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

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

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**Abstract**

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

13  
14

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

19

**1. Introduction**

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

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1 also analyses Tagalog roots as precategorial (1998), an approach discussed by Kroeger  
2 (1998) and Himmelmann (2005, 2007). Yet, there is extreme diversity among  
3 Austronesian languages; in Northern Amis (Formosan), lexical roots are pervasively  
4 categorially neutral, while lexemes in Nêlêmwa (Oceanic) are clearly subcategorised as  
5 nouns or verbs that must undergo derivational, category-changing processes.

6     Categorisation involves several possible levels of identification: roots, stems and  
7 morphosyntactic words (Lehmann 2008: 548). In an attempt to distinguish precatego-  
8 rality from conversion, Evans and Osada (2005) profile three main criteria for  
9 precategoriality: (i) exhaustivity (i.e. all the lexemes of a language should be  
10 precategorial), (ii) bi-directionality, and (iii) compositionality, i.e. “any semantic  
11 difference between the uses of a putative ‘fluid’ lexeme in two syntactic positions —say  
12 argument or predicate— must be attributable to the function of that position” (ibid.  
13 2005: 367).

## **2. Some characteristic features of Nêlêmwa and Northern Amis**

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

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<sup>2</sup> 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 Natauran, 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 Natauran Amis. Other related studies of the central dialect are Wu (2006), Tsukida on Fataan Amis (2008).

1 forms related to a more abstract root sharing a common meaning” (Evans & Osada  
2 2005). Nouns and verbs in Nêlêmwa are subcategorised in the lexicon.

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

8 - **Characteristic features of Nêlêmwa**

9 Nêlêmwa displays very little lexical flexibility. Only 5% of the lexicon<sup>3</sup> is categorially  
10 flexible (i.e. functioning as nouns or verbs) like English *call*; all other lexemes are  
11 subcategorised and undergo category-changing derivations. The category and function  
12 of the 5% flexible (N or V) lexical bases is identified by distributional criteria and  
13 behavioural features at syntactic level: for instance, determiners and numerals in DPs,  
14 TAM markers and subject indexes for VPs. When verbal, these lexical bases are  
15 intransitive (active or stative) verbs. Very few are transitive (Bril 2002, in press).  
16 Consider *ciiva* ‘to dance, dance’: DP *hleena ciiva* ‘these dances’, VP with TAM or  
17 subject indexes: *io hla ciiva* (FUT they dance) ‘they’ll dance’; *hoot* ‘give a speech;  
18 discourse, story’; NumP *pwa-giik hoot* (CLASS-one speech) ‘one speech’, VP *i hoot* (3SG  
19 deliver.speech) ‘he gives a speech’. The noun form generally refers to an instance or  
20 result of the action for active verbs. On the other hand, the actor noun is derived with  
21 *aa-* as *aa-civa* ‘dancer’ and the action noun is derived as *u-ciiva* ‘dancing’.

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

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<sup>3</sup> A count conducted on the Nêlêmwa dictionary (Bril 2000).

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

5

	<i>u-</i>	<i>aa-</i>	<i>baa-</i>	<i>hna-</i>
Semantics	action Ns manner-of-action Ns	agentive Ns	instrument, artefact Ns	locative Ns artefacts, result of action
Verb types	ALL verbs including STATIVE	ACTIVE verbs <b>only</b>		

6 Table 1. Deverbal (nominalising) prefixes in Nêlêmwa

7  
 8 Syntactic, functional flexibility is also asymmetrical: nouns and derived nouns are  
 9 the most flexible; this correlates with their ability to be predicates without derivation,  
 10 while verbs must be nominalised to serve as arguments. The predicative function thus  
 11 cross-cuts part-of-speech categories: nouns, pronouns, numerals can be predicative  
 12 simply via syntactic positions (Bril, in press). Subcategorised lexical bases (Ns or Vs)  
 13 are syntactically flexible, in relation to their propositional operation, i.e. reference,  
 14 predication, or modification (Lehmann 2008, Hengeveld and van Lier 2010), resulting  
 15 in functionally flexible forms such as (i) verb modifying verbs in VV constructions: *i â*  
 16 *wâlem* ‘he leaves on foot’ (lit. leave walk) vs. *i wâlem â* ‘he walks from place to place’  
 17 (*wâlem* ‘walk’, *â* ‘go, leave’); (ii) nominal predicates: *i ak* ‘he (is) a man’, *kio i ak* (NEG  
 18 3SG man) ‘he (is) not a man’; adpositional nouns like *shi-n* ‘his/her arm, hand, side’  
 19 denoting a beneficiary in *na shi-ny* (put hand-POSS.1SG) ‘give it to me’, or a location *i oome*  
 20 *shi-ny* ‘he comes to me’ (lit. come to my side). The syntactic *functions* of heads, to be  
 21 distinguished from their *lexical* categories, are identified by their combinatorial and  
 22 behavioural properties in a given syntactic environment. As often pointed out (Lazard  
 23 1999, Sasse 1993, 2001, Croft 2000), there are only statistical frequencies in the  
 24 alignment between categories and functions, with frequent mismatches between

1 ontological and formal categories.

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

7 - **Comparing Amis and Nêlêmwa**

8 By contrast, in Amis (Formosan), roots are pervasively –though not exhaustively–  
9 categorially neutral. But after derivation from roots, word forms are subcategorised as  
10 verbal, nominal heads or adjectival modifiers. Yet, as in Nêlêmwa, word forms display  
11 some *functional* flexibility: in the restricted contexts of equative, ascriptive<sup>4</sup> and focus  
12 constructions, nouns and derived nouns, pronouns, numerals may be predicative without  
13 derivation; they retain the noun marker *u* (as in (1a, c)), occur in the syntactic position  
14 of predicates without any semantic change other than the predictable meaning triggered  
15 by the predicative function.

16 Examples (1) in N.Amis<sup>5</sup> and (I) in Nêlêmwa illustrate this: in both languages,  
17 predicative nouns are negated and asserted by the same illocutionary markers as verbs  
18 (compare 1a-b, Ia-b); they have tense-aspect-mood markers and degree markers like  
19 verbs (compare 1c-d; Ic-d). In N.Amis, predicative nouns behave like non-actor  
20 oriented verb stems: in negative, non-declarative, non-finite constructions, the morph *ka*  
21 (non-finite) appears (Zeitoun and Huang 2000), compare (1a-b).

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<sup>4</sup> Equative < X is a Y >, or ascriptive predications < X is Y >.

<sup>5</sup> 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.

- |  |   |
|--|---|
| <p>1 (1) N.Amis (Bril)</p> <p>2 a. <b>Caay ka u</b> tumay.</p> <p>3 NEG<sup>6</sup> NFIN NM bear</p> <p>4 ‘No, it was not a bear.’</p> <p>5 b. <b>Caay ka-ngudu</b> cira.</p> <p>6 NEG NFIN.NAV-be.ashamed NOM.3SG</p> <p>7 ‘He’s not ashamed.’</p> <p>8 c. <b>Tada u</b> tamdaw cira.</p> <p>9 DEGREE NM person NOM.3SG</p> <p>10 ‘He’s a true man.’</p> <p>11 d. <b>Tada</b> Ø-lipahak<sup>7</sup> k-ita.</p> <p>12 DEGREE happy NOM-1PL.INCL</p> <p>13 ‘We are very happy.’</p> | <p>(I) Nêlêmwa (Bril)</p> <p>a. <b>Kio</b> kaava.</p> <p>NEG <i>Naso.Unicornis</i></p> <p>‘It is not a <i>Naso Unicornis</i>.’ (fish)</p> <p>b. <b>Kio</b> i hâk.</p> <p>NEG 3SG tall</p> <p>‘He’s not tall.’</p> <p>c. I <b>cêê</b> aayo.</p> <p>3SG DEGREE chief</p> <p>‘He’s a real/great chief.’</p> <p>d. I <b>cêê</b> mago.</p> <p>3SG DEGREE sleep</p> <p>‘He’s sound asleep.’</p> |
|--|---|

14 When nouns function as predicative heads, they retain their nominal morphology, as  
 15 shown in the focus construction in (2): the cleft predicative noun *u saba=aku* ‘my  
 16 younger brother’ is flagged by the noun marker *u*, while its nominative argument is a  
 17 derived Actor nominal *ø-tayni-ay* ‘the comer’. Free pronouns in predicate function, like  
 18 *aku* in (2), are negated by *caay* and marked by *ka* like all non-actor oriented verb stems.

- 19 (2) N. Amis
- |   |   |
|---|---|
| <p>20 <b>Caay ka</b> aku, [<b>u</b> saba=aku]</p> <p>21 NEG NFIN FR.1SG NM young.sibling=GEN.1SG</p> <p>22 PREDICATE PREDICATE</p> <p>23 ‘It’s not me, it’s my younger brother who came.’</p> | <p><b>k-u</b> ø-tayni-ay.</p> <p>NOM-NM ø-arrive-NMLZ</p> <p>ARGUMENT</p> |
|---|---|

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

- 27 (3) Nêlêmwa
- |   |
|---|
| <p>28 [Thaamwa=ena [hooli [i axi-e]]].</p> <p>29 woman=DX that.ANAPH 3SG see-3SG</p> <p>30 PREDICATE ARGUMENT + RELATIVE CLAUSE</p> <p>31 ‘It’s that woman that he saw.’ (<i>lit.</i> this woman the one he saw-her) (Bril 2002: 328)</p> |
|---|

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

<sup>6</sup> 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.

<sup>7</sup> The noun stem (*u lipahak* ‘joy’) and the stative Ø-verb stem are derived from the root form √*lipahak*.



- 1 (4)a. N. Amis  
 2 Ci Cidal=**tu k-u** mi-kutay-ay.<sup>8</sup>  
 3 PN Sun=PFV NOM-NM AV-replace-NMLZ  
 4 ‘It was Sun (who was) the substitute.’ (U teker ni Adek.018)
- 5 (4)b. Nêlêmwa  
 6 Hli **baa** âlô.<sup>9</sup>  
 7 3DU DUR child  
 8 ‘They’re still children.’ (Bril 2002: 215)

### 9 3. Northern Amis (Formosan)

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

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

<sup>8</sup> Compare with *mi-kutay=tu ci Cidal* ‘Sun replaced (him)’.

<sup>9</sup> The circumflex accent marks nasal vowels, double vowels indicate length; the phonology of Nêlêmwa is detailed in Bril 2002.

1 benefactive) are analysed in §3.4, §3.5: they have distinct functions and meanings when  
2 they are affixed to roots to derive word forms, or when they are affixed to already  
3 derived verb stems as applicative constructions with UV alignment. The distinct  
4 functions and meanings of causative, valency-increasing *pa-*, when it is affixed to roots  
5 and to already derived verb stems are investigated in §3.6. Another property of various  
6 affixes is their combined derivational and inflectional (aspectual) properties, this is the  
7 focus of §3.7. A number of category-changing, nominalising affixes are discussed in  
8 §3.8, they derive perfective action nouns, stative and resultative nouns, time and  
9 location nouns. All this leads to the conclusion (§4) that only word forms, derived and  
10 inflected from roots, are fully categorized. Yet they have some functional, syntactic  
11 flexibility. This flexibility is not bidirectional: i.e. while verbs and non-verbs can be  
12 predicative, only nouns and derived, nominalised verbs can have argument function.

13 Some brief notes on the phonological and spelling system follow: stress falls on the  
14 last syllable. There is no vowel length opposition. The glottal stop covers words  
15 beginning or ending with a vowel, it is rule-driven, and is not written.<sup>10</sup> The epiglottal  
16 stop /ʔ/ is written <q>.<sup>11</sup> In syllable or word final position, /h/ is realised as a pharyngeal  
17 fricative [ħ]. Other symbols are <d> [ð]; <b> [β]; <l> is a retroflex flap [ɭ]; <ng> [ŋ].

### 18 **3.1. Categorially neutral roots and derivations**

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

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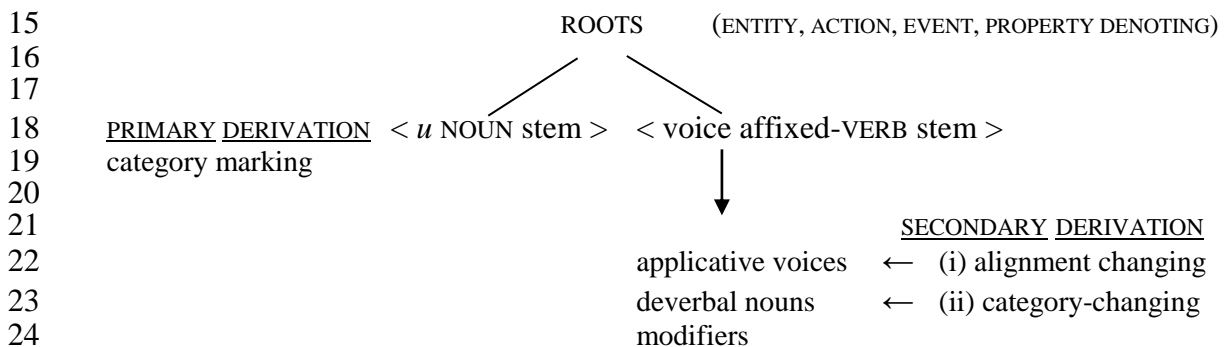
<sup>10</sup> In word medial position, two adjacent vowels are produced with a glottal stop between them, as in *litaul* [litaʔul] ‘egg’, *uyaan* [ujaʔan], *kaen* [kaʔən]. But in contexts where /i/ or /u/ are followed by another vowel, the glottal stop is phonemic and contrasts with glide insertion,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

<sup>11</sup> In word final position, /ʔ/ is produced with an aspirate release [ʔ<sup>h</sup>], like all unvoiced final stops (#p, t, k) (Edmonson 2005).

1 *lie*, etc.) are primarily derived from roots as noun stems, flagged by the noun marker *u*,  
 2 while proper nouns are flagged by *i*. The main difference between noun and verb stems  
 3 lies in their markedness: noun stems are flagged by *u*, *i*, or by demonstratives; verb  
 4 stems are generally derived by complex voice morphology. Only verb stems display  
 5 voice morphology, non-verbal predicates do not, they simply appear in the sentence  
 6 initial predicate slot (as in (4a)).

7 - Primary vs. secondary derivation

8 Primary derivation operates on roots and is basically category attributing; it derives  
 9 noun stems and verb stems (and among the latter, action or property-denoting stems).  
 10 Secondary derivation<sup>12</sup> operates on already derived verb stems and subdivides (i) into  
 11 applicative<sup>13</sup> voices (locative, instrumental, conveyance), which modify alignment, and  
 12 (ii) into category-changing derivation (see figure 1 below). Noun stems do not undergo  
 13 secondary, category-changing derivation; when used as predicates, they simply occur in  
 14 the sentence initial syntactic slot of predicates.



25 Figure 1. Primary and secondary derivation

26

27 Verbs are not cited under the root form, but as verb stems derived by primary voice

28 affixes *mi-* or *ma-*, which also distinguish two classes of verb stems: AV *mi-* stems

<sup>12</sup> The notion of secondary derivation is used by Foley (1998) for Tagalog, by Keenan (2001) for Malagasy.

<sup>13</sup> 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.

1 denote activities or accomplishments, while NAV  $\langle um \rangle \sim \langle em \rangle$ <sup>14</sup>, *ma-*,  $\emptyset$ - stems denote  
 2 non-actor, experiencer, undergoer-oriented events, also including states and psych  
 3 states, properties, cognition (*ma-banaq* ‘know’), position and motion (*ma-nanuwang*  
 4 ‘move’) (Chen 1987, Tsukida 2008).<sup>15</sup> The roots’ ontology and semantic features pair  
 5 up with the semantic and syntactic properties of voice affixes: *mi-* stems select an actor  
 6 pivot, *ma-* stems select an undergoer pivot (including experiencer and more generally  
 7 non-actor pivot). They also have different meanings: consider, for instance, the root  
 8  $\sqrt{nanam}$  from which are derived a noun *u nanam* ‘thought, idea’, a cognitive activity  
 9 verb *mi-nanam* ‘think’, and a stative, property verb *ma-nanam* ‘be used to, have the  
 10 know-how’.

11 In non-declarative constructions (i.e. negative, imperative), these voice affixes  
 12 appear in their nonfinite form: AV *mi-* occurs as *pi-*, while NAV and UV affixes  
 13 ( $\langle um \rangle \sim \langle em \rangle$ ,  $\emptyset$ -, *ma-*) occur as *ka-*. Consider  $\sqrt{suwal}$ , derived as the indicative verb  
 14 *s $\langle em \rangle$ uwal cira* ‘he’s speaking’, as imperative *ka-s $\langle em \rangle$ uwal !* (NFIN- $\langle NAV \rangle$ speak)  
 15 ‘speak !’, as negative *caay ka-s $\langle em \rangle$ uwal cira* (NEG NFIN- $\langle NAV \rangle$ speak 3SG) ‘he’s not  
 16 speaking’.

17 - Secondary applicative voices

18 Secondary, applicative voices are affixed to already derived verb stems: AV *mi-* stems  
 19 occur as *pi-* stems, while NAV  $\langle um \rangle \sim \langle em \rangle$ ,  $\emptyset$ -, *ma-* stems occur as *ka-* stems. Thus,  
 20 the noun *u cadiway* ‘fish-net’ and the AV verb *mi-cadiway* ‘fish with net’ are primary  
 21 derivations from the root  $\sqrt{cadiway}$ , while the instrumental applicative verb form *sa-*  
 22 *pi-cadiway* ‘the net used for net-fishing’ is secondarily derived by *sa-* from *mi-*  
 23 *cadiway*.<sup>16</sup> Similarly, the instrumental applicative verb form *sa-ka-nanuwang* ‘the x

<sup>14</sup> A small class of verbs is derived with NAV infix  $\langle um \rangle \sim \langle em \rangle$ .

<sup>15</sup> Tsukida (2008) also discusses verb classes in Fataan Amis, a different dialect.

<sup>16</sup> The nominative pivot must be the instrument:

1 used to set in motion’ is a secondary derivation with an instrument pivot from the  
 2 NAV *ma-nanuwang* ‘move’, itself primarily derived from the root  $\sqrt{\text{nanuwang}}$ .  
 3 Compare with AV *mi-nanuwang* ‘blend’ and *u nanuwang* ‘motion’.

4 - Secondary, category-changing derivation

5 Secondary, category-changing derivation applies to voice-marked verb stems, yielding  
 6 deverbal nouns, such as locative nouns *u pi-buting-an* ‘fishing place’ (from *mi-buting*),  
 7 or actor nouns *s<em>uwal-ay* ‘speaker’, which is derived by the nominaliser *-ay* from  
 8 the verb *s<em>uwal* ‘speak’, or collective, plural nouns like *sa-suwal-an* ‘words’  
 9 derived by *Ca*-reduplication *....-an*.<sup>17</sup> A noun stem is also primarily derived from the  
 10 root  $\sqrt{\text{suwal}}$ , as in *u suwal nu Pangcah* ‘the language of the Pangcah/Amis’.

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

### 15 3.1.1. Noun stems: noun markers and case-marking

16 A common noun (primarily or secondarily derived) is flagged by the noun marker *u*.  
 17 Nouns, pronouns and NPs (and only them) are case-marked. The case markers are NOM  
 18 *k-*, OBL *t-*, GEN *n-*. Case-markers are prefixed (i) to the common noun marker *u* as *k-u*  
 19 (nominative), *t-u* (oblique), *n-u*<sup>18</sup> (genitive), with no number distinction, (ii) to the  
 20 personal noun markers *i* (singular) and *a* (plural) prefixed as *c-i* or *c-a* (neutral,  
 21 subsuming nominative or oblique), *n-i* or *n-a* (genitive), (iii) and to demonstratives. The

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*sa-pi-cadiway=aku t-u buting k-ina cadiway.*  
 INST-NFIN-net=GEN.ISG OBL-NM fish NOM-DX net

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

<sup>17</sup> Noun stems derived by *Ca*-reduplication *....-an* from action-denoting roots are mostly stative, collective nouns such as *na-naman-an* ‘customs, habits’ (compare with *ma-nanam* ‘be used to, have the know-how’), *ʔa-ʔadup-an* ‘game, hunted animals’ (lit. the hunted) ( $\sqrt{\text{ʔadup}}$  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’ ( $\sqrt{\text{lingatu}}$  is also derived as NAV *ma-lingatu* ‘start’).

<sup>18</sup> Huang (1995) was the first to split these morphemes as *k-u*, *t-u*, *n-u*. See also Wu (2006).

1 only case suffix on nominal stems is the oblique case *-an*, which also encodes dative,  
 2 locative, ablative, source (like *ama-an* in (5)). The clause in (5) thus has an AV *mi*-verb  
 3 with a nominative Actor pivot, an oblique theme marked by *t-u* and a source *ama-an*.

4 (5) **Mi**-nanam **k**-aku ci ama-**an** **t**-u suwal **n**-u Pangcah.  
 5 AV-learn NOM-1SG PN father-OBL OBL-NM language GEN-NM Amis  
 6 ACTOR SOURCE THEME GENITIVE DETERMINER  
 7 ‘I learned from my father the Amis language.’

8 **3.1.2. Verb stems: voice affixes and verb classes**

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

12 Bare  $\emptyset$ - verb stems include many stative, property-denoting roots and a few deictic  
 13 motion verbs like *tayni* ‘come’, *tayra* ‘go’.<sup>19</sup> From stative, property-denoting roots, *<u*  
 14 noun stems> and *ma-* verb stems or bare  $\emptyset$ - verb stems can be derived; consider  $\emptyset$ -  
 15 *tarakaw* ‘high’ and *u tarakaw* ‘height’ (6). When used as modifiers, they are derived by  
 16 *-ay* (see §3.3.2).

17 (6) Walu a ditek k-u tarakaw n-u tireng n-iyā wawa.  
 18 8 LNK measure NOM-NM height GEN-NM body GEN-ANAPH child  
 19 ‘Eight foot was the height of the child’s body.’ (Arikakay)

20 Table 2 illustrates primary derivation as *<u* noun stems> and as *mi-*, *ma-*,  $\emptyset$ -verb stems.

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<sup>19</sup> These motion verbs are derived compounds involving a motion morph *ta-* and deictic suffixes *ta-ira* (distal), *ta-ini* (proximal).

1	ROOT	DERIVED NOUN STEMS	PRIMARY	DERIVED VERB STEMS
2		< <i>u</i> stem >	voice affixes	& verb classes
3	√NANUM	<i>u nanum</i> ‘water’	<i>MI-</i> activity	<i>mi-nanum</i> ‘drink water’
4	√RADUM		<i>MI-</i> activity	<i>mi-radum</i> ‘draw water’
5	√DADUI	<i>u dadui</i> ‘weight’	<i>MI-</i> activity	<i>mi-dadui</i> ‘weigh’
6	√NANUWANG	<i>u nanuwang</i> ‘motion’	<i>MI-</i> activity	<i>mi-nanuwang</i> ‘blend’
7			<i>MA-</i> dynamic, motion	<i>ma-nanuwang</i> ‘move’
8	√BEKAC	<i>u bekac</i> ‘a race’	<i>MA-</i> dynamic, motion	<i>ma-bekac</i> ‘run’
9	√BANAQ	<i>u banaq</i> ‘knowledge’	<i>MA-</i> stative, cognition	<i>ma-banaq</i> ‘know’
10	√TALEM	<i>u talem</i> ‘blade’	<i>MA-</i> property	<i>ma-talem</i> ‘sharp’
11	√ATEKAK	<i>u atekak</i> ‘hardness’	∅- property	∅-atekak ‘hard’
12	√TARAKAW	<i>u tarakaw</i> ‘height’	∅- property	∅-tarakaw ‘high’
13	√BAQKET		∅- property	∅-baqket ‘heavy’

Table 2. Pairing roots and voice affixes

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’)<sup>20</sup>. 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)a. Awaay k-**u** banaq.  
 NEG.EXS NOM-NM knowledge  
 ‘(He) is not intelligent.’ (lit. there is no intelligence)
- (7)b. **Ma**-banaq haw k-isu iciraan ?  
 NAV-know QM NOM-2SG OBL.3SG  
 ‘Do you know him ?’ (belongs to *ma-* class, \**mi-*)
- (7)c. Awaay k-**u** **ma**-banaq-**ay**.  
 NEG.EXS NOM-NM NAV-know-NMLZ  
 ‘Nobody knows.’ (lit. there is no know-er)

<sup>20</sup> As shown in the following example:

Pa-ka-adada t-u balucuq=aku k-u patay n-i ama.  
 CAUS-NFIN-ache OBL-NM heart=GEN.1SG NOM-NM death GEN-PN father  
 ‘Father’s death hurt me.’

1 **3.2. ‘Nounier’ and ‘verbier’ roots in Amis: a limit to categorially neutral roots?**

2 A systematic investigation was conducted in order to find roots primarily derived only  
3 as noun stems or only as verb stems. Some action-denoting roots are actually ‘verbier’  
4 in that their nominal forms are deverbal (§3.2.2). On the other hand, entity-denoting  
5 roots, even those referring to concrete, shaped entities like plants, animals, animate  
6 beings, body parts, etc. always appear to be derivable as verb stems with a variable  
7 range of derivational affixes (§3.2.1). Their distinct ontologies, semantic structure and  
8 class allowing, some of these roots allow the derivation of AV *mi-* activity verb stems,  
9 NAV *ma-* verb stems denoting resultant states, or  $\emptyset$ - verb stems denoting properties.  
10 Some less predictable combinations with other affixes are learned by usage and are  
11 stored in the speakers’ linguistic knowledge.

12 **3.2.1. Entity-denoting roots**

13 Not all roots display the same degree of categorial neutrality, nor the same potential of  
14 derivation. Proper nouns (and assimilated nouns such as address kinship terms) do not  
15 occur as verbs and only host case-marking and vocative *-aw*<sup>21</sup>, like *ina-aw* ‘Mother!’.  
16 Some entity-denoting roots referring to concrete, shaped objects, body-parts, kinship  
17 terms, and to more abstract entities, occur as verb stems derived by a more restricted  
18 range of affixes, like *mi-* or *ma-* (§3.2.1.2), sometimes by UV *-en* and by LOC *-an*  
19 (§3.3.3, §3.3.5); some can be derived by *si-* (§3.5), by causative *pa-* (§3.6), and some  
20 are derived by morphemes which conflate voice and aspectual features like *mah-*, *mala-*  
21 (§3.7.2, §3.7.3).

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<sup>21</sup> 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.



1     **3.2.1.1. Entity-denoting roots derived by *mi-* and *ma-***

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

17     **3.2.1.2. Entity-denoting roots: semantics and derivations**

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

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

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<sup>22</sup> 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*).

<sup>23</sup> 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  $\sqrt{qepah}$  ‘alcohol’ as \**mi-qepah*. Eating soup or drinking milk is expressed as *mi-kaen* or *k<em>aen* ‘eat’.

DERIVATION OF ROOTS DENOTING HUMAN BEINGS						
NOUN STEMS	VERB STEMS					
	<i>mi-</i>	<i>ma-</i>	<i>si-</i>	<i>mi-sa-</i>	<i>ma-sa-</i>	<i>pa-</i>
<i>u kadabu</i> child-in-law	<i>mi-kadabu</i> marry					
<i>u dapunuh</i> widow(er)	<i>ma-dapunuh</i> be a widow(er)					
<i>u cabay</i> companion				<i>si-cabay</i> get a companion	<i>pa-cabay</i> accompany	
<i>u tamdaw</i> person				<i>mi-sa-tamdaw</i> , get acquainted, make friends	<i>ma-sa-tamdaw</i> behave like a person, seem to be a person	
<i>u babainay</i> man				<i>si-babainay</i> marry a man	<i>ma-sa-babainay</i> behave in a manly way	

Table 3. Illustration of root derivations

Also consider kinship terms derived with *mi-* and *ma-*:  $\sqrt{kadabu}$ , *u kadabu* ‘child-in-law’, *mi-kadabu* ‘marry’ (i.e. go as in-law into the spouse’s family);  $\sqrt{dapunuh}$ , *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  $\sqrt{tireng}$ , *u tireng* ‘body’, NAV *t<em>ireng* ‘stand’, *pa-tireng* ‘erect, build’, secondarily nominalised as *u pa-tireng-an* ‘building’;  $\sqrt{supaq}$ , *u supaq* ‘saliva’, *mi-supaq* ‘spit’, *pa-supaq* ‘apply saliva’, UV *supaq-en* ‘spit it! (lit. let it be spit)’,  $\sqrt{tayiq}$ , *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’<sup>24</sup> (lit. go for bees).

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

<sup>24</sup> But ‘honey’ is *waneng nu udal* (lit. sugar of bees; *waneng* ‘sugar’).

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

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

6 Primarily derived voice-marked verb stems can further be causativised, nominalised,  
7 derived into modifiers, time nouns, locative nouns, etc., like  $\sqrt{tipus}$ , *u tipus* ‘rice’, *mi-*  
8 *tipus* ‘harvest the rice’, *pi-tipus-an* ‘time of the rice harvest’;  $\sqrt{cadiway}$ , *u cadiway* ‘fish-

9 net’, *mi-cadiway* ‘fish with net’, *ca-cadiway-an* ‘the place where one fishes with net’.

### 10 **3.2.2. Action-denoting and property-denoting roots**

11 Some action-denoting roots are ‘verbier’ in that their nominal forms are deverbal. These  
12 include deictic motion stems which actually are compounds, like  $\sqrt{tayni}$  ‘come, arrive’  
13 (*ta-ini* ‘come here’), nominalised as a perfective event noun *ni-ka-tayni* ‘arrival’.  
14 Similarly,  $\sqrt{radum}$ , an action-denoting root, occurs as AV *mi-radum* ‘draw water’ or  
15 UV *ma-radum*, but does not occur as a <*u* noun stem>; the derived action nominal is *pi-*  
16 *radum* ‘water-drawing’, the locative noun is derived as *pi-radum-an* ‘a spring, a place to  
17 get water’ and the collective locative noun is derived by *Ca*-reduplication ...-*an* as *ra-*  
18 *radum-an* ‘places where one draws water, wells’.

19  $\emptyset$ -stems denoting properties also tend not to undergo derivation as <*u* nouns>, but  
20 there are numerous exceptions, among which  $\sqrt{atekak}$  which is a verb  $\emptyset$ -*atekak* ‘hard’ or  
21 a noun *u atekak* ‘hardness’.

### 22 **3.2.3. Tools and instruments as a testing ground of neutral categoriality**

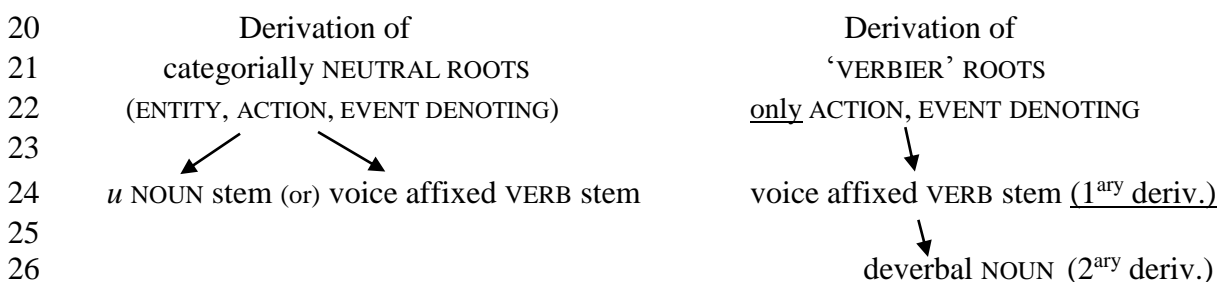
23 The following sections focus on the semantic features and morphosyntactic instructions  
24 carried by affixes, starting with the instrumental affix *sa-*.

25 Tools and instruments are of three types. Some are expressed by (i) categorially

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

### 16 3.2.4. Summary

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



27 Figure 2. Categorially neutral roots vs. verbier action-denoting roots

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

### 4 **3.3. Voice affixes and verb classes: argument structure and alignment**

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

#### 7 **3.3.1. Primary voice affixes: *mi-*, *ma-*, <*um*>, $\emptyset$ -**

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

13 The nominative pivot of *mi-* verb stems is an Actor; *mi-* verbs can be intransitive or  
14 extended intransitive verbs with a *t-u* marked oblique theme-patient. The nominative  
15 pivot of <*um*> and *ma-* verb stems is a Non-Actor (subsuming experiencer and patient).  
16 *Ma-* verb stems with a non-actor pivot are (i) intransitive (including stative) verbs, or  
17 (ii) extended intransitive verbs<sup>25</sup> with a non-actor nominative pivot and a *t-u* marked  
18 oblique argument. On the other hand, UV transitive *ma-* verbs have an undergoer pivot  
19 and a genitive agent.<sup>26</sup>

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

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<sup>25</sup> For the notion of extended intransitive constructions, see Dixon & Aikhenvald, 2000.

<sup>26</sup> 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-*.

1 good at hunting’ (9) (the actor noun is a secondary derivation as *mi-adup-ay* ‘hunter’).

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

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

8 NAV intransitive *ma-* verbs denote position, motion (motion verbs are not categorised  
 9 as activities in Amis despite their dynamic feature), feelings, involuntary bodily,  
 10 physical, or natural processes, states, properties (Chen, 1987: 60), like *ma-talem* in  
 11 (13a) below. Their nominative pivot is not an actor; it can be an experiencer, the seat of  
 12 some property or state, or entities engaged in motion. Some NAV *ma-* verb stems (i.e.  
 13 psych verbs, ingestion, cognition verbs) like *ma-banaq* ‘know’, *ma-talaw* ‘be afraid’  
 14 have an extended intransitive construction with a nominative experiencer pivot and an  
 15 oblique theme, as in (10). The root  $\sqrt{talaw}$  is also derived as a noun *u talaw* ‘fear’.

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

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

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

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

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<sup>27</sup> /u/ and /o/ are allophones. Chen adopted <o>, but <u> is chosen here since it is the most common realisation. Before /h, k, ʔ/, it is realised /o/.

1 Transitivity or intransitivity is a property of the voice-affixed verb stem and of its  
 2 construction.<sup>28</sup> The alignment pattern of transitive verbs with applicative voice affixes  
 3 (locative *-an*, instrumental *sa-*, conveyance *si-*) also displays a nominative pivot  
 4 matching the semantics of the voice affix and an optional genitive agent.

### 5 3.3.2. Property and quantifier stems: *ma-* and $\emptyset$ - stems

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

11 (12)a. Awaay [k-u ni-ka-hadeng-an [n-u adada]].  
 12 NEG.EXS NOM-NM PFV.NMLZ-NFIN-improve-LOC GEN-NM disease  
 13 ‘There had been no improvement in the disease.’

14 (12)b.  $\emptyset$ -adada k-u abala=aku.  
 15  $\emptyset$ -hurt NOM-NM shoulder=GEN.1SG  
 16 ‘My shoulder hurts.’

#### 17 A. Stative, property *ma-* verbs

18 A subclass of intransitive NAV *ma-* verbs denotes properties and states. Consider the  
 19 root  $\sqrt{talem}$ , derived as *u talem* ‘a blade’, and as a verb stem *ma-talem* ‘sharp’ (no \**mi-*  
 20 form) (13). In modifying constructions [modifier *a* modified], the modifier is suffixed  
 21 by *-ay*, like *ma-talem-ay* and *tataak-ay* (*tataak* is a  $\emptyset$ - verb stem) in (14).<sup>29</sup>

<sup>28</sup> 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.

<sup>29</sup> 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].  
 NEG.EXS still NOM-NM ø-come-NMLZ GEN-NM/LNK person  
 ‘Nobody has arrived yet.’ (lit. there is no coming person) (Bril)

- 1 (13) **Ma**-talem k-u puut.  
 2 NAV-sharp NOM-NM knife  
 3 ‘The knife is sharp.’  
 4 (14) Iya Ø-tataak-**ay** a tumay, iniyan haw **ma**-talem-**ay** a kanus.  
 5 ANAPH big-NMLZ LNK bear that.one ASS NAV-sharp-NMLZ LNK claw  
 6 ‘This big bear, (it was) sharp-clawed.’ (Icep.025)

7 **B. Bare adjectival and quantifier stems**

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

- 11 (15)a. Ø-*atekak* k-ina bekeluh. b. U Ø-*atekak-ay* a bekeluh.  
 12 Ø-hard NOM-DX stone NM Ø-hard-NMLZ LNK stone  
 13 ‘This stone is hard.’ ‘(it’s) a hard stone.’  
 14 (16)a. Ø-*baqket* k-u sapad. b. U Ø-*baqket-ay* a sapad.  
 15 Ø-heavy NOM-DX table NM Ø-heavy-NMLZ LNK table  
 16 ‘The table is heavy.’ ‘(it’s) a heavy table.’

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

- 19 (17)a. Ø-*adidiq=tu* i saqtiyan k-iyā qepah.  
 20 Ø-little=PFV LOC glass NOM-ANAPH wine  
 21 ‘There was a little wine in the glass.’  
 22 (17)b. **Tada** Ø-*adidiq=tu* k-u budui.  
 23 very Ø-little=PFV NOM-NM clothes  
 24 ‘The clothes were too small.’

25 **3.3.3. Ambient, natural phenomena: *ma*- and *-an* stems**

26 Many intransitive verb stems are derived by *ma*- or by locative *-an* from (no \**mi*- form)  
 27 from roots denoting ambient, natural phenomena (rain, flood, earthquake, thunder) and  
 28 stars. LV *-an* stems denote natural processes or events affecting an experiencer, while  
 29 *ma*- stems denote a property. Consider *u bali* ‘wind’, *ma-bali* ‘be windy’; *u cidal* ‘sun’,  
 30 *cidal-an* ‘it is sunny’ and *ma-cidal k-ina remiad* (NAV-sun NOM-DX day) ‘this is a sunny  
 31 day’; *u kutem* ‘cloud’, *ma-kutem* or *kutem-an* ‘it’s cloudy’, *si-kutem k-ina remiad*  
 32 (CONV-cloud NOM-DX day) ‘the day got cloudy’; *bulad* ‘moon’, *bulad-an* ‘it’s moonlit’



1 and, with a different meaning, *ma-bulad* ‘have menses’.<sup>30</sup> In (18) LV *bulad-an* denotes  
 2 a situation superficially affecting the nominative pivot *k-ita*.

3 (18) **Bulad-an** k-ita anini a labi.  
 4 moon-LV NOM-1PL.INCL now LNK night  
 5 ‘We are moon-lit tonight.’

### 6 3.3.4. Uncontrolled processes, states affixed by *-an*

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

13 (19)a. **Bursen-an** k-u kuku numaku.  
 14 numb-LV NOM-NM leg GEN.1SG  
 15 ‘My leg has gone numb.’

16 b.  $\emptyset$ -adada k-u bursen n-u kuku=aku.  
 17 ache NOM-NM numb GEN-NM leg= GEN.1SG  
 18 ‘The numbness of my leg is painful.’

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

22 (20) **Cumud-an**=tu n-u nanum k-u lumaq.  
 23 enter-LV=PFV GEN-NM water NOM-NM house  
 24 ‘The house was invaded by water.’ (Lalagawan.068)

25 (21) **Libabuy-an** n-iya wacu k-u mi-takaw-ay.  
 26 bark-LV GEN-ANAPH dog NOM-NM AV-steal-NMLZ  
 27 ‘The dog is barking at a thief.’ (lit. a thief is barked at by the dog)

28 (22) **Kalat-an**<sup>31</sup> n-u deku k-iya wawa.  
 29 peck-LV GEN-NM owl NOM-ANAPH child  
 30 ‘The child was pecked at by the owl.’ (Frog story.086)

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

<sup>30</sup> *Ma-bulad=tu k-iya babahi* ‘this woman has menses’.

<sup>31</sup>  $\sqrt{\text{kalat}}$  is derived as *u kalat* ‘a bite, a peck’, and as AV *mi-kalat* ‘bite, peck’.

1 denotes a resultant state with an affected undergoer.

2 On  $\emptyset$ - 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).

4 (23)a.  $\emptyset$ -seruuk cira.  
5  $\emptyset$ -burp NOM.3SG  
6 ‘He burped.’

b.  $\emptyset$ -seruuk-**an** cira.  
 $\emptyset$ -burp-LV NOM.3SG  
‘He has the hiccups.’

7 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 *–en*<sup>32</sup> 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).

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

#### 17 **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  $\emptyset$ - as verb stems), like  $\sqrt{\text{dimataq}}$  (25),  $\sqrt{\text{subuc}}$  (27b-c),  $\sqrt{\text{adada}}$

20 (26).  $\sqrt{\text{dimataq}}$  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).

22 (25) **Dimataq-en=tu** [amin k-u ni-ala t-u buting].  
23 carry.on.shoulder-UV=PFV all NOM-NM PFV.NMLZ-take OBL-NM fish  
24 ‘All the caught fish were carried on the shoulder.’

25  $\sqrt{\text{adada}}$  is derived as *u adada* ‘sickness’, as a stative verb stem  $\emptyset$ -*adada* ‘sick, ache,  
26 hurt’, and as *adada-en* ‘be hurt’ (26) which expresses a resultant state (no \**ma-* form),

27 the genitive agent is left unexpressed in (26).

<sup>32</sup> The PAN \*-en patient voice was reconstructed by Wolff (1973: 73).

- 1 (26) Ø-adada-**en** k-ina wawa.  
 2 Ø-hurt-UV NOM-DX child  
 3 ‘The child is hurt.’ (Wacu.023)

4 √*subuc* is interesting in that, apart from its derived noun form *u subuc* ‘birth’ (27a), it  
 5 is derived as an intransitive verb stem *ma-subuc* ‘be born’, or an extended intransitive  
 6 verb *ma-subuc* ‘give birth’, with a non-actor pivot (i.e. the seat of a bodily function)<sup>33</sup>  
 7 and an oblique theme (27b). On the other hand, UV *subuc-en* has a patient pivot and  
 8 means ‘be given birth’ (27c).

- 9 (27)a. Itini i Pokpok **k-u** subuc.  
 10 here LOC Pokpok NOM-NM birth  
 11 ‘(I) was born here at Pokpok.’ (lit. (it is) here at Pokpok the birth) (Flooding.0001)

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

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

18 *Ma-* and *-en* have undergoer pivots, but *ma-* is restricted to specific verb classes,  
 19 while *-en* is not and has passive properties.<sup>34</sup> The genitive agent is optional for V-*en* or  
 20 *ma-V*, but while genitive agents of V-*en* must be animate and intentional, no such  
 21 restriction applies to UV *ma-* or LOC *-an* verb stems. UV *-en* also expresses impersonal  
 22 passives (Chen 1987).

### 23 **B. Manner of action verbs derived from entity-denoting roots by *-en***

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

<sup>33</sup> *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).

<sup>34</sup> *Mi-* and *ma-* do not express active vs. passive voice alternations.

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>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*,  $\emptyset$ - verb stems as *sa-pi-*, *sa-ka-*,  
 24 *sa- $\emptyset$ -* stems (i) into instrumental, purposive event nominals (§3.4.2), or (iii) into  
 25 applicative, alignment changing instrumental voice (§3.4.3).

1 Starosta, Pawley, Reid (1982) consider noun-derivation as the primary function of the  
 2 PAN instrumental affix, the verbal instrumental voice function being a later  
 3 development.

4		
5	INSTR. NOUNS DERIVED	<u>from</u> ROOTS
6	(§3.4.1)	<b>u sa-</b> noun stems
7	SECONDARY DERIVATION	<u>from</u> 1 <sup>ary</sup> DERIVED VERB STEMS
8	as INSTR. EVENT NOMINALS (§3.4.2)	<b>u sa-pi-, sa-ka-, sa-Ø-</b>
9	APPLICATIVE INSTR. VOICE	<u>from</u> 1 <sup>ary</sup> DERIVED VERB STEMS
10	(alignment changing) (§3.4.3)	<b>sa-pi-, sa-ka-, sa-Ø-</b> verb stems

11 Figure 3. Primary and secondary instrumental derivation

12 **3.4.1. Instrument nouns derived by sa- from roots**

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

17 **3.4.2. Secondary derivation: instrumental, purposive event nominals**

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

23 (30) [U sakubad n-u ayam] [**k-u** sa-ka-baher].  
 24 NM wing GEN-NM bird NOM-NM INST-NFIN-fly  
 25 ‘It’s *bird’s wings* that were used to fly.’ (lit. the instrument for flying)

26 Like all nouns, these deverbal event nouns may function as argument (30), predicate  
 27 (31), or modifier (32). In (31), *u sa-pi-maan*<sup>35</sup> is predicative. In (32-33), which are  
 28 modifying [modifier LNK modified] constructions, the deverbal event noun *sa-pi-kasui tu*

<sup>35</sup> The interrogative root  $\sqrt{\text{maan}}$  is derived as a noun *u maan?* ‘a what?’, and as an AV verb stem *mi-maan?* ‘do what?’.

1 *kilang* (from *mi-kasui* ‘get fire-wood’) modifies *u bunus*, just as *sa-pi-buting* (from *mi-*  
 2 *buting* ‘to fish’) modifies *u sarepet* (33). These deverbal nouns retain verbal properties  
 3 and may govern oblique themes, like *t-u kilang* in (32), they have gerund properties.

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

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

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

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

### 15 3.4.3. Secondary instrumental derivation: *sa-pi-*, *sa-ka-*, *sa-Ø-*

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

21 (34) **Sa-pi-dimataq** numaku<sup>36</sup> k-ina unuc.  
 22 INST-NFIN-carry.on.shoulder GEN.1SG NOM-DX carrying-pole  
 23 ‘I used that carrying-pole to carry it.’ (lit. the carrying-pole is used by me to carry)

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

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

<sup>36</sup> The genitive agent is marked either as a clitic =*aku* or in its full form *numaku*.

1 secondary, alignment changing derivations as *sa-pi-*, *sa-ka-*, *sa-Ø* verb stems, and  
 2 whose argument structure displays a nominative pivot which must refer to the  
 3 instrument or the purpose of action.

#### 4 **3.5. The conveyance and benefactive *si-***

5 We now turn to the benefactive-conveyance affix *si-*, which is cognate with the  
 6 reconstructed PAN affix \*Si- (Blust 1999, 2013); Ross (1995: 758) also reconstructs  
 7 \*Si- ‘carry, wear’.<sup>37</sup> Conveyance *si-* is affixed to roots as primary derivation; it is also  
 8 affixed to already derived verb stems as a secondary applicative voice morpheme. Verb  
 9 stems primarily derived from entity-denoting roots by conveyance *si* (glossed CONV)<sup>38</sup>  
 10 express some transfer such as ‘get, convey x’ (§3.5.1). On the other hand, the  
 11 applicative conveyance voice affix *si-* (glossed CV) is hosted by already derived verb  
 12 stems as *si-pi-*, *si-ka-* verbs, whose pivot must be a transported theme or a beneficiary  
 13 (§3.5.2).

##### 14 **3.5.1. Conveyance *si-* on entity-denoting roots**

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

---

<sup>37</sup> Teng (2014) also distinguishes the two forms, based on reflexes in different languages.

<sup>38</sup> Possibly cognate with \*Si ‘carry’.

<sup>39</sup> 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-*.

1 (36)a. **Si**-cabay=tu haw **t-u** babahi **ci** Buting ?  
 2 CONV-partner=PFV QM OBL-NM woman PN.NOM Buting  
 3 ‘Has Buting got a girl-friend ?’

4 (36)b. Tala lutuk k-uhni **si**-hawan.  
 5 go mountain NOM-3PL CONV-machete  
 6 ‘They went to the mountain carrying a machete.’

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

9 (37)a. **Si**-adada k-u wadis.  
 10 CONV-ache NOM-NM tooth  
 11 ‘(I)’ve got tooth-ache.’

12 (37)b. **Si**-adada-**ay** k-aku t-unian u tangnyaopin.<sup>40</sup>  
 13 CONV-ache-NMLZ NOM-1SG OBL-DX NM diabetes  
 14 ‘I’ve got diabetes/I’m (a) sick (one) from diabetes.’ (Urip nu Balah.077)

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

16 *u mata* ‘eye’ > *si-mata* ‘get eye/vision’ > *u si-mata-ay* ‘a seer’ (of spirits)  
 17 *u kawas* ‘spirit’ > *si-kawas* ‘get spirit’ > *u si-kawas-ay* ‘a shaman’  
 18 *u kumes* ‘hair’ > *si-kumes* ‘get hair’ > *u si-kumes-ay* ‘a hairy, furry x’  
 19 *u tangal* ‘head’ > *si-tangal* ‘be clever’ > *u si-tangal-ay* ‘a clever person’<sup>41</sup>  
 20 *u banaq* ‘knowledge’ > *si-banaq* ‘get knowledge’ > *u si-banaq-ay* ‘a learned person’

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

25 (38)a. Ta-lumaq a **pa-si-banaq** i ci baki-an.  
 26 go-home CMP CAUS-CONV-know(ledge) LOC PM grandfather-LOC  
 27 ‘(they) went home to tell Grand-father.’ (Lalagawan.042)

28 (38)b. **Pa-si-banaq-en** n-u Arakakay k-u lisin n-u tamdaw.  
 29 CAUS-CONV-know(ledge)-UV GEN-NM A. NOM-NM rite GEN-NM people  
 30 ‘The rites of men were taught by the Arakakay bird.’ (Arakakay.001)

### 31 3.5.2. The applicative conveyance voice affix *si-*

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

<sup>40</sup> Borrowed from Mandarin *tángniàobìng* 糖尿病.

<sup>41</sup> *Tangal* ‘head’ is distinct from *punuq* ‘brain’.



1 optional genitive agent, thus with UV alignment.

2 (39) *Si-pi-balah n-ira hungti k-ira tatakulaq i hina-sera.*  
 3 CV-NFIN-reject GEN-3SG king NOM-DX frog LOC ground  
 4 ‘The king threw the frog onto the ground.’ (Tatakulaq atu Hungti.110)

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

11 (40)a. *Si-pa-cahcah cira i niyaruq n-u Balaisan.*  
 12 CV-CAUS-wander NOM.3SG LOC village GEN-NM Balaisan  
 13 ‘He was washed ashore at the village of the Balaisan.’ (Maciwciw.012)

14 (40)b. *Si-pa-cakay<sup>42</sup> numaku k-u seraq i cabay=aku.*  
 15 CV-CAUS-trade GEN.1SG NOM-NM land LOC friend GEN.1SG  
 16 ‘I sold the land to my friend.’ (Urip nu Balah.077)

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

### 19 3.6. The case of caused transfer *pa-* and causative *pa-* : valency increase

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

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

<sup>42</sup>  $\sqrt{cakay}$  is derived as *mi-cakay* ‘buy’ and *pa-cakay* ‘sell’.

<sup>43</sup> Kuo (2015) also makes use of the notion of caused transfer.

1 cognition, position and motion denoting roots. Lastly, *pa-* is affixed to already derived  
 2 verb stems as secondary derivation *pa-pi-*, *pa-ka-* and *pa-Ø-* stems (§3.6.3) with  
 3 causative-indirective meaning (i.e. make someone do something) (Shibatani and  
 4 Pardeshi 2002).

### 5 **3.6.1. Deriving entity-denoting roots into caused transfer *pa-* verb stems**

6 Some entity-denoting roots are derived by *pa-* into caused transfer verb stems, like  
 7  $\sqrt{\text{cilah}}$  (*u cilah* ‘salt’) and *pa-cilah* ‘to salt’ (no *\*mi-* derivation, not even with the  
 8 meaning ‘get salt’)<sup>44</sup>;  $\sqrt{\text{qepah}}$  (*u qepah* ‘alcohol’) is derived as *pa-qepah* ‘put alcohol’  
 9 (compare with *mi-sa-qepah* ‘make alcohol’, no *\*mi-qepah* form);  $\sqrt{\text{lunan}}$  is derived as *u*  
 10 *lunan* ‘boat’, *pa-lunan* ‘steer, row a boat’ (no *\*mi-* or *\*ma-* forms). These *pa-* verb  
 11 stems have default AV alignment.

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

#### 20 - Alignment of caused transfer *pa-* stems

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

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<sup>44</sup> The stative property is expressed by a distinct Ø-root *ahcid* ‘salty, salted’, which disallows *\*ma-ahcid*.

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

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

7 The root  $\sqrt{\text{radiw}}$  is derived as *u radiw* ‘song’, as AV *r<em>adiw* ‘sing’, as a caused,  
 8 assistive<sup>45</sup> process *pa-radiw* ‘lead a song’ (43). The actor noun *pa-radiw-ay* ‘song  
 9 leader, lead singer’ is a secondary derivation (44).

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

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

16 These *pa-* verb stems may host other voices. For instance, the AV aligned caused  
 17 transfer, assistive process *pa-huting* ‘take (animals) to pasture’ (45a) ( $\sqrt{\text{huting}}$ , *u huting*  
 18 ‘pasture’), is further derived as UV *-en* with an undergoer nominative pivot and a  
 19 genitive agent (45b).

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

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

26 The caused transfer verb stem *pa-bekluh* ‘put stones’<sup>46</sup> is suffixed by the applicative  
 27 locative voice as *pa-bekluh-an* (lit. it was paved/filled with stones) (46), and selects a  
 28 location as its nominative pivot, which is left unexpressed in (46), but is coreferent with  
 29 *sera* ‘land’. The root  $\sqrt{\text{bek(e)luh}}$  is also derived as *u bek(e)luh* ‘stone’, and *mi-bekluh*  
 30 ‘collect stones’.

<sup>45</sup> See Shibatani & Pardeshi (2002) for the notion of assisted causative.

<sup>46</sup> But ‘throw stones’ is expressed by a distinct stem *mi-alud*.

- 1 (46) *Mi-sa-rebung k-ira sera, pa-bekluh-an=aku a mi-selen.*  
 2 AV-do-hole NOM-DX land CAUS-stone-LV=GEN.1SG COMP AV-fill  
 3 ‘This land is caving in, I put stones to even it up.’

4 The root  $\sqrt{\text{ngangan}}$  is similarly derived as *u ngangan* ‘name’, as a caused transfer *pa-*  
 5 *ngangan* ‘to name, give a name’ marked for locative voice in (47) (no \**mi-* derivation).

- 6 (47) **Pa-ngangan-an** n-u Pangcah (cira).  
 7 CAUS-name-LV GEN-NM Amis NOM.3SG  
 8 ‘(He) was [so] given an Amis name.’ (Quner.015)

### 9 3.6.1.1. Comparing *mi-* verb stems with caused transfer *pa-* verb stems

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

13	$\sqrt{\text{cudad}}$	<i>u cudad</i> ‘letter, book’	<i>mi-cudad</i> ‘study’	<i>pa-cudad</i> ‘write a letter’
14	$\sqrt{\text{icep}}$	<i>u icep</i> ‘betelnut’	<i>mi-icep</i> ‘chew betelnut’	<i>pa-icep</i> ‘give betelnut to s.o.’
15	$\sqrt{\text{kasui}}$	<i>u kasui</i> ‘fire-wood’	<i>mi-kasui</i> ‘go cut wood’	<i>pa-kasui</i> <sup>47</sup> ‘fuel wood’ (in the fire)
16	$\sqrt{\text{habay}}$	<i>u habay</i> ‘millet’	<i>mi-habay</i> ‘harvest millet’	
17	$\sqrt{\text{nanum}}$	<i>u nanum</i> ‘water’	<i>mi-nanum</i> ‘drink water’	<i>pa-nanum</i> ‘give water, to water’
18	$\sqrt{\text{bekluh}}$	<i>u bekluh</i> ‘stone’	<i>mi-bekluh</i> ‘collect stones’	<i>pa-bekluh</i> ‘put stones’

### 19 3.6.1.2. Comparing conveyance *si-* with caused transfer *pa-* verb stems

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

23	$\sqrt{\text{budui}}$	<i>u budui</i> ‘clothes’	<i>si-budui</i> ‘be dressed up’	<i>pa-budui</i> ‘dress s.o.’
24	$\sqrt{\text{cael}}$	<i>u cael</i> ‘necklace’	<i>si-cael</i> ‘wear a necklace’	<i>pa-cael</i> ‘put around neck’
25	$\sqrt{\text{cabay}}$	<i>u cabay</i> ‘partner’	<i>si-cabay</i> ‘have, get a partner’	<i>pa-cabay</i> ‘accompany’
26	$\sqrt{\text{labang}}$	<i>u labang</i> ‘guest’	<i>si-labang</i> ‘have guests’	<i>pa-labang</i> ‘host, greet’
27	$\sqrt{\text{kawas}}$	<i>u kawas</i> ‘spirit’	<i>si-kawas</i> ‘host spirit, haunted’	<i>pa-kawas</i> ‘act as a shaman’

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

<sup>47</sup> *Pa-kasui han k-ira lamal* ‘fuel wood to the fire’ (lit. the fire is wood-fueled).  
 CAUS-wood do.so NOM-DX fire

1 be derived by *pa-* into a causative verb *pa-[si-kawas-ay]* ‘call a shaman for  
2 consultation’.

3 **3.6.1.3. Comparing caused transfer *pa-* with stative *ma-* verb stems**

4 - Roots denoting atmospheric, natural elements. Stative verb stems can be derived from  
5 such roots by *ma-*, as well as *pa-* stems expressing caused transfer with increased  
6 valency and a different meaning. Compare *ma-bali* ‘be windy’ with *pa-bali* ‘inflate’ (*u*  
7 *bali* ‘wind’); *ma-cidal* ‘be sunny’ with *pa-cidal* ‘put in the sun, sunbathe’ (*u* *cidal*  
8 ‘sun’).

9 - Roots denoting bodily functions, properties, feelings or psychological features also  
10 host both affixes with distinct meanings, showing the compositional effects of the  
11 combination of roots and affixes.

12	$\sqrt{\text{hanhan}}$	<i>u hanhan</i> ‘breath, rest’	<i>ma-hanhan</i> ‘breathe’	<i>pa-hanhan</i> ‘rest’
13	$\sqrt{\text{urip}}$	<i>u urip</i> ‘life’	<i>ma-urip</i> ‘be alive’	<i>pa-urip</i> ‘revive’
14	$\sqrt{\text{seneng}}$	<i>u seneng</i> ‘pride’	<i>ma-seneng</i> ‘be proud’	<i>pa-seneng</i> ‘boast about’

15 **3.6.2. Deriving causative *pa-* verb stems from other root types**

16 Causative *pa-* verb stems are also derived from property, perception, cognition,  
17 grooming, position, motion roots, then expressing some caused transfer, caused  
18 change (of property, position) or caused motion with increased valency. For instance:

19 - Perception or cognition roots like  $\sqrt{\text{tengil}}$  ‘hear, audition’<sup>48</sup> are derived by *pa-* into  
20 causative assistive verbs. Compare *pa-tengil* ‘explain’ with *ma-tengil* ‘hear’ and *mi-*  
21 *tengil* ‘listen’.

22 - Roots expressing grooming, position, configuration, are derived by *pa-* to form  
23 transitive, caused transfer verbs. Compare *pa-silsil* ‘lay sthg out’ with *ma-silsil* ‘stand  
24 in line’ and *mi-silsil* ‘arrange, lay out’.

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<sup>48</sup> The derived noun form is *u tengil=aku* (lit. (according to) my hearing) ‘as I heard (it)’.

1 - Some intransitive motion roots are derived by *pa-* as transitive, caused transfer *pa-Ø-*  
 2 verb stems, like *ta-ngasa* ‘arrive, reach’ > *pa-Ø-ta-ngasa* ‘transmit, pass on’; *ta-hkal*  
 3 ‘go out, appear’, *pa-Ø-ta-hkal* ‘take out’; *tayra* ‘go’, *pa-Ø-tayra* ‘take, send’; *tayni*  
 4 ‘come’, *pa-Ø-tayni* ‘bring’ (48a); *kalamkam* ‘hasten, hurry’, *pa-Ø-kalamkam* ‘cause to  
 5 hurry’. They have default AV alignment as in (48a), but may host *-en* with UV  
 6 alignment (i.e. nominative undergoer pivot, genitive agent) as in (48b).

7 (48)a. Pa-Ø-tayni cira to baro saka itakoan.  
 8 CAUS-Ø-come.here NOM.3SG OBL.NM flower for OBL.1SG  
 9 ‘He brought some flowers for me.’ (Chen 1987:66)

10 (48)b. Pa-Ø-tayni-en n-uhni i ci Balah-an.  
 11 CAUS-Ø-come.here-UV GEN-3PL LOC PN Balah-OBL  
 12 ‘(They) were brought by them to Balah.

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

18	ROOT	NOUN	STATIVE VERB	CAUSATIVE VERB
19	√ <i>bangsis</i>		<i>Ø-bangsis</i> ‘fragrant’	<i>pa-Ø-bangsis</i> ‘make tasty’
20	√ <i>atekak</i>	<i>u atekak</i> ‘hardness’	<i>Ø-atekak</i> ‘hard’	<i>pa-ka-atekak</i> ‘harden, solidify’
21	√ <i>suqmet</i>	<i>u suqmet</i> ‘moisture’	<i>ma-suqmet</i> ‘damp’	<i>pa-ka-suqmet</i> ‘dampen, humidify’
22	√ <i>susu</i>	<i>u susu</i> ‘grease, fat’	<i>ma-susu</i> <sup>49</sup> ‘be fat’	<i>pa-ka-susu</i> ‘fatten’
23	√ <i>biyaraw</i>	<i>u biyaraw</i> ‘anxiety’	<i>ma-biyaraw</i> ‘anxious’	<i>pa-ka-biyaraw</i> ‘make anxious’

24 (49) Pa-ka-biyaraw k-isu itakuwan.  
 25 CAUS-NFIN-anxious NOM-2SG OBL.1SG  
 26 ‘You make me anxious.’

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

29 (50) Pa-ka-atekak-en.  
 30 CAUS-NFIN-hard-UV  
 31 ‘(it) was strengthened, solidified.’

<sup>49</sup> It may host the perfect marker =*tu* then expressing phasal changes as in *ma-susu=tu cira* ‘(s)he has put on weight’.

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

4 **3.6.3. Causative-indirective *pa-pi-*, *pa-ka-* verb stems**

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

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

14 Compare (i) AV *mi-nanum* ‘drink’ (53a), with (ii) the AV aligned caused transfer,  
 15 assistive *pa-nanum* ‘to water, to give water’ (53b), and (iii) with the causative-  
 16 indirective construction *pa-pi-nanum* in (53c) which is marked by UV *-en* (i.e. with a  
 17 nominative effector acted upon by a genitive initiator, which is left unexpressed in  
 18 (53c)).

- 19 (53)a. Mi-nanum cira.  
 20 AV-water NOM.3SG  
 21 ‘He’s drinking water.’  
 22 (53)b. Pa-nanum k-aku t-u ma-tuas-ay.  
 23 CAUS-water NOM-1SG OBL-NM UV-old-NMLZ  
 24 ‘I offer water to the old ones.’  
 25 (53)c. Pa-pi-nanum-en cira.  
 26 CAUS-NFIN-water-UV NOM.3SG  
 27 ‘He was made to drink water.’

28 Similarly, a caused transfer, assistive verb stem *pa-liluc* ‘give a bath’ is derived from  
 29 the root  $\sqrt{liluc}$  ‘bath(e)’. It hosts UV *-en* in (54a), while *pa-pi-liluc-en* in (54b) is a  
 30 secondary, indirective construction with UV *-en*, thus with a nominative effector acted  
 31 upon by a genitive initiator (compare with *mi-liluc* ‘bathe’).

- 1 (54)a. Pa-liluc-en=aku k-u wawa.  
 2 CAUS-bath-UV=GEN.1SG NOM-NM child  
 3 ‘I gave the child a bath.’ (lit. the child was given a bath by me) (U lisiin.093)
- 4 (54)b. Pa-pi-liluc-en k-aku n-ira.  
 5 CAUS-NFIN-bath-UV NOM-1SG GEN-3SG  
 6 ‘She made me have a bath.’ (lit. I was made to have a bath by her)

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

### 21 **3.7. Derivational aspectual affixes**

22 We now consider some affixes which conflate derivational and inflectional, aspectual  
 23 features: they are (i) inchoative AV *mi-sa-* or NAV *ma-sa-*, (ii) ongoing or immediate  
 24 process *mah(a)-*, (iii) change of state *mala-*. Like voice affixes, these affixes select roots  
 25 with specific ontologies. They are all affixed to entity-denoting roots. *Mi-sa-* and *mala-*  
 26 also derive verb stems from property-denoting roots, inchoative verbs with *mi-sa-* and  
 27 verbs denoting some change of state with *mala-*. *Mah(a)-* is also affixed to action or  
 28 motion denoting roots; the derived verb stems express immediate, ongoing process.



1 These affixes also display nonfinite forms such as (i) *mi-sa-* > *pi-sa-*, (ii) *mah(a)-* >  
 2 *kah(a)-*, (iii) *mala-* > *kala-* and causative *pala-*.

### 3 **3.7.1. Inchoative actions, transformation activities: *mi-sa-* derivations**

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

#### 7 **A. On entity-denoting roots**

8 Entity-denoting roots are derived by *mi-sa-* into activity verbs expressing some creation,  
 9 processing or transformation applied to or conducted with the entity, like *mi-sa-lumaq*  
 10 ‘build a house’ (*u lumaq* ‘house’), *mi-sa-tebun* ‘dig a well’ (*u tebun* ‘well’), *mi-sa-turun*  
 11 ‘make turun’ (*u turun* ‘rice-pudding’), *mi-sa-lunan* ‘build a boat’ (*u lunan* ‘boat’), *mi-*  
 12 *sa-waneng*<sup>50</sup> ‘make honey’ (*u waneng* ‘sugar’), and more unexpectedly *mi-sa-ayam*  
 13 ‘feed, raise (the) hens’ (*u ayam* ‘hen’), *mi-sa-badisusug* ‘grow grapes (or) use grapes  
 14 for’ (*u badisusug* ‘grapes’). None of the preceding stems host *mi-*, only *mi-sa-*.

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

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

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<sup>50</sup> *Mi-sa-waneng ku udal* ‘the bee makes honey’.

1 (55) U maan a ayam-an [k-u mi-sa-dipung-ay] ?  
 2 NM what.sort LNK bird-COLL NOM-NM AV-do-nest-NMLZ  
 3 ‘What kind of bird makes that nest ?’ (lit. ... is the nestmaker ?)

4 **B. On stative, property-denoting roots**

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

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

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

17 (56) Ma-sa-kaput k-uhni.  
 18 NAV-do-team NOM-3PL  
 19 ‘They team up.’

20 (57) Ma-sa-muhting k-u pising n-ira.  
 21 NAV-do-black NOM-NM face GEN-3SG  
 22 ‘His face became black.’

23 (58) Ma-sa-terep k-u urad.  
 24 NAV-do-stop NOM-NM rain  
 25 ‘The rain has ceased.’

26 **3.7.2. *Mah(a)-* derivations: immediate, ongoing process**

27 *Mah(a)-* also has derivational and inflectional-aspectual features; it is affixed to entity-  
 28 denoting roots and to action, motion-denoting roots compatible with ongoing processes  
 29 or immediate actions.

1 **A. On entity-denoting roots: *mah-(ka)-* or *mah(a)-Ca-***

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

6 (59)a. Mah(a)-ba-budui k-aku.  
 7 NAV.ASP-Ca.RED-clothes NOM-1SG  
 8 ‘I’m getting dressed.’

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

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

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

18 (60) Mah-ka-tayni cira t-ina ca-cudad-an.<sup>54</sup>  
 19 NAV.ASP-NFIN-arrive NOM.3SG OBL-DX Ca.RED-book-LOC  
 20 ‘He’s just entering this school.’

21 (61) Nanu mah-ka-tangelal k-u remiad.  
 22 since NAV.ASP-NFIN-dawn NOM-NM day  
 23 ‘From the break of dawn.’ (lit. the time of day when dawn is breaking) (Male-  
 24 paliw.013)

25 **3.7.3. Deriving stative roots: *mala-* change of state and *pala-* caused change of state**

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

<sup>51</sup> Affix *mu-* occurs on a few motion denoting roots.

<sup>52</sup> It is not affixed to activity AV *mi-* verb stems. No *\*mah-pi-* form are attested.

<sup>53</sup> Compare with a time noun : *tangasa i ka-tangelal=tu nu remiad* ‘until the day has dawned’ (LOC NFIN-dawn=PFV GEN day) (lit. until the dawning of day) (Mosi.041)

<sup>54</sup> *Ca-cudad-an* ‘school’ (lit. place where one studies); *u cudad* ‘book, letter’.

1 **A. Entity-denoting roots: expressing a change of state**

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

5 (62)a. Mala-qepah<sup>55</sup> k-u nanum.  
 6 BECOME-alcohol NOM-NM water  
 7 ‘The water is changed into wine.’ (lit. ‘winised’)

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

11 Also consider *mala-heci* ‘become fruitful, be fulfilled’ and *pala-heci* ‘cause to  
 12 become fruitful’ which are derived from  $\sqrt{heci}$  (*u heci* ‘fruit, result’).

13 **B. Stative, property roots**

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

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

20 (63)b. Caay kala-lahngang k-u cengel=isu.  
 21 NEG NFIN.BECOME-brown.red NOM-NM colour=GEN.2SG  
 22 ‘Your colour has not changed to brownish red.’  
 23

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

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<sup>55</sup> Compare *mi-sa-qepah* ‘make alcohol’, *pa-qepah* ‘give alcohol to drink’.

1 **3.8. Category-changing derivation of verb stems**

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

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

11 **3.8.1. Deverbal Actor or Undergoer nouns derived by *-ay***

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

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

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<sup>56</sup> From the root  $\sqrt{kawa}$ , 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’.

1 Deverbal *ma-...-ay* nouns derived from intransitive *ma-* verb stems denote  
 2 occupation, status, properties and seats of properties (the x with property y). *Ma-...-ay*  
 3 nouns derived from intransitive *ma-* position verbs and *ma-* motion verbs denote entities  
 4 engaged in motion, like *u ma-baher-ay* ‘the flying x’, or entities in a given position like  
 5 *ma-bukakang-ay* ‘the lying x’ (67).  $\emptyset$ - deictic motion verb stems are also nominalised  
 6 as  $\emptyset$ -...-ay forms as in (65):

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

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

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

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

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

### 26 3.8.2. Event nouns derived with perfective *ni-*

27 Perfective event nominals are secondary derivations. They are derived by means of the  
 28 nominaliser *ni-* which has derivational and inflectional-aspectual features.

1 **A. Perfective event nominals derived from *mi-* and *ma-* stems**

2 *Ni-* is prefixed to nonfinite verb stems to produce *ni-pi-*, *ni-ka-*, *ni-Ø-* stems. Thus, AV  
 3 *mi-patay* ‘kill’ is nominalised as *u ni-pi-patay* ‘the killing’, while NAV *ma-patay* ‘die’  
 4 is nominalised as *u ni-ka-patay* ‘death, the fact of dying’, which is the nominative pivot  
 5 of *ma-melaw* ‘see’ in (68).

6 (68) Ma-melaw n-uhni k-u **ni-ka**-patay n-u hitai.  
 7 NAV-see GEN-3PL NOM-NM PFV.NMLZ-NFIN-die NOM-NM soldier  
 8 ‘They saw the dying soldiers.’ (lit. the dying of soldiers) (Mosi.051)

9 In (69), the perfective event noun *u ni-pi-kasui*, derived from *mi-kasui* ‘cut/get  
 10 firewood’, is the nominative pivot of the quantifier predicate *adihay*:

11 (69) Ø-adihay=tu k-u **ni-pi**-kasui, ta-lumaq=tu cira.  
 12 Ø-be.numerous=PFV NOM-NM PFV.NMLZ-NFIN-wood go-home=PFV NOM.3SG  
 13 ‘A lot of firewood had been cut, he went back home.’ (lit. the woodcutting was  
 14 abundant ...)

15 Some of these deverbal event nouns, like *ni-ka-herek* (70), retain verbal properties  
 16 and govern an oblique argument. *Ni-ka-herek* is secondarily derived from *ma-herek* ‘be  
 17 finished’, while the noun *u herek* is derived from the root  $\sqrt{\text{herek}}$ , as in *awaay k-u herek*  
 18 (NEG.EXS NOM-NM end) ‘there is no end’.

19 (70) ...Ø-tangasa i **ni-ka**-herek t-u demak a ma-pa-paliw.  
 20 Ø-arrive LOC PFV.NMLZ-NFIN-end OBL-NM work COMP NAV-Ca.RED-partner  
 21 ‘until the ending of the work for which they collaborate.’ (lit. until finishing the  
 22 work ...) (Male-paliw.027)

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

24 Verb stems in locative voice *V-an*, are derived by *ni- ...-an* into perfective event nouns.  
 25 They have all the functions of nouns: argument (71a), predicative and modifying (72).  
 26 In the cleft construction (71a), the deverbal noun *k-u ni-subaw-an n-ira* is the  
 27 nominative argument of the predicative numeral expression *tusa a karias*. Compare  
 28 with the declarative clause (71b), where *tusa a karias* ‘two plates’ is the nominative  
 29 undergoer pivot of the verb in locative voice *subaw-an*.

1 (71)a. [Tada tusa a karias] [**k-u ni-subaw-an** n-ira].  
 2 DEGREE two LNK plate NOM-NM PFV.NMLZ-wash-LV GEN-3SG  
 3 ‘She has merely washed 2 plates.’ (lit. it’s merely 2 plates (those) washed by her)  
 4 (Masasiyay a tatusa.027)

5 (71)b. Subaw-**an** n-ira k-u tusa a karias.  
 6 wash-LV GEN.3SG NOM-NM two LNK plate  
 7 ‘She washed two plates.’ (lit. 2 plates were washed by her)

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

12 (72)a. Sa-pi-maan=isu [**k-ina [ni-sa-ngasib-an a]** nanum] ?  
 13 INST-NFIN-do.what=GEN.2SG NOM-DX PFV.NMLZ-do-boil-LV LNK water  
 14 ‘What did you boil this water for?’ (lit. this boiled water is for you to do what?)

15 (72)b. Sa-ngasib-**an** n-ira k-ina nanum.  
 16 do-boil-LV GEN-3SG NOM-DX water  
 17 ‘She boiled this water.’ (lit. this water was boiled by her)

18 Some of these perfective deverbal nouns are lexicalised and denote entities rather  
 19 than events, like *ni-buting-an*<sup>57</sup> ‘a catch of fish’, *ni-kulit-an* ‘a drawing’ ( $\sqrt{\text{kulit}}$ , *u kulit*  
 20 ‘colour’, *mi-kulit* ‘draw’), *ni-surit-an* ‘written words’ ( $\sqrt{\text{surit}}$ , *u surit* ‘sign, inscription’,  
 21 *mi-surit* ‘write’).

### 22 3.8.3. Distinguishing perfective event nominals from stative, abstract nouns

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

	STATIVE DEVERBAL NOUN	PERFECTIVE DEVERBAL NOUN	
27	<i>ma-umah</i> ‘cultivate’	<i>ka-umah-an</i> ‘cultivation’	<i>ni-ka-umah-an</i> ‘cultivated crops’
28	<i>k&lt;em&gt;aen</i> ‘eat’	<i>ka-kaen-an</i> ‘edibles’	<i>ni-kaen-an</i> ‘eaten food’
29	<i>ma-urip</i> ‘live’	<i>ka-urip-an</i> ‘life (style)’	<i>ni-ka-urip</i> ‘(course of) life’

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

<sup>57</sup> *Ni-buting-an numaku* ‘(it)’s my catch of fish, it was angled by me’.



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

2 (73) Ira=tu k-u sadak n-u **ni-ka-umah-an** n-u ma-umah-ay.  
 3 EXS=PFV NOM-NM growth GEN-NM PFV.NMLZ-NFIN-field-LV GEN-NM NAV- field-NMLZ.  
 4 ‘There was the growth of the crops cultivated by the farmers.’ (Wawa nu  
 5 Ciwidian.051)

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

8 (74)a. U buting k-u **ni-kaen-an** n-u nani anucila.  
 9 NM fish NOM-NM PFV.NMLZ-eat-LV GEN-NM cat yesterday  
 10 ‘It is fish (that) the cat ate.’ (lit. it is fish the (thing) eaten by the cat)

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

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

14 (75)a. I **ni-ka-urip**=aku, ...  
 15 LOC PFV.NMLZ-NFIN-live=GEN.1SG.  
 16 ‘During (the course of) my life/living ...’ (lit. the time lived/experienced by me)

17 (75)b. Manay unian u **ka-urip-an** numita, awaay k-u pinang.  
 18 so that NM NFIN-live-LOC GEN.1PL.INCL NEG.EXS NOM-NM sign  
 19 ‘So (as for) these lives/lifestyles of ours, they were confused.’ (U teker ni  
 20 Adek.015)

21 Stative and abstract nouns are also derived by *ka-...-an* from  $\emptyset$ - verb stems denoting  
 22 states and properties, like *ka-balihdaw-an* ‘anxiety’ (from the psych state  $\emptyset$ -*balihdaw*  
 23 ‘anxious’) and (*ka*)-*tuqman-an* (from  $\emptyset$ -*tuqman* ‘be dark’ (76a)). Like all nouns, they  
 24 have argument, predicate and modifying functions (in 76b-c).

25 (76)a.  $\emptyset$ -tuqman=tu k-u kakarayan.  
 26  $\emptyset$ -dark=PFV NOM-NM sky  
 27 ‘The sky is already dark.’

28 (76)b. **Ka-tuqman-an** a remiad.  
 29 NFIN-dark-LOC LNK day  
 30 ‘It’s a dark day.’

31 (76)c. i [ $\emptyset$ -tuqman-an a] lumaq  
 32 LOC  $\emptyset$ -dark-LOC LNK house  
 33 ‘in the dark house’

#### 34 **3.8.4. Deverbal time or place nouns: *pi-...-an*, *ka-...-an***

35 Like the abstract, collective nouns in §3.8.3, deverbal time or place nouns are

1 secondary, category-changing derivation from already derived verb stems, occurring as  
 2 nonfinite *pi-...-an*, *ka-...-an*, and  $\emptyset$ -...-*an* stems with the locative nominaliser *-an*.  
 3 Like all nouns, they are functionally flexible, with argument, predicate and modifying  
 4 functions in specific syntactic contexts.

5 **A. Deverbal time or place nouns from *mi*-verb stems: *pi-...-an***

6 Some examples of time and place nouns are *u pi-telub-an* ‘time for wrestling’ (from *mi-*  
 7 *telub* ‘to wrestle’), *u pi-adup-an* ‘hunting time/place’ (from *mi-adup* ‘hunt’), *u pi-sa-*  
 8 *badisusuq-an* ‘time to plant grapes’ (from *mi-sa-badisusuq* ‘grow grapes’), *u pi-buting-*  
 9 *an* ‘fishing place/time’ (77) (from *mi-buting* ‘to fish’), *u pi-sadipit-an* ‘the place where  
 10 shell-fish are collected’ (from *mi-sadipit* ‘collect shell-fish’)<sup>58</sup> (78).

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

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

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

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

24 **B. Place and time nouns derived from *ma*-verb stems: *ka-...-an***

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

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<sup>58</sup>  $\surd$ *badisusuq* is also derived as *u badisusuq* ‘grapes’,  $\surd$ *buting* as *u buting* ‘fish’,  $\surd$ *sadipit* as *u sadipit* shell-fish’.

1 ‘bedroom, place to sleep’ (from *ma-butiq*<sup>59</sup> ‘to sleep’), which is distinct from a  
 2 perfective event noun such as *i ni-ka-butiq-an* ‘in/during his sleep’. Among derived  
 3 time nouns are *u ka-bali-an* ‘windy season’ (from *ma-bali* ‘be windy’, *u bali* ‘wind’), *u*  
 4 *ka-subuc-an* ‘birthday’ (79) (from the natural function verb *ma-subuc* ‘give birth’). Like  
 5 all nouns, they have predicate (79a) or argument (79b) functions.

6 (79)a. U ka-subuc-an n-i Balah anini a remiad.

7 NM NFIN-be.born-LOC GEN-PN B. now LNK day

8 ‘It is Balah's birthday today.’ (Kasubucan.001)

9 (79)b. Na itini i Pukpuk k-u ka-subuc-an.

10 PAST here LOC P. NOM-NM NFIN-be.born-LOC

11 ‘(He) was born here in Pukpuk.’ (lit. it was here in P. his birthplace) (Labang  
 12 Umah.006).

13 Motion *ma-* stems are similarly derived: like *u ka-bekac-an* ‘stadium’ (from  $\sqrt{\text{bekac}}$ ,

14 *ma-bekac* ‘run’, *u bekac* ‘speed, race’); *ka-sadak-an* ‘place or time where x rise’ (80)

15 (from  $\sqrt{\text{sadak}}$ , *ma-sadak* ‘come up, rise, grow’, *u sadak* ‘origin, growth’).

16 (80) i ka-sadak-an n-u cidal

17 LOC NFIN-rise-LOC GEN-NM sun

18 ‘at sunrise/dawn’ (lit. at the rise of the sun)

19 **C. Locative, time nouns derived from stative  $\emptyset$ - stems: *ka-...-an***

20 Time nouns are similarly derived from ambient  $\emptyset$ - verb stems like *ka-siqnaw-an*

21 ‘winter, cold season’ in (81b), ( $\sqrt{\text{siqnaw}}$  is derived as  $\emptyset$ -*siqnaw* ‘be cold’, *u siqnaw* ‘the

22 cold’).

23 (81)a.  $\emptyset$ -siqnaw k-u remiad.

24  $\emptyset$ -cold NOM-NM day

25 ‘It’s a cold day.’

26 (81)b. Ka-siqnaw-an anini k-ina remiad.

27 NFIN-cold-LOC today NOM-DX day

28 ‘Today it is a winter-cold day.’

29 **3.9. Asymmetrical functional flexibility of derived noun and verb stems**

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

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<sup>59</sup>  $\sqrt{\text{butiq}}$  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’.

1 derived nouns, pronouns, numerals) can be predicative in equative, ascriptive, or focus  
 2 constructions. In Amis, as in Nêlêmwa, the predicate is in sentence initial position. As  
 3 in Nêlêmwa, functional flexibility is asymmetrical, non-bidirectional. In Amis, <u noun  
 4 stems> can be predicative without category-changing derivation, while primarily  
 5 derived *mi-*, *ma-* or  $\emptyset$ - verb stems undergo category-changing derivation in order to  
 6 function as arguments or as modifiers. In the cleft construction (82a), *u tumay* is the  
 7 focused predicative noun, its nominative argument is a gerund deverbal noun *k<em>an-*  
 8 *ay* which governs an argument (*tu tamdaw*). Compare with the declarative clause (82b).

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

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

15 Examples (82-83) show the lack of bidirectional equivalence between nominal and  
 16 verbal word forms in predicate and argument functions. Verbal and non-verbal word  
 17 forms can be predicates, while verb stems must be nominalised to serve as arguments.  
 18 Nouns in predicate function occur in the verb’s sentence initial position and retain their  
 19 category indicator *u*; besides, like non-active predicates, they are negated by *caay ka*  
 20 (83) (repeated from (78)).

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

#### 24 4. Categorially neutral roots in Amis: towards a conclusion

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

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

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

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

19 Lastly, there are numerous secondary, category-changing, deverbal derivational  
20 affixes deriving abstract, collective nouns, time and location nouns, instrument nouns.  
21 Like other nouns, deverbal nouns have some functional flexibility as predicates,  
22 arguments or modifiers once they are inserted in the appropriate syntactic slot and  
23 construction. Their meaning as argument or as predicate is *in fine* “attributable to the  
24 function of the syntactic position”, thus revealing some compositionality as defined by  
25 Evans and Osada (2005: 367).

1        Yet, functional flexibility is not bidirectional: nouns and derived nouns can be  
2        predicative without any category-changing derivation, while verbs must be nominalised  
3        to function as arguments.

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

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

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

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