni-ka-umah-an ‘cultivated crops’</td>
<td></td>
</tr>
<tr>
<td>k&lt;em&gt;aen ‘eat’</td>
<td>ka-kaen-an ‘edibles’</td>
</tr>
<tr>
<td>ni-kaen-an ‘eaten food’</td>
<td></td>
</tr>
<tr>
<td>ma-urip ‘live’</td>
<td>ka-urip-an ‘life (style)’</td>
</tr>
<tr>
<td>ni-ka-urip ‘(course of) life’</td>
<td></td>
</tr>
</tbody>
</table>

   The stative abstract noun ka-umah-an ‘farmland, cultivation’ is distinct from the

57 Ni-buting-an numaku ‘(it)’s my catch of fish, it was angled by me’.
Roots and stems in Amis and Nêlêmwa

perfective event noun ni-ka-umah-an ‘the crops’ (i.e. the cultivated plants) in (73).

(73) Ira=tu k-u sadak n-u ni-ka-umah-an n-u ma-umah-ay.

‘There was the growth of the crops cultivated by the farmers.’ (Wawa nu Ciwidian.051)

The stative noun ka-kaen-an ‘edibles’ is distinct from the perfective event noun ni-kaen-an ‘eaten food’ (74a); also compare with the verb in locative voice in (74b).

(74)a. U buting k-u ni-kaen-an n-u nani anucila.

‘It is fish (that) the cat ate.’ (lit. it is fish the (thing) eaten by the cat)

(74)b. Kaen-an n-u nani k-u buting ‘the fish was eaten by the cat.’

The perfective event noun ni-ka-uriq (75a) is distinct from the stative deverbal noun u ka-uriq-an (75b).

(75)a. I ni-ka-uriq=aku, …

During (the course of) my life/living …’ (lit. the time lived/experienced by me)

(75)b. Manay unian u ka-uriq-an numita, awaay k-u pinang.

‘So (as for) these lives/lifestyles of ours, they were confused.’ (U teker ni Adek.015)

Stative and abstract nouns are also derived by ka-…-an from Ø- verb stems denoting states and properties, like ka-balihnaw-an ‘anxiety’ (from the psych state Ø-balihnaw ‘anxious’) and (ka)-tuqman-an (from Ø-tuqman ‘be dark’ (76a)). Like all nouns, they have argument, predicate and modifying functions (in 76b-c).

(76)a. Ø-tuqman=tu k-u kakarayan.

‘The sky is already dark.’

(76)b. Ka-tuqman-an a remiad.

‘It’s a dark day.’

(76)c. i [Ø-tuqman-an a] lumaq

‘in the dark house’

3.8.4. Deverbal time or place nouns: pi-…-an, ka-…-an

Like the abstract, collective nouns in §3.8.3, deverbal time or place nouns are
secondary, category-changing derivation from already derived verb stems, occurring as
nonfinite *pi-...-an, ka-...-an*, and *Ø-...-an* stems with the locative nominaliser *-an*.
Like all nouns, they are functionally flexible, with argument, predicate and modifying
functions in specific syntactic contexts.

A. Deverbal time or place nouns from *mi*-verb stems: *pi-...-an*
Some examples of time and place nouns are *u pi-telub-an* ‘time for wrestling’ (from *mi-
telub* ‘to wrestle’), *u pi-adup-an* ‘hunting time/place’ (from *mi-adup* ‘hunt’), *u pi-sa-
badisusuq-an* ‘time to plant grapes’ (from *mi-sa-badisusuq* ‘grow grapes’), *u pi-buting-
an* ‘fishing place/time’ (77) (from *mi-buting* ‘to fish’), *u pi-sadipit-an* ‘the place where
shell-fish are collected’ (from *mi-sadipit* ‘collect shell-fish’)58 (78).

(77) Ma-litemuh k-u pi-buting-an n-u babainay.
UV-welcome NOM-NM NFIN-AV-fish-LOC GEN-NM man
‘Fishing time is welcome by the men.’ (Mi-buting.002)

These deverbal nouns have argument function (77) or predicate function as in (78),
where *u pi-sadipit-an* is negated by *caay ka* like all stative verb stems.

(78) Caay ka u pi-sadipit-an n-u kayuin.
NEG NFIN NM NFIN-AV-shell.fish-LOC GEN-NM young.woman
‘It’s not the shell-fishing place of unmarried young women.’

Some of these deverbal nouns are lexicalised and actually denote entities rather than
location or time of actions, like *u pi-kunkung-an* ‘drum’ (lit. drumming-place), (from
\(\sqrt{\text{kunkung}}, \text{mi-kunkung} ‘to drum’), plural kinship relations like *u pi-kadabu-w-an* ‘in-
laws’ (lit. where one goes as in-law) from *mi-kadabu* ‘go as in-law’ (from \(\sqrt{\text{kadabu}}, u
kadabu ‘child in-law’).

B. Place and time nouns derived from *ma*-verb stems: *ka-...-an*
*Ka-...-an* time and place nouns are derived from *ma*- verb stems, like *u ka-butiq-an*

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58 \(\sqrt{\text{badisusuq}}\) is also derived as *u badisusuq* ‘grapes’, \(\sqrt{\text{buting}}\) as *u buting* ‘fish’, \(\sqrt{\text{sadipit}}\) as *u sadipit* shell-
fish’.
‘bedroom, place to sleep’ (from ma-butiq59 ‘to sleep’), which is distinct from a
perfective event noun such as i ni-ka-butiq-an ‘in/during his sleep’. Among derived
time nouns are u ka-bali-an ‘windy season’ (from ma-bali ‘be windy’, u bali ‘wind’), u
ka-subuc-an ‘birthday’ (79) (from the natural function verb ma-subuc ‘give birth’). Like
all nouns, they have predicate (79a) or argument (79b) functions.

NM NFIN-be.born-LOC GEN-PN B. now LNK day
‘It is Balah’s birthday today.’ (Kasubucan.001)

PAST here LOC P. NOM-NM NFIN-be.born-LOC
‘(He) was born here in Pukpuk.’ (lit. it was here in P. his birthplace) (Labang
Umah.006).

Motion ma- stems are similarly derived: like u ka-bekac-an ‘stadium’ (from √bekac,
ma-bekac ‘run’, u bekac ‘speed, race’); ka-sadak-an ‘place or time where x rise’ (80)
(from √sadak, ma-sadak ‘come up, rise, grow’, u sadak ‘origin, growth’).

(80) i ka-sadak-an n-u cidal
LOC NFIN-rise-LOC GEN-NM sun
‘at sunrise/dawn’ (lit. at the rise of the sun)

C. Locative, time nouns derived from stative Ø- stems: ka-...-an

Time nouns are similarly derived from ambient Ø- verb stems like ka-siqnaw-an
‘winter, cold season’ in (81b), (√siqnaw is derived as Ø-siqnaw ‘be cold’, u siqnaw ‘the
cold’).

(81)a. Ø-siqnaw k-u remiad.
Ø-cold NOM-NM day
‘It’s a cold day.’

(81)b. Ka-siqnaw-an anini k-ina remiad.
NFIN-cold-LOC today NOM-DX day
‘Today it is a winter-cold day.’

3.9. Asymmetrical functional flexibility of derived noun and verb stems

As in many Austronesian languages, verbal and non-verbal categories (i.e. noun stems,

59 √butiq is also derived as u butiq ‘sleep’: alsuq=tu k-u butiq n-ira (sound=PFV NOM-NM sleep GEN-3S) ‘his
sleep is deep’.
derived nouns, pronouns, numerals) can be predicative in equative, ascriptive, or focus constructions. In Amis, as in Nêlêmwa, the predicate is in sentence initial position. As in Nêlêmwa, functional flexibility is asymmetrical, non-bidirectional. In Amis, <u noun stems> can be predicative without category-changing derivation, while primarily derived mi-, ma- or Ø- verb stems undergo category-changing derivation in order to function as arguments or as modifiers. In the cleft construction (82a), u tumay is the focused predicative noun, its nominative argument is a gerund deverbal noun k<em>an-ay which governs an argument (tu tamdaw). Compare with the declarative clause (82b).

(82)a. [U tumay haw] [k-u k<em>an-ay t-u tamdaw] ?
NM bear QM NOM-NM <NAV>eat-NMLZ OBL-NM people
‘Was it a bear that ate people?’

(82)b. K<em>an t-u tamdaw k-u tumay.
<NAV>eat OBL-NM people NOM-NM bear
‘The bear ate people.’

Examples (82-83) show the lack of bidirectional equivalence between nominal and verbal word forms in predicate and argument functions. Verbal and non-verbal word forms can be predicates, while verb stems must be nominalised to serve as arguments. Nouns in predicate function occur in the verb’s sentence initial position and retain their category indicator u; besides, like non-active predicates, they are negated by caay ka

(83) (repeated from (78)).

(83) Caay ka u pi-sadipit-an n-u kayuin.
NEG NFIN NM NFIN.AV-shell.fish-LOC GEN-NM young.woman
‘It’s not the shell-fishing place of unmarried young women.’

4. Categorically neutral roots in Amis: towards a conclusion

In Amis, lexical roots are thus pervasively, but not exhaustively, categorially neutral. A few roots seem to be predominantly action- or event-denoting, i.e. their use as action nouns is derived from the verb stem, not from the root form (§3.2). Yet this does not invalidate the dominantly neutral categoriality of roots. Only primarily and secondarily derived word forms are categorised as nouns, verbs, or adjectival modifiers. But, once
Roots and stems in Amis and Nêlêmwa

roots have been derived and inflected into word forms, they are strictly categorised and unambiguously identifiable. Roots have conceptual, ontological and semantic structure and properties (denoting proper vs. common entities, actions or events, motion, state and property, cognition or psych states, etc.). These ontologies select the primary affixes or morphemes with which they combine. Nominal stems are flagged by $u$; verb stems are affixed by $mi$, $<um>$, $ma$, $\varnothing$, $-an$, $-en$, etc. These primary voice affixes themselves have semantic and syntactic properties which signal the subcategorisation of verb stems into various classes, such as $mi$– activity, actor oriented verb stems, $ma$– non-actor, experiencer and undergoer oriented verb stems, $\varnothing$– property or state verb stems, or $-an$ verb stems denoting ambient, natural phenomena or spontaneous, uncontrolled processes oriented towards an experiencer or undergoer.

At syntactic level, these affixed $mi$, $<um>$, $ma$, $\varnothing$, $-an$ verb stems, which have logical, syntactic, and valency properties, select a specific nominative pivot, a type of alignment and of case assignment.

There is a clear distinction between primary root derivation ((a) as $<u$ noun stems$>$, (b) as primary voice affixed verb stems, or as $\varnothing$– property, stative verb stems), and secondary derivation either by applicative, alignment-changing voice affixes (generally involving nonfinite voice morphs $pi$, $ka$), or by valency increasing, causative $pa$–.

Lastly, there are numerous secondary, category-changing, deverbal derivational affixes deriving abstract, collective nouns, time and location nouns, instrument nouns. Like other nouns, deverbal nouns have some functional flexibility as predicates, arguments or modifiers once they are inserted in the appropriate syntactic slot and construction. Their meaning as argument or as predicate is in fine “attributable to the function of the syntactic position”, thus revealing some compositionality as defined by Evans and Osada (2005: 367).
Yet, functional flexibility is not bidirectional: nouns and derived nouns can be predicative without any category-changing derivation, while verbs must be nominalised to function as arguments.

Starosta (2009) pointed out that voice affixes in Formosan languages are not just inflectional, since they also derive intransitive or transitive verb forms. The position defended here is that (in)transitivity is a property of the derived (i.e. the voice affixed) verb stems, once projected in a sentence, with the appropriate type of alignment and case assignment.

Besides, as Reid (1992: 67-68) points out, “the disparate nature of the sets [of affixes], with one infix, two suffixes, and several prefixes suggests derivation (or at least a derivational origin) rather than inflection”. It is also notable that various affixes have derivational and inflectional features, conflating for instance voice and aspectual features, like mi-sa-, ma-sa-, mala-, mah(a)- (§3.7) or deverbal derivation and perfective aspect like ni- (§3.8.2).

A last point concerns the frequent use of the same affixes on entity-denoting roots and on action-denoting roots, with slightly different derivational functions and meanings varying with their host’s class (as with CONV si- and applicative CV si-, or sa-instrument nouns and applicative INSTR. V sa-pi-, sa-ka- stems, or caused transfer pa- vs. causative and indirective pa-pi-, pa-ka- stems). The function and meaning of these affixes thus result from some compositional effects with a derived stem, projected in a syntactic frame where the ultimate function and meaning of the word forms are interpreted.

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