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Adnominal Modification: The View from Amis (Formosan)

Isabelle Brill

LACITO-CNRS, LABEX EFL

In Amis, adnominal modifying constructions share a common structural pattern involving, in particular, two suffixes, *-ay* and *-an*. Relative clauses are morphologically more complex; they abide by the subject-only rule, which triggers voice alternations to match the semantic role of the nominative pivot. Relative clauses have the same alignments as independent clauses but contain deranked verb forms. To some limited extent, some of these deranked modifying verb forms may be lexicalized as nouns; this evolution is argued to occur via headless relative clauses, resulting in stand-alone modifiers that may become entrenched as referring nouns. However, this process is distinct from productively derived lexical nouns that make use of distinct morphological processes.

Keywords: Austronesian; Modification; Relative Clauses; Deranking; Nominalization

1. INTRODUCTION.¹ This study bears on Northern Amis, an Austronesian language spoken along the east coast of Taiwan.² Northern Amis is one of four main dialects with significant differences in phonology, lexicon, and morphosyntax.³ The main previous research on this dialect is Chen’s (1987) analysis of the verb classes, the voice system, and the alignment of Natauran Amis (spoken in Hualien). Among the main studies of the other Amis dialects are Wu (2006) on Central Amis and Tsukida (2008) on Fata’an Amis.

The focus of this study is on attributive adnominal modification marked by the suffix *-ay* and the locative suffix *-an*. Modification has the following pattern

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2. Northern Amis is spoken in various villages in, around, and south of the city of Hualien. This study is based on a corpus of recorded data collected over a period of approximately sixteen months of fieldwork. Unless otherwise mentioned, all examples are from my corpus.
3. Tsuchida (1988) identified four main dialects: northern, central, coastal, and southern.

26 [[modifier LNK *a*] modified head], with a final head and the linker *a* marking the
 27 right boundary of the modifier phrase. Relative clauses (RCs) are more com-
 28 plex; they make use of the voice system and have deranked verb forms.⁴

29 RCs are a relatively understudied topic in Amis; Wu briefly discusses it in
 30 Central Amis (2006:361–63), and Liu (1999) mostly discusses the subject-only
 31 constraint. In Wu’s analysis of Central Amis (2003:60–67), *-ay* is identified as an
 32 “epistemic suffix that expresses factuality, also serving as clause modifiers with
 33 ‘adjective-like and RC-like’ functions,” while *-an* is analyzed as a “locative
 34 applicative” in RCs with undergoer pivot (Wu 2006:361–65). Liu (1999) ana-
 35 lyzes *-ay* in Central Amis as a nominalizer. I follow Hsieh’s (2011) analysis
 36 of *-ay* in Kavalan (a neighboring Formosan language) as deriving modifiers;
 37 the functions of *-ay* in Kavalan and Amis are fairly similar despite some
 38 differences.

39 In the present approach, *-ay*⁵ in Northern Amis is analyzed as deriving modi-
 40 fiers that attribute TIME-STABLE properties of INDIVIDUALS; it does not express
 41 any animacy contrasts and has no semantics of its own; the semantic interpre-
 42 tation of the construction results from its combination with the type of lexi-
 43 cal host:

- 44 1. Modifiers derived by *-ay* from nouns, quantifiers, and numerals denote
 45 identifying, TIME-STABLE properties of INDIVIDUALS as defined by
 46 Kratzer (1989).
- 47 2. Modifiers derived from stative/adjectival verbs denote INDIVIDUAL-level,
 48 TIME-STABLE properties.
- 49 3. RCs with voice-affixed verbs derived as modifiers by *-ay* also attribute
 50 properties of INDIVIDUALS; the thematic role of the nominative pivot in
 51 the RC is marked by the matching voice, namely Actor Voice *mi-* with an
 52 actor pivot, stative/Nonactor Voice *ma-* with an experiencer pivot, and
 53 Undergoer Voice *ma-* with a patient pivot.

54
 55 In contrast, modifiers derived by the locative suffix *-an* in (a) and (b) below
 56 are considered to be homophonous with the suffix *-an* occurring on derived
 57 verbs in RCs, though they may very well be originally connected.

- 58 (a) Modifiers derived by *-an* from nouns and some quantifiers refer to prop-
 59 erties that are true of a CLASS of entities; *-an* is loosely locative in
 60 this case.
- 61 (b) Modifiers derived from stative/adjectival verbs are STAGE-LEVEL⁶ modi-
 62 fiers, attributing properties that hold true over a specific period of time; a
 63 stage is defined as a spatiotemporal part of an entity (Kratzer 1989:2).

4. The term “deranked,” originally coined by Stassen (1985:59–60), refers to verb forms departing from the standard verb forms of independent or main clauses by some morpho-syntactic features.

5. It is distinct from the homophonous epistemic voice suffix *-ay* on a number of distributional and functional criteria which are beyond the scope of this article.

6. As defined by Carlson (1980) and Kratzer (1989), among others.

TABLE 1. FORMS AND FUNCTIONS OF ADNOMINAL MODIFICATION.

MODIFIERS derived from NOUNS	stem <i>-ay</i> denotes TIME-STABLE properties of INDIVIDUALS	stem <i>-an</i> denotes properties of a CLASS of entities
MODIFIERS derived from STATIVE/ADJECTIVAL VERBS	Ø-stem <i>-ay</i> denotes INDIVIDUAL-LEVEL, TIME-STABLE properties	Ø-stem <i>-an</i> denotes STAGE-LEVEL transient properties
RCs	with FINITE verb stems <i>mi</i> -stem- <i>ay</i> modify an actor pivot <i>ma</i> -stem- <i>ay</i> modify an experiencer or patient pivot	with NONFINITE verb stems <i>pi</i> -stem- <i>an</i> , <i>ka</i> -stem- <i>an</i> , <i>ka</i> -stem- <i>en</i> modify Undergoer pivots, and time, location noun pivots

64 (c) RCs with nonfinite *pi-...-an*, *ka-...-an*, or *ka-...-en* modifying verb
65 stems have a gapped Undergoer or location pivot; in the latter case, the
66 modifiers express a spatiotemporal property of the head.

67

68 The terms finite and nonfinite, respectively, refer to the morphological *mi*-/
69 *pi*- and *ma/ka*- alternations on verb stems; they are discussed in section 3.1.
70 Table 1 summarizes these forms and functions.

71 The remainder of this article is organized as follows: Modifiers derived from
72 nouns and bare stative/adjectival verbs by *-ay* and *-an* are presented in section 2,
73 while RCs with other verbal (stative, action, and event) modifiers are analyzed
74 from section 3 onward. Sections 4 and 5 tease apart the RCs (i) with finite
75 voice-affixed verbs suffixed by *-ay* from (ii) those with nonfinite *pi-...-an* or
76 *ka-...-an* verb stems. Section 6 discusses the perfective modifying *ni-...-an*
77 and past stative-resultative *na-...-an* stems; section 7 focuses on the modifiers
78 of time and place nouns. Section 8 concludes.

79 **2. MODIFIERS DERIVED BY -AY AND -AN.** Before engaging in the
80 study of modification, some general features of the lexicon are presented.
81 Most lexical roots are categorially neutral; only inflected and derived word
82 forms have categories projected in a syntactic frame. Nouns are generally
83 derived from roots by zero derivation and are flagged by *u* (common nouns),
84 *i* (personal nouns), or by demonstratives; most verb stems (except some stative
85 stems) are derived from roots by voice affixes. There are various category-
86 changing affixes deriving, for instance, modifiers and deverbal nouns (see
87 Brill 2017 for the details).

88 Attributive modifiers are obligatorily derived by *-ay* or *-an*; modifiers
89 derived from nouns, locative nouns, quantifiers, numerals, and from stative/
90 adjectival verbs are first discussed.

91 **2.1. MODIFIERS DERIVED FROM NOUNS AND INDEFINITE**
92 **PRONOUNS.** Modifiers derived from nouns by *-ay* attribute some TIME-
93 STABLE property of INDIVIDUAL entities. For instance, in (1), the noun *kilang*
94 ‘wood’ is derived as a modifier attributing a property to the clogs (**-an* is

95 ungrammatical in this context). The genitive marker *n-u* marks the property as
96 pertaining to the head noun.

- (1) *U* [n-u kilang-ay a] *baqkiya*.⁷
 NM GEN-NM wood-MODF LNK clogs
 ‘(they are) wooden⁸ clogs.’

97 In contrast, modifiers derived from nouns by *-an* attribute a property to a
98 CLASS of entities encompassing a collection or a plurality of tokens. For
99 instance, in (2a), *nu babahi-y-an a demak* generically refers to the work pertain-
100 ing to women (**-ay* is ungrammatical here); it stands in contrast with a posses-
101 sive modifier like *n-iya babahi* in (2b). In examples (1), (2a,b), et seq., the
102 bracketed modifying phrases are embedded between the (case-marked) articles
103 and the final head.

- (2) a. *Mi-padang t-u* [n-u babahi-y-an a]
 AV-help OBL-NM GEN-NM woman-^{EP}-MODF LNK
demak.
 work
 ‘(she) helps with women’s work.’ (with the work pertaining to
 women) (U nipiketun ni Hayan.0101)⁹
- b. *Mi-padang (cira) t-u* [n-iya babahi a]
 AV-help NOM.3SG OBL-NM GEN-DEICT woman LNK
demak.¹⁰
 work
 ‘(she) helps with this woman’s work (or) these women’s work.’

104 In (3), *wacu* ‘dog’ is derived as a modifier characterizing the person’s behav-
105 ior as typical of the class of dogs (**-ay* is ungrammatical). The second position
106 perfect clitic =*tu* is hosted by *wacu-w-an*, which is part of the modifying predi-
107 cate (have the behavior of dogs).

- (3) *U* [n-u wacu-w-an=tu a] *wayway* k-iraan.
 NM GEN-NM dog-^{EP}-MODF=PFV LNK behaviour NOM-DEICT
 ‘This one behaved like a dog.’ (lit. this one had the behavior of dogs)
 (kalalaisan nu Ciwidian.179)

7. Abbreviations: ABILT, abilitative; ASS, assertive marker; AV, actor voice; *Ca-*, *Ca-* reduplication; CAUS, causative; COMP, complementizer; COND, conditional marker; CV, conveyance voice; DEICT, deictic; DISC, discourse marker; ^{EP}, epenthetic; EXCL, exclusive; EXS, existential; FUT, future; GEN, genitive; INCH, inchoative; IMP, imperative; INCL, inclusive; LNK, linker; LV, locative voice; MODF, modifier; NAV, nonactor voice; NEG, negative; NFIN, nonfinite; NM, common noun marker; NMLZ, nominalizer; NOM, nominative; OBL, oblique; PARTC, participial; PFV, perfective; PM, personal marker; PROC, processual; PROH, prohibitive; PSA, Preferred Syntactic Argument; Q, question marker; RDP, reduplication; RESULT, resultative; SIM, simulative; UV, undergoer voice; Ø-, voiceless verb.

8. The suffix *-en* in *wood-en* offers a parallel with Amis *-ay*; it originates from Proto-Germanic **-inaz*, marks the past participle of strong verbs, and also derives participle-like adjectives when attached to nouns, meaning ‘made of, consisting of, having the qualities of.’

9. These are the source code of recorded texts; other examples are generally elicited.

10. The alternate construction could be *mi-padang cira tu demak niya babayi*.

108 The indefinite quantifier (pro)noun *taw* ‘other, foreign, different’ is similarly
 109 derived as a modifier referring to a distinctive property that singles out an
 110 INDIVIDUAL in (4a), while in (4b), it modifies a class or collection of entities.

(4) a. Araw, u [taw-**ay** a] tamdaw.
 in.fact NM other-MODF LNK person
 ‘Actually, it was someone else.’ (Arikakay.057)

b. ... yara i [n-u taw-**an** a] niyaruq.
 far.away LOC GEN-NM other-MODF LNK country
 ‘... far away in foreign countries.’ (lit. in the countries of other people)
 (Urip nu Balah.055)

111 Modifiers derived by *-an* are reminiscent of the function of the adjectival
 112 Latin suffix *-(a)ticus* referring to properties ‘relating to a Noun’ as a class
 113 or a kind, for instance, *silva-ticus* (related to the forest).¹¹

114 In (5), two types of rice are compared, and their modifiers *?enar-ay* ‘plain’
 115 and *lutuk-ay* ‘mountain’, denote TIME-STABLE properties pertaining to some
 116 general kind, just like *kilang-ay* ‘wooden’ in (1); they do not refer to tokens
 117 of plains or mountains; the latter would be expressed by reduplication, such
 118 as *lutu~lutuk-an* ‘mountains’, *kila~kilang-an* ‘forests’.

(5) Ira *k-uyu* [i ?enar-**ay** a] *panay*,
 EXS NOM-DEICT LOC plain-MODF LNK rice
 i *lutuk-**ay*** [Ø].
 LOC mountain-MODF
 ‘There is plain rice (and) mountain (rice).’ (lit. rice that is in the mountain)
 (Turun.009)

119 Another point of interest in the second part of example (5) is the ellipsis of
 120 the head and the linker, resulting in a stand-alone modifier *i lutuk-ay* ‘mountain
 121 [rice]’. Such ellipsis occurs when the head is indefinite, or when it is highly
 122 referential and need not be repeated. Also note that a stand-alone modifier like
 123 *i lutuk-ay* is distinct from a locative adjunct such as *i lutuk* ‘in the mountain’
 124 shown in (6).

(6) Awaay k-u ka~ka?en-an i lutuk.
 NEG.EXS NOM-NM Ca~eat-AN LOC mountain
 There is no food in the mountain.’ (U tumay.004)

125 **2.2. MODIFIERS DERIVED FROM STATIVE/ADJECTIVAL VERBS**
 126 **AND QUANTIFIERS.** Bare stative/adjectival verbs characterized by zero
 127 voice affixes (glossed Ø-), numerals, and quantifiers are also derived as
 128 attributive modifiers by *-ay* and *-an*. Modifiers derived by *-ay* from this
 129 set of predicates denote TIME-STABLE, INDIVIDUAL-level properties, while
 130 those marked by *-an* are STAGE-LEVEL modifiers (specifying a transient

11. Its cognate form *-age* in Old French formed collective abstract nouns, for instance *sauvage* ‘savage’ (from *silva-ticus*), or *visage* ‘face’ as ‘a collection of traits which make up the *visus* (appearance)’ (TLFi 1994).

131 property; Kratzer 1989). There are restrictions to their distribution: numeral
 132 modifiers only accept *-ay*, so do some states conceived as being inherent prop-
 133 erties such as ‘hard’ in (7), ‘beautiful’ in (8), and ‘great’ in (12), while others
 134 allow both constructions depending on whether the property is considered as
 135 stable, reversible, or transient like \emptyset -*suqmet* ‘damp’ in (9). The modifying con-
 136 struction is illustrated in (7a), and the predicative construction in (7b).

- (7) a. Mi-barasiw *t-u* [\emptyset -kuq(e)teng-**ay** a] *kilang*.
 AV-cut OBL-NM \emptyset -hard-MODF LNK wood
 ‘(He) was chopping hard wood.’ (u patay ni Calaw Ilikic.060)
- b. \emptyset -kuq(e)teng *k-iya* *kilang*.
 \emptyset -hard NOM-DEICT wood
 ‘That wood is hard.’

137 The stative/adjectival verb \emptyset -*kapah* is derived as a TIME-STABLE modifier in
 138 (8), and the highly referential head *kama* is ellipted in the second part of the
 139 sentence, leaving a stand-alone modifier.

- (8) Mi-turuq *t-u* [\emptyset -*kapah-ay* a] *kama*,
 AV-point OBL-NM \emptyset -beautiful-MODF LNK tangerine
 ‘u numaku *k-ina* [\emptyset -*kapah-ay*] [\emptyset].’
 NM GEN.1SG NOM-DEICT \emptyset -beautiful-MODF
 ‘(He) pointed at a beautiful tangerine, “this beautiful one is mine”.’
 (u patay ni Calaw Ilikic.087–088)

140 Note that the construction of \emptyset -*suqmet* in (9) and *tuqman* in (10), varies with
 141 the semantics of the head; the property attributed to a time noun like ‘day’ is
 142 transient, while winds are identified (sometimes named) by their characteristic
 143 direction and TIME-STABLE property (damp vs. dry; cold vs. warm, etc.). The
 144 predicative construction is illustrated in (9c).

- (9) a. *U* [\emptyset -*suqmet-an* a] *remi?ad*.
 NM \emptyset -damp-MODF LNK day
 ‘a damp day.’
- b. *U* \emptyset -*suqmet-ay* a *bali*.
 NM \emptyset -damp-MODF LNK wind
 ‘It’s a damp wind.’
- c. \emptyset -*suqmet* *k-u* *remi?ad*.
 \emptyset -damp NOM-NM day
 ‘The day is wet.’

145 In (10a), \emptyset -*tuqman-an* ‘dark’ is a STAGE-level modifier denoting a transient
 146 property of the time noun ‘day’, while \emptyset -*tuqman-ay* in (10b,c) denotes a TIME-
 147 STABLE, INDIVIDUAL-level property of objects or situations. In the headless RC
 148 (10c), \emptyset -*tuqman-ay* is a stand-alone modifier with an ellipted indefinite pro-
 149 noun *ma?an* ‘something’, the complete form being, *i* \emptyset -*tuqman-ay* a *ma?an*
 150 ‘things that are dark’, as illustrated in example (11).

- (10) a. I $[\emptyset\text{-tuqman-}\mathbf{an} \ \mathbf{a}]$ remi ?ad .
LOC \emptyset -dark-MODF LNK day
 ‘On a dark day.’ (on a day that’s dark)
- b. I $[\emptyset\text{-tuqman-}\mathbf{ay} \ \mathbf{a}]$ rebung n-u lutuk.
LOC \emptyset -dark-MODF LNK cave GEN-NM mountain
 ‘In the dark mountain cave.’
- c. Ma-talaw k-u wawa i $\emptyset\text{-tuqman-}\mathbf{ay} \ [\emptyset]$.
NAV-be.afraid NOM-NM child LOC \emptyset -dark-MODF
 ‘The child is afraid of what’s dark.’
- d. Mi-talaw t-u wawa k-u tuqman.
AV-frighten OBL-NM child NOM-NM darkness
 ‘Darkness frightens the child.’

151 Evidence that *-ay* and *-an* in (10c) derive modifiers in headless construc-
 152 tions, not referring nouns, arises from two facts: one is that the base *tuqman*
 153 is categorially neutral; it occurs both as a stative verb $\emptyset\text{-tuqman}$ and as a noun
 154 *u tuqman* meaning ‘darkness, the dark’ as in (10d); the other is that referring
 155 time or place nouns are derived by a distinct device, that is, by *Ca~* reduplica-
 156 tion together with *-an* or *-en* (see sections 5.2, 5.3, and 7.3).

- (11) Ira k-u $\emptyset\text{-raqmed-}\mathbf{ay} \ \mathbf{a} \ ma\text{?an}$.
EXS NOM-NM \emptyset -soft-MODF LNK something
 ‘There was something soft.’ (kalalaisan nu Ciwidian.039)

157 In sentence (b) of example (12), the referential head is ellipted and results in
 158 a stand-alone modifier; compare this with the predicative use of $\emptyset\text{-tata?ak}$
 159 in (12c).

- (12) a. Mi-kilim cira t-u $[\emptyset\text{-tata?ak-}\mathbf{ay} \ \mathbf{a}]$ bahedil;
AV-search NOM.3SG OBL-NM \emptyset -great-MODF LNK cedar.tree
 ‘He looked for a great cedar tree;
- b. mi-kilim cira t-u $\emptyset\text{-tata?ak-}\mathbf{ay} \ [\emptyset]$.
AV-search NOM.3SG OBL-NM \emptyset -great-MODF
 ‘he looked for a great one.’ (Labang Umah.044)
- c. $\emptyset\text{-tata?ak}$ k-ina bahedil.
 \emptyset -great NOM-DEICT cedar.tree
 ‘This cedar tree is great.’

160 In (13), a derived numeral modifies the head nouns *niyaruq* and *subuk*.

- (13) Mi-surut k-u $[\text{tulu-}^{\mathbf{w}}\mathbf{-ay} \ \mathbf{a}]$ niyaruq
AV-levy NOM-NM three-^w-MODF LNK village
 t-u $[\text{tulu-}^{\mathbf{w}}\mathbf{-ay} \ \mathbf{a}]$ subuk t-u ca ?el .
OBL-NM three-^w-MODF LNK basket OBL-NM necklace
 ‘The three villages levied three baskets with bead necklaces.’
 (kalalaisan nu Ciwidian.056)

161 In (14), the derived quantifier *adihay* modifies the head noun *ka-ka?en-en*.

- (14) Paluma sa k-uhni *t-u* [adihay-ay a] *ka-ka?en-en*.¹²
 plant do NOM-3PL OBL-NM numerous-MODF LNK Ca~eat-EN
 ‘They grew a lot of food-crops.’ (Malasang Ciyaw.009)

162 While numerals and some quantifiers like *adihay* ‘a lot’ are only derived by
 163 *-ay* as INDIVIDUAL-level modifiers of entities, some quantifiers allow both *-ay*
 164 and *-an* derivations, *-an* occurring on quantifiers modifying a CLASS of entities
 165 that encompass a collection of items, as in examples (4a,b).

166 **3. RCs WITH VOICE-AFFIXED VERBS.** Moving on to RCs with voice-
 167 affixed verbs, they occur as two main types: (i) those with finite *mi-...-ay* and
 168 *ma-...-ay* stems, and (ii) those with nonfinite *pi-...-an* and *ka-...-an* or
 169 *ka-...-en* stems. Structurally, RCs are embedded between the case-marker (K)
 170 and the final head noun as follows: <M.CL K [RC modifier LNK a] HEAD NP>.
 171 The case-marker encodes the function of the head in the main clause (M.CL).

172 In (15), the gapped pivot of the RC is the actor *tamdaw* selecting an AV
 173 *mi-...-ay* verb with a *t-* marked theme argument *turun*.

- (15) A=suwal k-aku *t-uinian u* [mi-sangaq-ay
 FUT=<AV>speak NOM-1SG OBL-DEICT NM AV-make-MODF
 t-u turun a] *tamdaw*.
 OBL-NM turun LNK person
 ‘I’m going to speak about the people who make turun.’

174 Whether based on finite or nonfinite stems, the verb forms in RCs are
 175 deranked; however, they retain verbal properties, they govern arguments, they
 176 may host tense, aspect, and mood markers, and they may be modified by
 177 adverbs, all of which are typical features of deranked verbs occurring on a cline
 178 of deverbalization (Lehmann 1988; Cristofaro 2003; Comrie and Thompson
 179 2007; Malchukov 2004; Shagal 2019; Shibatani 2019).

180 **3.1. FINITE AND NONFINITE MORPHEMIC ALTERNATIONS.** The
 181 terms nonfinite and finite, respectively, refer to the morphological *pi-/mi-*
 182 and *ka-/ma-* alternations on verb stems. *Pi-/mi-* alternations occur on verb stems
 183 denoting activities with an actor pivot, while *ka-/ma-* alternations occur on verb
 184 stems whose pivot is an undergoer (subsuming experiencer, locus of a property,
 185 or patient).¹³

186 Finite verb forms occur in affirmative sentences with indicative mood.
 187 Nonfinite *pi-*, *ka-* verb stems occur (i) as dependents of the negative auxiliary
 188 *caay*, (ii) in imperative and prohibitive moods, and (iii) in some subordinate
 189 clauses (relative, adverbial, and complement clauses). As shown in table 2,
 190 finite and nonfinite verb constructions have the same argument structure.

12. Ca~ reduplication copies the initial consonant of the root and adds the vowel /a/. Ca~ ...-en commonly derives undergoer nouns (see section 5.3).

13. The finite *mi-* and *ma-* alternations are held to result from an earlier infixation of the Proto-Austronesian (PAN) Actor Voice morpheme *<UM> in the nonfinite *pi-* and *ka-* forms, yielding *p<um>i- later clipped as *mi-* and *k<um>a- later clipped as *ma-* (Ross 1995). See Zeitoun and Huang (2000) on the use of *ka-*.

TABLE 2. VOICE MORPHEMES AND SEMANTIC ROLES.

Finite voice forms	Nonfinite verb forms	Semantics of the verb stem and its pivot	Argument structure
AV <i>mi-</i>	<i>pi-</i>	Activity, actor pivot	Absolutive construction <i>k-/t-</i>
<um> [†]	<i>ka-</i>	Actor, experiencer pivot	
<i>mu-</i>	<i>ka-mu-</i>	Actor, experiencer pivot	
NAV <i>ma-</i>	<i>ka-</i>	± stative, intradirective experiencer pivot, locus of properties	
∅	<i>ka-</i>	Stative, experiencer pivot, locus of properties	Ergative construction <i>k-/n-</i>
UV <i>ma-</i>	<i>(ka-) . . . -i</i> (NEG.)	Resulting state with fully affected patient pivot	
UV <i>-en</i>	<i>ka- . . . -en</i> <i>-i</i> (NEG.)	± fully affected patient pivot	
LV <i>-an</i>	<i>ka- . . . -an</i> <i>-i</i> (NEG.)	Superficially affected patient pivot, location pivot	

[†] The infix <UM> is pronounced [ə̃m] and written in N.Amis.

TABLE 3. FINITE AND NONFINITE VOICE MORPHEMES.

	AV	NAV	<UM>	UV	UV	LV
Finite indicative forms	<i>mi-</i>	<i>ma-</i>	<um>	<i>ma-</i>	<i>-en</i>	<i>-an</i>
Hortative	<i>mi- . . . -a</i>	<i>ma- . . . -a</i>	<um> . . . -a	<i>-a(w)</i>	<i>-en</i>	<i>-ay</i>
Imperative	<i>pi- . . . -i</i>	<i>ka-</i>	<i>ka<um></i>	<i>-a</i>	<i>-en</i>	<i>-i</i>
Negative indicative forms	<i>caay pi-</i>	<i>caay ka-</i>	<i>caay ka<um></i>	<i>caay (ka)-√-i</i>	<i>caay √-i</i>	
Prohibitive	<i>aka pi-</i>	<i>aka ka-</i>	<i>aka ka<um></i>	<i>aka √-i</i>		

191 Table 3 lists the finite and nonfinite verb forms in various moods, showing
 192 that in negative indicative constructions and prohibitive mood, UV *ma-*, UV *-en*,
 193 and LV *-an* are neutralized as *-i*, as shown in (16a), while in imperative and
 194 hortative they have distinct forms, except for UV *-en* (see Brill 2022b:223).
 195 Neutralization of UV *-en* and LV *-an* as *-i* also occurs in RCs; see examples
 196 (25b,c).

197 The affirmative counterpart of (16a) is given in (16b).

- (16) a. Anu caay tanam-i numita iri, caay ka-banaq k-ita
 if NEG taste-UV GEN.IPL.INCL TPC NEG NFIN-know NOM-IPL.INCL
 t-u ni-ka-cacak.
 OBL-NM PFV.NMZ-NFIN-cook
 ‘If we do not taste (it), we don’t know if it’s cooked.’ (lit. about the
 cooking) (Turun.041)
- b. Tanam-en numita k-u sinabel.
 taste-UV GEN.IPL.INCL NOM-NM dish
 ‘We tasted the dish.’

198 Since RC constructions make use of the system of voice alternations char-
199 acteristic of Amis, some background information is in order.

200 **3.2. SOME BACKGROUND ON VOICE ALTERNATIONS AND**
201 **ARGUMENT STRUCTURE.** Amis has verb/predicate initial order; NPs
202 are marked by three case prefixes: nominative *k-*, dative/oblique *t-*,¹⁴ and geni-
203 tive *n-*, the latter marking agents and possessors. Its argument structure and
204 alignment are characterized as follows:

- 205 1. Type 1 has one or two arguments; it occurs with AV *mi-* denoting activi-
206 ties and with NAV *ma-* stems¹⁵ (i.e., stative, cognition verbs and percep-
207 tion verbs, verbs of feelings, intradirective motion, and movement
208 verbs).¹⁶ The nominative S (S_{nom}) is marked by *k-*, and the Theme argu-
209 ment (T_{obl}) is marked by *t-*. Depending on the verb class, the S_{nom} has an
210 actor or experiencer thematic role.
- 211 2. Type 2 is transitive with a nominative *k-* undergoer/patient (P_{nom}) and a
212 genitive agent (A_{gen}) marked by *n-*; it occurs with all Undergoer Voices
213 as well as applicative voices whose peripheral participants (locations,
214 instruments, and beneficiaries) are promoted to the function of nomina-
215 tive arguments (see table 4).

216
217 Voice alternations are selected by factors such as (i) verb classes (according
218 to their stative or dynamic lexical semantics), (ii) telic or atelic aspect, (iii) and
219 the correlated degree of patient affectedness, and (iv) the patient's referential
220 features and definiteness (see Brill 2020, 2022a). Voices with *k-/t-* case-marking
221 tend to be atelic, with a non-fully affected theme that may be definite or indefi-
222 nite, while those with *k-/n-* case-marking denote telic events and have fully
223 affected and definite patient pivots.

224 In this alignment system, Actor and Undergoer voices are not derived from
225 each other as active–passive voices, nor is the *k-/t-* case-marking an antipassive
226 construction as in canonical ergative languages;¹⁷ besides, the core status of the

14. The term dative/oblique is a cover term for the syncretic case-marker *t-*, which, apart from the core Theme arguments of AV *mi-* verbs and NAV *ma-* verbs, also encodes the beneficiary of ditransitive verbs, as well as noncore arguments (associative, cause, locative, instrument), time adjuncts (e.g., *tu dabadabak* 'every morning'), the standard of comparison, some complement clauses, and purpose clauses.

15. In this approach, the labels AV *mi-* and NAV *ma-* refer to the semantic role of the verb's nominative pivot; NAV is a cover term for *ma-* verbs whose nominative argument is an experiencer or the locus of some property (see the discussion in Brill 2022a). In contrast, the approach advocated by a reviewer, which lumps together *mi-* and *ma-* as AV, is based on their similar argument structure and alignment; however, labeling *ma-* as AV fails to explain differences between activity-denoting constructions such as *mi-ʔadup cira* 'he's hunting' and stative, property-denoting constructions like *ma-ʔadup cira* 'he's good at hunting'.

16. The fact that many motion and movement verbs are *ma-* verbs in Amis does not invalidate the NAV label since the sole argument of intradirective verbs is both actor and theme, that is, an instigator that also affects himself, thus partaking of middle voice features. In some languages, motion verbs have coreferential subject and object pronouns, as in Nuaulu (Indonesia, Bolton 1990:36–42, cited in Donohue and Wichmann 2008:57).

17. Chen (1987) analyzes Amis as a split-ergative system.

TABLE 4. FINITE VOICE MORPHEMES AND ARGUMENT STRUCTURE.

Voice	Semantic role of <i>k</i> - nominative subject	Argument structure	
AV <i>mi</i> -	<i>k</i> - actor	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px;"> S NOM ; <i>k</i>- </div> <div style="text-align: center;"> Absolute construction T (OBL theme) <i>t</i>- </div> </div>	
< <i>um</i> >	<i>k</i> - ± actor, experiencer		
<i>mu</i> -	<i>k</i> - nonactor, experiencer	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px;"> P NOM ; <i>k</i>- </div> <div style="text-align: center;"> Ergative construction A GEN agent <i>n</i>- </div> </div>	
NAV <i>ma</i> -	<i>k</i> - nonactor, experiencer, locus of properties		
UV <i>ma</i> -	<i>k</i> - patient, fully affected		
UV <i>-en</i>	<i>k</i> - patient, ± fully affected		
LV <i>-an</i>	<i>k</i> - patient, superficially affected & location		
INST.V <i>sa</i> -	<i>k</i> - instrument		
CV <i>si</i> -	<i>k</i> - conveyed entity/beneficiary		
INST.V, instrumental voice; CV, conveyance/beneficiary voice.			



227 non-nominative argument in each construction is retained (see Brill 2017,
 228 2022a; Arka 2019:272).¹⁸ It is a symmetrical voice system “defined by the pres-
 229 ence of at least two voice alternations, neither of which is the basic form”
 230 (Himmelmann 2005:112–13; Foley 1998, 2008).

231 **3.3. RCs AND THE NOMINATIVE-ONLY CONSTRAINT.** While the
 232 head noun may have any syntactic function and any thematic role (actor,
 233 patient, agent) in the MAIN clause, the gapped NP in the RC displays the sub-
 234 ject-only restriction typical of Philippine-type languages (Keenan and Comrie
 235 1977; Keenan 1985), which is essentially found in symmetrical voice lan-
 236 guages (Himmelmann 2005:162). Accordingly, the gapped argument in the
 237 RC must be its NOMINATIVE pivot, also called Preferred Syntactic
 238 Argument (PSA; Dixon 1994), and its thematic role, the S_{nom} or P_{nom} argu-
 239 ment, is encoded by the matching voice affix with either a finite or nonfinite
 240 form. Crucially, the alignment and argument structure of RCs are similar to
 241 that of independent clauses.

242 **3.3.1. RCs with finite and nonfinite verb stems: A brief overview.** The
 243 RCs with *mi*-...-*ay* stems take activity AV *mi*- verbs with actor pivot as input;
 244 those with NAV *ma*-...-*ay* take stative verbs with an experiencer pivot; and
 245 RCs with UV *ma*-...-*ay* have verbs with a patient pivot as input. On the other
 246 hand, RCs with nonfinite *pi*-...-*an* and *ka*-...-*an* or *ka*-...-*en* stems have
 247 nominative undergoer or locative pivots.

248 A brief illustration of these two types of RCs is provided in examples (17)
 249 and (18). In (17a), the head noun *hawan* ‘knife’ is the gapped actor pivot of the
 250 RC that selects AV *mi*- as “the x performing y”; the modifying *mi*-...-*ay* stem
 251 retains verbal properties, as evidenced by its theme argument *iciraan*. The cor-
 252 responding declarative clause is given in (17b).

18. In absolutive constructions, the *t*- marked NP is an argument, not an adjunct.

- (17) a. Ma-kilim=tu haw numisu
 UV-search=PFV Q GEN.2SG
k-u [mi-duka-ay iciraan a] hawan?
 NOM-NM AV-wound-MODF OBL.3SG LNK knife
 ‘Did you find the knife that wounded him?’
- b. Mi-duka k-u hawan iciraan.
 AV-wound NOM-NM knife OBL.3SG
 ‘The knife wounded him.’

253 RCs with nonfinite *pi-* and *ka-* verb stems suffixed by the locative nominal-
 254 izer *-an* (glossed -AN) have an undergoer pivot. The clefted interrogative word
 255 *u maʔan* ‘what’ in (18a) is the gapped undergoer pivot encoded by *-an* in the
 256 RC. Compare with the indicative NAV *ma-* verb construction in (b).

- (18) a. U maʔan [k-u ka-ngalay-an=namu]?
 NM what NOM-NM NFIN-wish-AN=GEN.2PL
 ‘What do you wish?’ (lit. it is what that you wish?)
- b. Ma-ngalay haw k-isu t-iya kabang-an?
 NAV-wish Q NOM-2SG OBL-DEICT basket-OBL
 ‘Do you want that basket?’

257 RCs with an undergoer pivot (*demak* ‘action, duty’) marked by *ka-...-en*
 258 stems are illustrated in (19) by *ka-naʔun-en*.

- (19) Adihay *k-u* [ka-naʔun-en n-u babahi-^y-an¹⁹ (a)]
 numerous NOM-NM NFIN-care-EN GEN-NM woman-^{EP}-MODF LNK
demak).
 action
 ‘Women had many (duties) to carry out.’ (lit. they were numerous (the
 duties) that women carried out)

259 RCs in Puyuma (Formosan) also have two distinct constructions according
 260 to the semantic role of their pivot, though differently from Amis; if the relativ-
 261 ized NP is an actor, RCs contain indicative, finite voice-affixed verbs, but they
 262 have nominalized verbs if the relativized NP is a nonactor in Puyuma (Teng
 263 2008:105).

264 RCs modifying a conveyed entity or an instrument pivot in Amis are briefly
 265 mentioned. They are marked by the conveyance/benefactive *si-* and the instru-
 266 mental morpheme *sa-* prefixed to nonfinite verb stems and occurring as *sa-pi-*
 267 or *sa-ka-* stems, as in (20), with an instrument nominative pivot (see Brill 2016,
 268 2022a, for discussion).

- (20) a. U papah n-u pawli k-u sa-pi-tabu.
 NM leaf GEN-NM banana NOM-NM INSTR.V-NFIN-wrap
 ‘It was banana leaves that were used to wrap.’ (ʔicep.104)

19. The modifier *babahi-^y-an* refers to the type of work pertaining to women as a class, as in exam-
 ple (2).

- b. *U* [sa-pi-kasuy t-u kilang a] *bunus*.
 NM INSTR-NFIN-cut.wood OBL-NM wood LNK machete
 ‘(It’s) a machete that is used to cut wood.’
- c. *I* [sa-ka-ta-lumaq a] *lalan*.
 LOC INSTR-NFIN-go-house LNK road
 ‘on the road used to go back home.’

269 In perfective contexts, RC verbs are marked by the perfective nominalizer
 270 *ni-*, as in (21), the clefted Actor *cira* in (a) triggers the *ni-...-ay* verb stem,
 271 whose retained verbal properties are evidenced by its theme argument *t-u*
 272 *ka~ka?en-an* ‘food’.

273 Another important feature in Amis is that only nominative pivots can be rel-
 274 ativized; the genitive agents (A_{gen}) of UV constructions may not; this requires a
 275 mandatory shift to RCs with Actor Voice *mi-...-ay* constructions, nor can A_{gen}
 276 be clefted with RC constructions. For instance, the clefted A_{gen} *n-ima* in (21b)
 277 triggers a complement clause in which it is deprived of pivot function and of
 278 voice indexation; the nominative pivot of *ni-sa-cacak-an* is the undergoer
 279 *ka~ka?en-an* ‘food’.

- (21) a. Araw, cira haw k-u **ni-cacak-ay**
 well 3SG DISC NOM-NM PFV.NMLZ-cook-MODF
 t-u ka~ka?en-an numaku!
 OBL-NM Ca~eat-AN GEN.1SG
 ‘Well, it was her who had cooked my food!’ (Pangangan.163)
- b. N-ima a **ni-sa-cacak-an** k-ina ka~ka?en-an?
 GEN-who? COMP PFV.NMLZ-do-cook-LV NOM-DEICT Ca~eat-AN
 ‘Who was it that cooked the food?’ (Pangangan.136)

280 This stands as evidence that the $\{S_{\text{nom}}, P_{\text{nom}}\}$ pivots pattern together differ-
 281 ently from the A_{gen} of UV constructions (see Brill 2022a:41–42).

282 Table 5 summarizes and shows that *-ay* does not occur with UV *-en* nor with
 283 LV *-an* verbs.

284 Table 6 shows that nonfinite RCs with undergoer or location pivots are
 285 reduced to two patterns: *(ni-)pi-...-an* for activity verbs, and *(ni-)ka-...-an*
 286 or *(ni-)ka-...-en* for all other verb stems. The *ni-...-an* and *na-...-an* forms
 287 are discussed in section 6.

288 Kaufman (p.c.) suggested that the finite and nonfinite patterns of RCs in
 289 Amis might reflect the PAN distribution, in which the AV infix * $\langle\text{UM}\rangle$ and

TABLE 5. FINITE VERB STEMS DERIVED AS MODIFIERS BY *-AY*.

Voice marked verbs	AV	NAV	$\langle\text{UM}\rangle$	UV	UV	LV
Indicative in RCs	mi- mi-...-ay	ma- ma-...-ay	$\langle\text{em}\rangle$	ma- ma-...-ay	-en	-an
Perfective modification	ni-...-ay (section 6.2)					

TABLE 6. NONFINITE RCs WITH *PI-...-AN*, *KA-...-AN*, AND *KA-...-EN*.

	<i>mi</i> -verbs	<i>ma</i> -V, <UM>-V, UV <i>ma</i> -V	UV <i>-en</i>	LV <i>-an</i>
Modifying	pi-...-an [†]	ka-...-an	ka-...-en	ka-...-an
Perfective modifier	ni-pi-...-an	ni-ka-...-an	ni-ka-...-en	ni-ka-...-an
Perfective event modifier & gerund [‡]				ni-...-an
Past modifier and gerund				na-...-an

[†] All Northern Amis speakers reject ****mi-...-an** stems as ungrammatical.

[‡] This is discussed in section 5.4.

290 its M- allomorphs were verbal morphemes, while PAN **-en* and **-an* were
291 respectively locative and patient nominalizers used in RCs in particular
292 (Aldridge 2021, 2023).

293 **3.3.2. The functions of *-an* and *-en* as nominalizers and as voice**
294 **markers.** It is argued that Amis *-an* and *-en* have twin functions as voice
295 markers and as nominalizers (glossed *-AN*, *-EN*) occurring in some types of
296 RCs and some other subordinate clauses. Their evolution as voice affixes in
297 main and independent clauses is held to be a later evolution by Starosta,
298 Pawley, and Reid (1982),²⁰ Ross (1995, 2009), and Kaufman (2009a,b,
299 2017). However, Blust (1996: 4) argues that:

300 Simple application of the Comparative Method, and argument from par-
301 simony favors the interpretation that PAN also had a focus (i.e., voice) sys-
302 tem in which the focus affixes functioned either verbally or nominally in
303 given contexts.²¹

304 The twin functions of the reflexes of **-an* and *-en* are attested in a few other
305 Formosan languages, Kavalan (Hsieh 2011:511) and Thao (Blust and Chen
306 2017:592). In Amis, the distinctive features of LV *-an* and UV *-en* are their direct
307 suffixation to the verbal base in indicative, affirmative main, and independent
308 clauses like (22), and with *k-/n-* case-marking (i.e., P_{nom}, A_{gen}). The undergoer
309 pivot of LV *-an* constructions is temporarily, reversibly, or superficially affected,
310 as in (22a), while the undergoer pivot of UV *-en* constructions can be fully
311 affected, as in (22b).

(22) a. Cumud-an=tu n-u nanum k-u lumaq.
enter-LV=PFV GEN-NM water NOM-NM house
'The water flooded the house.'

20. Starosta, Pawley, and Reid (1982) argue that PAN locative **-ana*, UV **-en*, and INSTR **iSi* were originally nominalizers later reanalyzed as finite verb voice affixes. **-ana* derived a place N; **-en* derived a patient noun; **iSi-* derived an instrument noun 'X is the thing for V-ing'.

21. In the abstract of Blust's (1996) paper, quoted by Starosta (1996:4 [2009:780–81]), Blust writes: "Both verbal and nominalizing functions must be attributed to these focus markers at all stages in their reconstructible history. In particular, it argues that the syntactic functions and lexical semantics of **-an* only partially overlapped in PAN and many of its descendants, making it difficult to characterize this voice marker semantically." Blust and Chen (2017:587, 591) recently reasserted this view.

- b. Kaʔen-en=tu=aku k-iyā pawli.
 eat-UV=PFV=GEN.ISG NOM-DEICT banana
 ‘I ate (up) that banana.’

312 **3.3.3. Restrictive and descriptive RCs.** The features distinguishing restric-
 313 tive from descriptive RCs are twofold: (i) embeddedness and (ii) the coding
 314 of the head’s thematic role on the RC’s verb form. Restrictive RCs are most
 315 generally embedded between the case-morpheme marking the function of
 316 the head in the main clause and the head noun, like *k-uyā* [RC] *dateng* in
 317 (23a). In (23a,b), the nominative pivot of the RC verb is a patient marked
 318 by the nominalizer *-an*. Much less frequently, the head may occur before the
 319 restrictive RC without the linker *a* as in (23b), but the role of the pivot remains
 320 marked on the verb.

- (23) a. Ma-waswas=tu *k-uyā* [ni-cakay-an n-ira
 UV-scatter=PFV NOM-that PFV.NMLZ-buy-AN GEN-3SG
 i pacakayay a] *dateng*.
 LOC market LNK veggies
 ‘The veggies that she had bought at the market were scattered.’
 (U puduc nu pawli.009)

- b. Ma-waswas=tu *k-uyā dateng* [ni-cakay-an n-ira
 UV-scatter=PFV NOM-that veggies PFV.NMLZ-buy-AN GEN-3SG
 i pacakayay].
 LOC market
 ‘The veggies that she had bought at the market were scattered.’

321 In contrast, descriptive RCs are identified by three features: (i) they follow
 322 the head, (ii) they are not embedded, and (iii) crucially, the thematic role of the
 323 gapped NP is not marked on the RC verb. This is the case in (24), where the
 324 pivot’s patient role is not encoded on *ni-pa-urung*, in contrast with (23a,b).
 325 Descriptive RCs are less structurally dependent, more loosely adjoined nomi-
 326 nalized clauses that also retain arguments like *itakuwan*.

- (24) Ira haw k-u *urung* [ni-pa-urung
 EXS DISC NOM-NM duty PFV.NMLZ-CAUS-duty
 n-i ama=aku itakuwan].
 GEN-PM father=GEN.ISG OBL.ISG
 ‘There was a duty, one that my father entrusted me with.’ (ʔicep.130)

327 Section 4 analyzes RCs with *-ay* in more detail, while nonfinite RCs with
 328 *-an* or *-en* are discussed in sections 5 and 6.

329 **4. A CLOSE-UP ON FINITE RCs WITH -AY.** RCs with finite voice
 330 affixes occur as AV *mi- . . . -ay* stems with actor pivots, NAV *ma- . . . -ay* stems
 331 with experiencer pivots, and UV *ma- . . . -ay* stems with patient pivots. RCs with
 332 finite voice affixes also occur with inchoative *mala-* and with abilitative *maka-*
 333 stems. Table 7 summarizes.

334 Importantly, RCs with voice-affixed verbs derived by *-ay* also attribute prop-
 335 erties of INDIVIDUALS.

TABLE 7. MODIFYING FINITE VOICE-MARKED VERBS DERIVED BY *-AY*.

Stems	Modifying verb	Semantics	Ø-role of pivot in RC
pi-/mi-	AV mi-...-ay	Actor or activity	One that acts
ka-/ma-	NAV ma-...-ay	Stative or property	One who experiences or has property x
bare Ø-stem	Ø-stem-ay	Stative/property	One that has property x
INCH mala-	mala-...-ay	Inchoative NMLZ	One that becomes x
ABIL maka-	maka-...-ay	Abilitative actor	One who has the potential/ability
UV ma-	ma-...-ay	Patientive UV	One that underwent some event

336 Under negation, the verb stem must be nonfinite, and the negative auxiliary
 337 *caay* is derived by *-ay*, creating a negative modifier phrase as in (25a) ‘those
 338 who are unlucky’. The negative independent clause corresponding to (25a) is
 339 *caay ka-lemed k-uhni* ‘they are not lucky’.

- (25) a. *Ira=tu k-u ma-lemed-ay* [Ø]
EXS=PFV NOM-NM NAV-lucky-MODF
*ira=tu k-u caay-ay ka-lemed.*²²
EXS=PFV NOM-NM NEG-MODF NFIN-lucky
 ‘They were some who were lucky, there were some who were
 unlucky.’ (Amis writing.120)

340 Just as in independent clauses,²³ under negation, RCs with undergoer pivots
 341 and *ka-...-an* verbs shift to *-i*, compare (b) with the affirmative construction in
 342 (c), and with the negative independent clause in (25d).

- b. *Mi-taʔung k-amu t-u caay-ay ka-banaq-i n-amu* [Ø].
AV-worship NOM-2PL OBL-NM NEG-MODF NFIN-know-LV GEN-2PL
 ‘You worship what (the things that) you do not know.’
- c. *Mi-taʔung k-amu t-u ka-banaq-an n-amu* [Ø].
AV-worship NOM-2PL OBL-NM NFIN-know-AN GEN-2PL
 ‘You worship what (the things that) you know.’
- d. *Caay ka-banaq-i n-amu k-ina lisin.*
NEG NFIN-know-LV GEN-2PL NOM-DEICT ritual
 ‘You do not know these rituals.’

343 **4.1. HEADED RCs WITH *-AY*.** Finite RCs with Actor pivot and *mi-...-ay*
 344 forms are illustrated in (15) and (17). RCs with experiencer pivot are shown in
 345 (26); the experiencer role of the gapped head noun in the RC (the woman) is
 346 encoded by the *ma-...-ay* verb.²⁴

- (26) *Pa-luwad (cira) t-iya [ma-tuluq-ay a] babahi-^y-an.*
CAUS-lift NOM.3SG OBL-DEICT NAV-fall-MODF LNK woman-^{EP}-OBL
 ‘He lifted up the woman who had fallen.’ (Mi-selic.010)

22. The following construction is incorrect: ***ira=tu k-u caay ka-lemed-ay* ‘they were some who were unlucky’.

23. Recall from section 3.1 that UV *ma-*, LV *-an*, and UV *-en* verbs change to *-i* under negation.

24. Most movement and motion verbs are intradirective/unaccusative NAV *ma-* stems.

347 In (27a), the modifier *ma-talem-ay* (derived from the stative verb *ma-talem*
 348 ‘sharp’) denotes a TIME-STABLE, INDIVIDUAL-level property of the pivot; the
 349 declarative construction is given in (27b) for comparison.

- (27) a. *U* [ma-talem-ay a] *hawan.*
 NM NAV-sharp-MODF LNK knife
 ‘It’s a sharp knife.’ (Mi-panaq Dihang.009)
- b. *Ma-talem k-u hawan.*
 NAV-sharp NOM-NM knife
 ‘The knife is sharp.’

350 In (28a), the gapped undergoer pivot *?a~?adup-en* ‘animal’²⁵ selects the
 351 modifying verb *ma-ala-ay* in the RC; the argument structure is the same as that
 352 of a declarative UV construction shown in (b), with *k-/n-* case-marking, a P_{nom}
 353 *?a~?adup-en* and an A_{gen} *talakal*.

- (28) a. *Adihay k-u [ma-ala-ay n-u talakal a] ?a~?adup-en.*
 be.many NOM-NM UV-catch-MODF GEN-NM trap LNK Ca~hunt-EN
 ‘The animals caught by the trap were numerous.’
- b. *Ma-ala n-u talakal k-u ?a~?adup-en.*
 UV-take GEN-NM trap NOM-NM Ca~hunt-EN
 ‘The animals were caught by the trap.’

354 There is some overlap between UV *ma-...-ay* RCs and the very common
 355 *ka-...-en* RCs (discussed in section 5.3), which both have patient pivots; this
 356 also points out that the modifying verb forms suffixed by *-ay* versus *-an/-en* do
 357 not mark an active-passive contrast. Modifying UV *ma-stem-ay*, such as (28a),
 358 are derived from transitive verbs and denote telic actions or events, whereas
 359 modifying *ka-...-an* forms are derived from stative or intradirective verbs
 360 (see section 5.2).

361 This overlap probably results from some internal reorganization of the
 362 N.Amis’ voice system and carries similar semantic distinctions to those of inde-
 363 pendent clauses: namely, the patient of UV *ma-* is fully affected and its agent is
 364 neutral for animacy and intentionality, while the agent of UV *-en* is intentional
 365 and its patient is neutral in terms of affectedness (see Brill 2022a).

366 **4.2. HEADLESS RCs WITH -AY: CONDITIONS OF USE.** Like all mod-
 367 ifying constructions, RCs can be headless (i) if the head is definite and highly
 368 referential, as in (29a), or (ii) if it is indefinite and preferably left unmen-
 369 tioned, as in (30) and (31a). In (29a), the inchoative modifying verb *mala-*
 370 *cidal-ay* is followed by a stand-alone stative modifier *Ø-tataak-ay*, with an
 371 ellipted referential noun (moon). Compare with the declarative construction
 372 in (29b).

25. *Ca-...-en* forms are derived lexical patient nouns; see section 5.3.

- (29) a. Iraan ci Bulad hananay iri,
DEICT NOM.PM Moon so.called TPC
 [mala-cidal-ay a] bulad kiyami haw,
INCH-sun-MODF LNK moon EVID ASS
 Ø-tataak-ay [Ø] cira.
big-MODF Ø NOM.3SG
 ‘As for the one called Moon, the moon that had become a sun, it was
 the big one.’ (Lamiq U teker ni Adek. 099–100)
- b. Mala-cidal k-u bulad; Ø-tataak cira.
INCH-sun NOM-NM moon Ø-big NOM.3SG
 ‘The moon became a sun; it was big.’

373 Headless RCs are also common inthetic, existential predications with indef-
 374 inite NPs; ellipsis of the head and its resulting stand-alone modifier does not
 375 create a derived lexical noun; for instance, *mi-kungkung-ay* in (30) retains ver-
 376 bal properties and a *t-* marked argument *panan*, even if the head *tamdaw* is
 377 ellipted.

- (30) Si mi-kungkung-ay (a tamdaw) t-u panan.
EXS AV-knock-MODF LNK person OBL-NM door
 ‘There was someone knocking at the door.’

378 In (31a), since the actor *cima~cima* is clefted, the gapped actor pivot in the
 379 RC is marked as *mi-kuta-ay*, which has a *t-* marked theme argument; compare
 380 with the expressed head in (b).

- (31) a. Ka-tayra aca k-amu a mi-melaw cima~cima aca
NFIN-go again NOM-2PL COMP AV-see RDP~who again
 k-u [mi-kuta-ay t-ira nemnem-an] [Ø].
NOM-NM AV-make.turbid-MODF OBL-DEICT spring-OBL
 ‘Go again and see who (is the one that) makes the spring-water turbid.’
 (u patay ni Calaw Ilikic.011)

- b. Anu ma-melaw nunamu
if UV-see GEN.2PL
k-ira [mi-kuta-ay a] *tamdaw*, ...
NOM-DEICT AV-make.turbid-MODF LNK person
 ‘If you see the person who makes (it) turbid ...’
 (u patay ni Calaw Ilikic.012)

381 In (32), the ellipted indefinite pronoun *maʔan* ‘something’ also results in a
 382 stand-alone modifier verb.

- (32) Ma-baher k-u ma-nanuwang-ay [Ø] i kudu~kudul.
NAV-fly NOM-NM NAV-move-MODF [Ø] LOC RDP~sky
 ‘Some moving (thing) is flying in the sky.’

383 The flexible properties of these deranked verbal modifiers also appear in the
 384 headless RC in (33a): in its internal syntax, the modifying verb *mi-dudu^w-ay*
 385 has a theme argument *itisuwan*; however, being a stand-alone modifier with an
 386 ellipted head (*tamdaw* ‘person’), it surfaces as an NP coordinated with the P_{nom}

387 *k-isu* in its external syntax, serving as the nominative patients of *pa-atimela-*
388 *an*.²⁶ Compare with the AV verb construction in (33b).

- (33) a. A=pa-atimela-an=aku [k-isu atu
FUT=CAUS-fly-LV=GEN.1SG NOM-2SG and
[mi-dudu^w-ay itisuwan] [Ø].
AV-follow-^{EP}-MODF OBL.2SG
'I will send swarms of flies on you and on those who follow you.'
(Kakunas.044)

- b. Mi-dudu cira itisuwan.
AV-follow NOM.3SG OBL.2SG
'He's following you.'


389 The retained verbal properties of modifying verb *-ay* stems are also evi-
390 denced by their tense-aspect markers, for instance, the change of state/perfect
391 enclitic =*tu* in (34), the past proclitic *na=* in (35) and by its theme argument
392 *t-ina nanum*.

- (34) Sawad han²⁷ n-uhni [k-iyān u [ma-ala-ay=tu a]
leave do.thus GEN-3PL NOM-DEICT NM UV-catch-MODF=PFV LNK
ʔa~ʔadup-en].
ca~hunt-EN
'They abandoned the animal that had been caught.' (ʔicep.022)

- (35) U [na=mi-nanum-ay t-ina nanum (a) tamdaw],
NM PAST=AV-drink.water-MODF OBL-DEICT water (LNK person)
a=ma-suʔaw henay cira.
FUT=NAV-thirsty still NOM.3SG
'The one who drank that water will still be thirsty.'

393 In sum, headless RCs are the default choice with indefinite and generic head
394 NPs; the resulting stand-alone modifying verbs retain verbal properties; how-
395 ever, some of these stand-alone modifiers may be lexicalized as referring nouns.

396 **4.3. FROM HEADLESS RCs TO REFERRING NPs.** The evolution path
397 from modifiers derived by *-ay* to conventionalized referring nouns is argued to
398 occur via stand-alone modifiers leading to 'de-adjectival' nouns, like 'the old',
399 'the dark', and 'the rich' in English. Genetti (2011:163) discusses a similar evo-
400 lution in some Tibeto-Burman languages.

401 While clausal and derivational nominalizations are distinct structures syn-
402 chronically, each can give rise to the other. The center of these historical devel-
403 opments is relativization, which instantiates clausal syntax but is ultimately a
404 referential device. 

405 **4.3.1. From modifiers to referring NPs.** The possible evolution from stand-
406 alone *-ay* modifiers in headless RCs to more or less fully lexicalized referring
407 NPs is gradual; their modifying and referring functions may coexist and are

²⁶ LV verb constructions like *pa-atimela-an* have undergoer subjects and genitive agents.
²⁷ *Han* is a substitute for UV constructions.

408 disambiguated syntactically. For instance, in (36a), *ma-tumes-ay* modifies the
 409 head noun *pa~pitila-an* ‘container’; on the other hand, the function of *Ø-cilmin-*
 410 *ay* in (36a,b) is context-dependent; it has a referring use in (a), meaning ‘vine-
 411 *gar*’ (lit. something that’s sour, from *Ø-cilmin* ‘sour’), while it is a modifier
 412 in (b).

(36) a. Ira *k-u* [ma-tumes-ay [n-u Ø-cilmin-ay] a]
 EXS NOM-NM UV-full-MODF GEN-NM Ø-sour-MODF LNK
pa~pitila-an.
 Ca~contain-AN
 ‘There was a jar/container that was filled by/with vinegar.’
 (John 18:28 p. 157)

b. Ma-ulah k-aku *t-u* [Ø-cilmin-ay a] *sinabel.*
 NAV-like NOM-1SG OBL-NM Ø-sour-MODF LNK dish
 ‘I like sour dishes.’

413 **4.3.2. Restrictions.** There are restrictions to such lexicalizations: (i) they
 414 mostly occur with stative or intransitive verbs; (ii) they generally fill a lexical
 415 gap; and (iii) they become conventionalized if they are highly frequent NPs.
 416 Like other NPs, they can be used as the predicates of ascriptive constructions
 417 and are negated by *caay* like other verbs and predicates, as shown by (37a,b).

(37) a. U mi-ʔadup-ay cira.
 NM AV-hunt-MODF NOM.3 SG
 ‘He’s a hunter.’ (U teker ni Adek.043)

b. Caay ka u mi-ʔadup-ay cira.
 NM STAT NM AV-hunt-MODF NOM.3SG
 ‘He’s not a hunter.’

418 Among other instances of modifiers conventionalized as referring expres-
 419 sions via their de-adjectival use are *u ma-urip-ay* ‘living beings, the living’
 420 (lit. one who is alive, from *ma-urip* ‘be alive’), *u ma-patay-ay* ‘the dead’ (from
 421 *ma-patay* ‘die’), *u ma-tuʔas-ay* ‘elders, parents, ancestors’ (from *ma-tuʔas* ‘be
 422 old’), *u si-kawas-ay* ‘shaman’ (lit. one who has spirits *kawas*), *u pa-ʔaraw-ay*
 423 ‘performer, actor’ (*pa-ʔaraw* ‘perform’ < *ʔaraw* ‘watch’), *u pa-lunan-ay*
 424 ‘sailor’ (lit. the one who sails) (from *pa-lunan* ‘sail, row a boat’, *lunan* ‘boat’).

425 **4.3.3. Summary.** It is argued that such de-adjectival nouns do not entail that
 426 *-ay* is a nominalizer; the modifiers derived by *-ay* primarily denote TIME-
 427 STABLE properties of INDIVIDUAL entities, some of which may be convention-
 428 alized as referring expressions. Such primarily syntactic derivation giving rise
 429 to some lexical nouns is distinct from other morphological devices by which
 430 new lexical entries are productively derived in Amis.²⁸

28. Lexical derivation creates new words, while syntactic derivation allows a lexical base to be used in different syntactic environments and functions with limited semantic change.

431 **5. A CLOSE-UP ON NONFINITE RCs *PI-...-AN*, *KA-...-AN*, AND**
 432 ***KA-...-EN* STEMS.** RCs with nonfinite *pi-...-an*, *ka-...-an*, and
 433 *ka-...-en* stems have patient, experiencer, or location pivots subsumed under
 434 the general term Undergoer, encoded by the nominalizers *-an* and *-en*. These
 435 nonfinite stems also retain verbal properties, host T.A.M. markers, and govern
 436 case-marked arguments. *Pi-...-an* stems take activity-denoting verbs as input;
 437 *ka-...-an* and *ka-...-en* stems take other verbs as input.²⁹ The perfective
 438 aspect is marked by the nominalizer *ni-* and occurs on *(ni-)pi-...-an* and
 439 *(ni-)ka-...-an* stems; however, *ka-...-en* does not allow the perfective
 440 *ni-* prefix.³⁰

441 **5.1. UNDERGOER PIVOTS IN MODIFYING *(NI)-PI-...-AN* STEMS.**

442 Modifying nonfinite *pi-* stems only occurs as *(ni-)pi-...-an* stems but not as
 443 *****(ni-)pi-...-en***, possibly because *mi-/pi-* stems tend to denote atelic activities,
 444 in contradiction with the affected patient marked by *-en*.

445 Clefted undergoers are one context-triggering RCs with a gapped patient
 446 pivot encoded by *(ni-)pi-...-an* or *(ni-)ka-...-an* stems. The obligatory non-
 447 finite *pi-* form in (38a) distinguishes RCs from independent clauses in which
 448 LV *-an* is directly suffixed to the verb, as in (38b). On the other hand, both con-
 449 structions in (38a,b) have the same argument structure with a P_{nom} pivot
 450 (*suwal*) and an A_{gen} (= *ita*).

(38) a. U *suwal* n-u *tumuk* [k-u **pi-tengil-an=ita**].
 NM word GEN-NM chief NOM-NM NFIN-listen-AN =GEN.IPL.INCL
 ‘It’s the chief’s words that we listen to.’
 Ungrammatical: *u suwal n-u tumuk [k-u **tengil-an=ita]*

b. **Tengil-an=ita** k-u *suwal* n-u *tumuk*.
 listen-LV=GEN.IPL.INCL NOM-NM word GEN-NM chief
 ‘We heard the chief’s words.’

451 On the other hand, a clefted Actor like *cima* ‘who?’ in (39) triggers the mod-
 452 ifying *-ay* form in the RC. The independent clause is given in (39b).

(39) a. A=*cima* saw [k-u *mi-padang-ay*³¹ *ititaan*]?
 FUT=who? DISC NOM-NM AV-help-MODF OBL.IPL.INCL
 [predicate] [– RC containing the presupposition –]
 ‘Who (’s the one who) will help us?’ (kalalaisan nu Ciwidian.046)

b. A=*mi-padang* k-uhni *ititaan*.
 FUT=AV-help NOM-3PL OBL.IPL.INCL
 ‘They will help us.’

29. As a reminder, *pi-* is the nonfinite form of activity AV *mi-* verbs and *ka-* the nonfinite form of NAV *ma-* verbs or stative \emptyset -verbs.

30. According to Blust and Chen (2017:605), “In nearly all Philippine-type languages the UV affix *-en* has a zero allomorph in perfective forms, and as a result in these constructions <*in*> functions as a portmanteau affix with both aspectual and voice-marking functions.” In contrast, the avoidance of co-occurring *ni-* and *-en* in Amis is in favor of *-en*.

31. The abilitative voice marker *maka-* has the same argument structure as AV verbs, with *k-/t-* case-marking.

453 **5.2. UNDERGOER PIVOTS IN MODIFYING (NI)-KA-...-AN.** RCs
 454 with (ni)-ka-...-an stems have undergoer pivots that are more superficially
 455 affected than those with ka-...-en stems, similarly to independent clauses with
 456 LV-an and UV-en. (Ni)-ka-...-an stems mostly have stative verbs as input, like
 457 ka-seneng-an in (40a,b), derived from ma-seneng ‘be proud’ shown in (40c).
 458 The indefinite head of the RC is ellipted in (40b), leaving ka-seneng-an as a
 459 stand-alone modifier surfacing as the nominative argument of the quantifier
 460 verb *adihay*.

- (40) a. Adihay *k-u* [ka-seneng-an n-ira a] *demak*.
 be.a.lot NOM-NM NFIN-take.pride-AN GEN-3SG LNK action
 ‘The actions that he takes pride in/is proud of are numerous.’
 (lit. they are numerous (the things) that he is proud of)
- b. Adihay *k-u* ka-seneng-an n-ira [Ø].
 be.a.lot NOM-NM NFIN-take.pride-AN GEN-3SG
 ‘There are many (things) that he takes pride in.’
- c. Ma-seneng *k-aku* itisuwan.
 NAV-take.pride NOM-1SG OBL.2SG
 ‘I’m proud of you.’

461 Similarly, in the RCs of (41a,b), *ka-talaw-an* (derived from *ma-talaw* ‘fear’
 462 shown in (41c)), has an undergoer pivot; in (41b), the head *maʔan*³² may be left
 463 unexpressed.

- (41) a. Anu maka-litemuh *k-amu t-u* [ka-talaw-an a] *kawas*.
 if ABILT-meet NOM-2PL OBL-NM NFIN-fear-AN LNK god
 ‘If you (ever) meet the god who’s dreaded.’ (Lalagawan.011)
- b. Awaay *k-u* [ka-talaw-an (a) *maʔan*].
 NEG.EXS NOM-NM NFIN-fear-AN LNK something
 ‘There was (nothing) to be feared.’
- c. Ma-talaw *cira t-u* *kawas*.
 NAV-fear NOM.3SG OBL-NM god
 ‘He fears the gods.’

464 That *ka-talaw-an* is a modifier in (41b), not a derived lexical noun, is shown
 465 by the fact that *u talaw* is a noun, as shown by (41d).

- d. Uruma *k-u* talaw n-ira a patay-en.
 great NOM-NM fear GEN-3SG COMP kill-UV
 ‘Great was his fear of being killed.’ (Maciwiw.038)

4(AQ1) **5.2.1. Distinguishing modifiers lexicalized as nouns versus lexical**
 467 **derivation by Ca~...-an.** In this case too, a few derived modifiers are used
 468 as lexicalized undergoer nouns, like *ka-urip-an* ‘life’ (< *ma-urip* ‘live’), *ka-*
 469 *balihnaw-an* ‘anxiety’. However, they are few and formally distinct from

32. See example (32) for a similar use of *maʔan*.

470 the productive derivation of lexical undergoer nouns by *Ca~...-an* construc-
 471 tions, as in (42), or by *Ca~...-en* (see section 5.3).

- (42) Ci Hayan=tu a cacay [k-u ta~terung-an
 PM Hayan=PFV LNK one NOM-NM Ca-be.responsible-AN
 n-u ama atu ina].
 GEN-NM father and mother
 ‘It was Hayan alone the guardian of her father and mother.’ (the person
 responsible of ...) (U nipiketun ni Hayan.0005)

472 **5.3. UNDERGOER PIVOTS IN MODIFYING KA-...-EN STEMS.**

473 While *ka-...-an* stems tend to be stative, *ka-...-en* stems refer to accom-
 474 plished events with an undergoer pivot and do not occur with the perfective
 475 nominalizer *ni-*. This is shown in example (43a) repeated from (19); the declar-
 476 ative UV sentence is given in (43b).

- (43) a. Adihay k-u [ka-naʔun-en n-u babahi-y-an³³ (a]
 numerous NOM-NM NFIN-care-EN GEN-NM woman-^{EP}-MODF LNK
demak).
 action
 ‘Women had many (duties) to carry out.’ (lit. they were numerous (the
 duties) that women carried out)
- b. Naʔun-en n-uhni k-ina demak.
 care-UV GEN-3PL NOM-DEICT action
 ‘They carried out these duties.’

AQ2 **5.3.1. Lexical derivation of Undergoer nouns by *Ca~...-en*.** Modifiers

478 with *ka-...-en* form are distinct from lexical Undergoer nouns, which are pro-
 479 ductively derived by *Ca~...-en* constructions, for instance, *ʔa~ʔucur-en* ‘an
 480 order, an ordered servant’ (< *mi-ucur* ‘order’) in (44), and *ʔa~ʔurung-en* in (45).

- (44) U ʔa~ʔucur-en n-ira.
 NM Ca~command-EN GEN-3SG
 ‘These were his orders.’ (Kakunas.076)
- (45) Nika, ina ʔa~ʔurung-en, Ø-baqket.
 but DEICT Ca~load-EN Ø-heavy
 ‘But, as for this load, it was heavy.’ (Writing amis.098)

481 Among other such cases of derived lexical undergoer nouns are *u ca~c(e)bar-*
 482 *en* ‘umbrella’ (< *mi-cebar* ‘open’), *u ʔa~ʔadup-en* ‘game, wild animals’
 483 (< *mi-ʔadup* ‘hunt’), and *u ba~balah-en* ‘garbage’ (< *mi-balah* ‘throw away’).

484 **5.4. COMPARING GERUNDS AND MODIFYING FORMS.** Gerunds
 485 and participials are labels for some FUNCTIONS of deranked verb forms; gerunds
 486 have the same SYNTACTIC FUNCTIONS as nouns; they are arguments of verbs,
 487 possessive determiners of other nouns, and adpositional dependents, as in *the*
 488 *thought of meeting him was scary*. Participial (labeled here modifying) verb

33. The modifier *babahi-y-an* refers to the type of work carried out by women, as in example (2).

489 forms serve as modifiers. These deranked forms may or may not be formally
 490 different, for instance, English *V-ing* forms are gerunds as in ‘smiling won’t
 491 help’ and participial/modifying forms as in ‘a smiling baby’.

492 As already pointed out, *(ni-)pi-* and *(ni-)ka-* stems WITHOUT *-an* are only
 493 gerunds, that is, deverbal nouns standing for instance as arguments of comple-
 494 ment clauses, as *t-* marked themes in (46a,b), and as the nominative pivot
 495 in (46c).

(46) a. Ma-melaw cira [t-u ka-hetik n-ira i tebung].
 NAV-see NOM.3SG OBL-NM NFIN-fall GEN-3SG LOC well
 ‘She saw its fall in the well.’ (Tatakulaq atu Hungti.028)

b. Mi-tala=tu k-ami [t-u ni-pi-sangaq n-uhni
 AV-wait=PFV NOM-1PL.EXCL OBL-NM PFV.NMLZ-NFIN-make GEN-3PL
 t-u lalan].
 OBL-NM road
 ‘We waited for their repairing the road.’

c. Ma-tengil=tu k-u ni-pi-tibek n-u kay?ing.
 UV-hear=PFV NOM-NM PFV.NMLZ-NFIN-pound GEN-NM young.woman
 ‘(they) could hear the (rice) pounding of the young women.’
 (kalalaisan nu Ciwidian.138)

496 On the other hand, *(ni-)pi- . . . -an* and *(ni-)ka- . . . -an* stems have both func-
 497 tions, as modifiers in RCs with undergoer pivots as in (47) and gerunds as in
 498 (48), where *k-u ni-ka-hadeng-an* is the nominative argument of the existential
 499 verb and has a genitive determiner.

(47) Ma-pawa~pawan=tu cira [t-ira [ni-ka-sa~suwal-an
 NAV-RDP~forget=PFV NOM.3SG OBL-DEIC PFV.NMZ-NFIN-Ca³⁴~speak-AN
 a] demak].
 LNK action
 ‘He had totally forgotten all the actions (that they) had agreed upon.’
 (Tatakulaq atu Hungti.059)

(48) Awaay k-u ni-ka-hadeng-an n-u adada.
 NEG.EXS NOM-NM PFV.NMZ-NFIN-improve-AN GEN-NM disease
 ‘There has been no improvement of the disease.’

500 Deranked verb forms with such twin functions are cross-linguistically common.

501 **5.5. COMPARING STATIVE MODIFYING KA- . . . -AN STEMS AND**
 502 **MA- . . . -AY STEMS.** The distribution of nonfinite *ka- . . . -an* and finite NAV
 503 *ma- . . . -ay* stems is governed by the thematic role of the pivot in the RC: expect-
 504 edly, *ka- . . . -an* stems have an undergoer pivot together with *k-/n-* case-marking
 505 (P_{nom} , A_{gen}), and NAV *ma- . . . -ay* stems have an experiencer pivot with *k-/t-* case-
 506 marking (S_{nom} , T_{obl}).

507 For instance, *ka-ulah-an* in (49a) modifies the undergoer pivot *babahi* in the
 508 RC. The declarative clause in LV is given in (b).

34. *Ca-* reduplication marks the reciprocal relation in this case.

- (49) a. [**Ka-ulah-an**=aku a] babahi cira.
 NFIN-like-AN=GEN.1SG LNK woman NOM.3SG
 ‘She’s the girl I love.’ (lit. she’s my loved girl)
- b. Ulah-**an**=aku k-ina babahi.
 like-LV=GEN.1SG NOM-DEICT woman
 ‘I love this girl.’

509 On the other hand, an S experiencer pivot selects an RC with the *ma-...-ay*
 510 modifying stem and *k-/t-* case-marking (S_{nom}, T_{obl} argument) as in (50a). The
 511 declarative construction in (50b) has the same argument structure.

- (50) a. [[**Ma-ulah-ay** itisuwanan a] tamdaw] cira.
 NAV-like-MODF OBL.2SG LNK person NOM.3SG
 ‘(He’s) the person/the one who loves you.’
- b. **Ma-ulah** cira itisuwanan.
 NAV-like NOM.3SG OBL.2SG
 ‘He loves you.’

512 The pair in (51) shows an undergoer pivot with a perfective *ni-ka-...-an*
 513 stem in (a), while the *ma-...-ay* modifier in (b) denotes a TIME-STABLE prop-
 514 erty of the S head *kakawaw* ‘behaviour’.

- (51) a. Adidiq *k-u* [**ni-ka-anub-an** a] *tamaq*.
 be.little NOM-NM PFV.NMLZ-NFIN-ENVY-AN LNK game
 ‘The coveted game was in small quantity.’
- b. Raqcus *k-u* [**ma-anub-ay** a] *kakawaw*.
 be.bad NOM-NM NAV-ENVY-MODF LNK behaviour
 ‘A coveting/envious behaviour is bad.’

515 In sum, RC constructions with their deranked verb forms display the same
 516 voice and pivot alternations, the same alignments, and the same grammatical
 517 relations as in main and independent clauses.

518 **6. PERFECTIVE NI-...-AN AND PAST RESULTATIVE NA-...-AN**
 519 **STEMS.** The perfective *ni-...-an* and past *na-...-an* stems (without *pi-*
 520 and *ka-*) also function as modifying stems with undergoer pivots, or as gerunds
 521 in some complement and adverbial clauses. Their function is disambiguated by
 522 behavioral features in their internal and external syntax.

523 Table 8 summarizes the semantic, aspectual features and functions of
 524 (*ni-*)*pi-/ka-* stems, (*ni-*)*pi-/ka-...-an* stems, and of *ni-...-an* and *na-...-an*
 525 stems.³⁵ The discussion of *ni-...-an* and past *na-...-an* stems is restricted
 526 to their modifying functions.

527 **6.1. DISTINGUISHING NI-...-AN FROM NI-PI-...-AN STEMS.** Both
 528 forms modify an undergoer pivot (52) or a location pivot as in (53a); the main

35. As a reminder, UV *-en* does not occur with the perfective nominalizer *ni-* (***ni-...-en*).

TABLE 8. PROPERTIES AND SEMANTICS OF NONFINITE VERB STEMS.

Functions	Semantics	Aspectless	Perfective	Past
Gerund event NMLZ	Activity oriented	pi- stem	ni-pi- stem	
	State or property	ka- stem	ni-ka- stem	
Modifying or gerund	Patient pivot of <i>activity</i> verb Location/time of <i>activity</i>	pi-...-an	ni-pi-...-an	
	Experiencer, patient pivot Location/time modifiers	ka-...-an	ni-ka-...-an	
Modifying or gerund	Patient pivot of accomplished <i>event</i>		ni-...-an	
	Patient pivot of past <i>event</i> , past <i>state</i> , and past resultative			na-...-an

529 difference is semantic: *ni-pi-...-an* stems denote perfective PROCESSES or
530 ACTIVITIES, while *ni-...-an* stems denote perfective EVENTS.

531 In the headless RC with an ellipted undergoer pivot (*ma?an* ‘something’) in
532 (52), *ni-pi-simsim-an* refers to the prior process of making promises (mentioned
533 some utterances before) that were later forgotten.

- (52) Nika ma-pawa~pawan=tu; awaay k-u **ni-pi-simsim-an**
 but UV-RDP~forget=PFV NEG.EXS NOM-NM PFV.NMLZ-NFIN-think-AN
 n-ira [Ø].
 GEN-3SG

‘But (she) had completely forgotten, there were none of the (things) that
 she had been planning (to do).’ (Tatakulaq atu Hungti (2).0051)

534 In (53a), the RC modifying the locative adjunct *i niyaruq* ‘in the village’
535 refers to a previously planned EVENT *ni-simsim-an* with a locative pivot.
536 Compare with the gerund form *ni-simsim* in (53b).

- (53) a. A=maka-lunan k-ami a tara
 FUT=ABIL-boat NOM-1PL.EXC COMP go
 ‘We’ll take a boat to go
i [**ni-simsim-an** nuniyam a] *niyaruq*.
 LOC PFV.NMLZ-think-AN GEN.1PL.EXCL LNK village
 to the village where we planned [to go].’ (U misamaraday.062)
- b. Caay ka-ngaay k-iyā **ni-simsim** n-iyā limucedan.
 NEG NFIN-adequate NOM-DEIC PFV.NMLZ-think GEN-DEIC young.woman
 ‘The young woman’s plan was not adequate.’ (?uner.0017)

537 The *ni-...-an* verb in the RC has an undergoer pivot in (54a) and is mod-
538 ified by a time adverb *inacila a labi?i* ‘the night before’; compare with the UV
539 -*en* voice construction in (54b) with the rice as patient pivot and a genitive agent
540 (P_{nom} , A_{gen}).

(54) a. *Rahkad-en n-u babahi [k-u [ni-lalu^w-an
 steam-UV GEN-NM woman NOM-NM PFV.NMLZ-soak^w-AN
 inacila a labi?i a] panay].*
 yesterday LNK night LNK rice
 ‘The women steam-cooked the rice that had been soaked the night
 before.’ (U nipiketun ni Hayan.0021)

b. *Lalu^w-en=tu n-ira k-u panay.*
 soak^w-UV=PFV GEN-3SG NOM-NM rice
 ‘(s)he soaked the rice.’

541 **6.2. PERFECTIVE *NI*-...-AN VERSUS *NI*-...-AY MODIFYING STEMS.**

542 Expectedly, RCs with perfective *ni*-...-*an* stems have UNDERGOER pivots as
 543 in (55a) (compare with the declarative UV-*en* clause in (55b)), while perfective
 544 *ni*-...-*ay* stems³⁶ have ACTOR pivots (56a).

(55) a. *Ma-banaq k-aku t-u*
 NAV-know NOM-1SG OBL-NM
 [ni-hakulung-an numisu inacila a] babahi.
 PFV.NMLZ-accompany-AN GEN.2SG yesterday LNK woman
 ‘I know the woman whom you accompanied yesterday.’

b. *Hakulung-en n-uhni k-ira babahi inacila.*
 accompany-UV GEN-3PL NOM-DEICT woman yesterday
 ‘They accompanied the woman yesterday.’

545 RCs with modifying *ni*-...-*ay* verbs as in (56a) have the same argument
 546 structure as the declarative AV *mi*- clause in (56b), namely an actor pivot
 547 and a theme argument.

(56) a. *Cima k-ira [ni-hakulung-ay itisuwan a] babainay?*
 who? NOM-DEIC PFV.NMLZ-accompany-MODF OBL.2SG LNK man
 ‘Who is the man who has accompanied you?’

b. *Mi-hakulung=tu cira itisuwan.*
 AV-accompany=PFV NOM.3SG OBL.2SG
 ‘He has accompanied you.’

548 **6.3. PAST RESULTATIVE *NA*-...-AN STEMS VERSUS *NA*-...-AY**
 549 **MODIFYING STEMS.** Similarly, *na*-...-*an* stems refer to past events with
 550 UNDERGOER pivots, while *na*-...-*ay* stems have ACTOR pivots, as in (57b). In
 551 (57a), *na-rakat-an*³⁷ modifies a locative head *lalan*.

(57) a. *U [na-rakat-an a] lalan.*
 NM PAST.NMLZ-walk-AN LNK road
 ‘(it was) a path that one walked on.’

b. *Ira=tu haw k-ira [na-k-an-ay a] tumay.*
 EXS=PFV DISC NOM-DEICT PAST.NMLZ-<UM>eat-MODF LNK bear
 ‘There was indeed the bear who ate (people).’ (Picep.094)

36. The perfective *ni*- replaces *mi*- in these constructions.

37. Distinct from a locative noun derived by *Ca*-reduplication: *u ra~rakat-an* ‘a path’.

552 Like perfective (*ni-*)*pi*-...-*an* and (*ni-*)*ka*-...-*an* stems, past *na*-...-*an*
 553 stems can serve as modifiers in RCs (58a) or as gerunds³⁸ (58b,c), depending
 554 on syntactic context. The declarative LV verb construction is given in (58d).

- (58) a. *U* [**na-ripaq-an a**] *suni*.
 NM PAST.NMLZ-tread-AN LNK sound
 ‘(it was) the sound of footsteps.’ (lit. sound made by walking)
- b. *Caay ka-haʔen u na-ripaq-an n-u tamdaw*.
 NEG NFIN-be.like NM PAST.NMLZ-tread-AN GEN-NM person
 ‘They were not like a person’s footprints.’
- c. *Caay ka-haʔen u [n-u tamdaw-ay a] na-ripaq-an*.
 NEG NFIN-be.like NM GEN-NM person-MODF LNK PAST.NMLZ-tread-AN
 ‘They were not like human footprints.’ (U tumay.025)
- d. *Ripaq-an=isu k-ira rungus*.
 tread-LV=GEN.2SG NOM-DEICT grass
 ‘You trampled the grass.’



555 **7. MODIFIERS OF TIME AND PLACE NOUNS: (NI)-PI-...-AN AND**
 556 **(NI)-KA-...-AN.** Congruent with the locative *meaning of* *-an* is the fact that
 557 (*ni-*)*pi*-...-*an* and (*ni-*)*ka*-...-*an* also serve to derive (i) modifiers of time and
 558 place nouns and (ii) gerunds with spatiotemporal interpretation. Modifying
 559 (*ni-*)*pi*-...-*an* stems refers to the time or place of some activity, while
 560 (*ni-*)*ka*-...-*an* stems refers to the time or place of some state of affairs or event.
 561 These are syntactic derivations, distinct from lexical location nouns that are
 562 productively derived by *Ca*~...-*an* forms, by which lexical undergoer nouns
 563 are also derived (see section 5.2).

564 **7.1. SPECIFYING THE PLACE OR TIME OF SOME ACTIVITY**
 565 **WITH PI-...-AN.** Modifiers of time nouns derived from ACTIVITY *mi-* verbs
 566 are illustrated in (59a); these modifiers have verbal properties, host aspectual
 567 markers, and govern arguments. In (59a), *pi-ala-an* hosts the perfect clitic =*tu*
 568 and has a theme argument *ci Laliyuk-an*. The time noun *remiʔad* is first mod-
 569 ified by *pa-ra~ramud-an*, while the following modifier *u pi-ala-an* ‘the time for
 570 bringing something’ is a stand-alone modifier with an ellipted head *remiʔad*;
 571 the noun marker *u* is actually a constituent of the ellipted head ([*pi-ala-an*=*tu*
 572 *ci Laliyuk-an* (*a*) *REMIʔAD*] ‘(the day) for bringing Laliyuk’). Compare with the
 573 declarative voice-affixed verb construction in (59b).

- (59) a. *I* [**pa-ra~ramud-an³⁹ a**] *remiʔad*, *u pi-ala-an=tu*
 LOC CAUS-ca-marry-AN LNK day NM NFIN-take-AN=PFV
ci Laliyuk-an i lumaq n-i Hayan.
 PM Laliyuk-OBL LOC house GEN-PM Hayan
 ‘On the day of the marriage, it was (the day) for bringing Laliyuk to
 Hayan’s house.’ (U nipiketun ni Hayan.0128)

38. According to Starosta (1995 [2009:748]), *na-* produces nouns with the meaning ‘former N’.

39. *Ca*~ reduplication marks a reciprocal relation here.

- b. *Mi-ala=tu ci Laliyuk-an.*
 AV-take=PFV PM Laliyuk-OBL
 ‘(He) brought Laliyuk.’

574 Examples (60a,b) illustrate the two functions of *(ni-)pi-...-an*; in (a), the
 575 form *pi-buting-an* modifies the head noun *remiʔad* ‘day’ as the time for some
 576 activity (the days for going fishing), while it is a gerund in (b), where *pi-buting-*
 577 *an* stands as a nominative argument referring to the time of activity and has a
 578 possessive determiner.

- (60) a. *Ma-haen k-u demak n-u [pi-buting-an a] remiʔad.*
 NAV-be.SO NOM-NM action GEN-NM NFIN-fish-AN LNK day
 ‘The custom on fishing days was like that.’ (Mi-buting.061)
- b. *Uyaan a mihcaan, ma-litemuh k-u pi-buting-an*
 DEICT.PRON LNK time.of.year UV-welcome NOM-NM NFIN-fish-AN
n-u babainay.
 GEN-NM man
 ‘At that time of year, the fishing time of men is welcome.’
 (Mi-buting.002)

579 **7.2. MODIFYING THE TIME OR PLACE OF STATES OR EVENTS**
 580 **WITH KA-...-AN.** Derived *ka-...-an* stems modify the time or place of
 581 some state of affairs or of some resulting event. For instance, *ka-suleda-an*
 582 in (61) is derived from *ma-suleda* ‘it’s freezing, it’s snowing’.

- (61) *Ka-suleda-an a remiʔad.*
 NFIN-snow-AN LNK day
 ‘It is a snowy day.’

583 In (62a), the two coordinated *ni-ka-...-an* stems modify the head *niyaruq*
 584 and refer to the place where the events took place, while in (62c), they are
 585 stand-alone locative modifiers with the ellipted place noun. The input of the
 586 *ni-ka-...-an* stems is two intransitive *ma-* verbs (*ma-hetik* ‘fall’ and *ma-patay*
 587 ‘die’).

- (62) a. *U [ni-ka-hetik-an atu ni-ka-patay-an*
 NM PFV.NMLZ-NFIN-fall-AN and PFV.NMLZ-NFIN-die-AN
n-i Balaisan a] niyaruq,
 GEN-PM Balaisan LNK village
 ‘As for the village where Balaisan had fallen and died,’
- b. *pa-ngangan han=tu “Cinanuyan” n-u binaulan*
 CAUS-name do.thus.UV=PFV Cinanuyan GEN-NM villager
 the villagers named “Cinanuyan”
- c. *[t-u ni-ka-hetik-an atu ni-ka-patay-an*
 OBL-NM PFV.NMLZ-NFIN-fall-AN and PFV.NMLZ-NFIN-die-AN
n-i Balaisan] [Ø].
 GEN-PM Balaisan
 (the place) where Balaisan had fallen and died.’
 (U nipiketun ni Hayan.0138)

588 The *ni-ka-...-an* stems in (62c) are stand-alone modifiers surfacing as the
 589 *t-u* theme arguments of the verb *pa-ngangan* ‘call, name’. They are distinct
 590 from the derived event nouns *ni-ka-patay* ‘the death’ and *(ni-)ka-hetik* ‘the fall’
 591 (see section 5.4). The same reasoning holds for (63), *ka-tangasa-an* (from
 592 \emptyset -*tangasa* ‘arrive’) modifies *u remi?ad* and hosts the perfect clitic =*tu*; if it were
 593 an event noun, it would occur as *(ni-)ka-tangasa* ‘the arrival’.

- (63) I *u* [ka-tangasa-an=tu n-u labang a] *remi?ad*,
 LOC NM NFIN-arrive-AN=PFV GEN-NM guest LNK day
 a patelah=tu ci Hayan t-u kudu i dangah.
 then insert=PFV PM Hayan OBL-NM rice-steamer LOC cooking-pot
 ‘On the day when the guest arrived, then Hayan inserted the rice-steamer
 in the cooking-pot.’ (U nipiketun ni Hayan.0070)

594 **7.3. FROM HEADLESS MODIFIERS TO REFERRING TIME AND**
 595 **PLACE NOUNS.** As with modifiers derived by *-ay*, headless *pi-...-an*
 596 and *ka-...-an* modifiers may be lexicalized as time and location nouns. For
 597 instance, *pa-hanhan-an* (from the root *hanhan* ‘breath, breathe’, derived as
 598 *pa-hanhan* ‘rest’) is a modifier in (64a) and a lexicalized time noun in (b)
 599 via a stand-alone modifier. It is, however, distinct from the lexical noun derived
 600 by *Ca-...-an* constructions as *ha-hanhan-an* ‘panting’.

- (64) a. I [pa-hanhan-an a] *remi?ad*.
 LOC PROC-breathe-AN LNK day
 ‘A resting day/a day of rest.’ (a day for resting)
- b. I pa-hanhan-an.
 LOC PROC-breathe-AN
 ‘During recess, during the time for rest (Babalic.010)

601 Similar ambiguities were shown in the case of *cilmin-ay* in (36a,b), which
 602 has context-dependent uses as a modifier meaning ‘sour’ or as a referring noun
 603 meaning ‘vinegar’.

604 Some of these modifiers are fully conventionalized as referring time and place
 605 nouns, like *u ka-diku-w-an* ‘dog’s house’ (lit. the place for crouching < *ma-diku*

TABLE 9. COMPARING *PI-...-AN*, *KA-...-AN*, AND *CA-...-AN* DERIVATIONS.

Modifying <i>pi-...-an</i> and <i>ka-...-an</i> stems	<i>Ca-...-an</i> derivation of location nouns
(from <i>u pi-butng-an</i> ‘time for fishing activity’ <i>mi-butng</i> ‘angle, fish’)	<i>u ba-butng-an</i> ‘a fishing spot’
(from <i>u pi-liluc-an</i> ‘time for washing’ <i>mi-liluc</i> ‘wash, take a bath’)	<i>u la-liluc-an</i> ‘bathroom’
(from <i>u pi-cudad-an</i> ‘school’ (place for <i>mi-cudad</i> ‘write, learn’) learning)	<i>u ca-cudad-an</i> ‘school’ (building, institution)
(from <i>ka-labi-an</i> ‘dinner time’ <i>ma-labi</i> ‘have dinner’)	<i>u ka-ka-labi-an</i> ‘dining-room’

Text reference: pililucan.024.

606 ‘crouch’), *u ka-canglah-an* ‘spring’ (lit. the time when it’s bright) (< \emptyset -*canglah*
 607 ‘bright’). Others are lexicalized as artifacts: *u pi-kungkung-an* ‘a drum’ (lit., the
 608 place where one hits, from *mi-kungkung* ‘hit, knock’).

609 However, such modifiers that are conventionalized as nouns are distinct from
 610 lexically derived location nouns by *Ca~ . . . -an*, for instance, *?a~?id?id-an* ‘oven’
 611 (< *mi-?id?id* ‘roast, grill’), *ta~teker-an* ‘a trap’ (< *mi-teker* ‘trap’).

612 Table 9 compares derived modifiers with lexically derived location nouns.

613 **8. CONCLUSION.** It was argued that modifiers derived from nouns by the
 614 suffix *-ay* attribute properties of INDIVIDUALS, while those derived by *-an* attri-
 615 bute properties that are true of a CLASS of plural tokens. Modifiers derived from
 616 stative/adjectival verbs by *-ay* denote TIME-STABLE properties, while those
 617 derived by *-an* are STAGE-LEVEL modifiers denoting transient properties with
 618 spatiotemporal features.

619 RCs also make use of these two suffixes, subdividing into (i) RCs with
 620 *mi- . . . -ay* and *ma- . . . -ay* modifying verb stems, which respectively attribute
 621 a property to an actor pivot and to an experiencer or undergoer pivot, and
 622 (ii) RCs with nonfinite *pi- . . . -an* or *ka- . . . -an*, *ka- . . . -en* modifying verb
 623 stems with undergoer or location pivots. RCs have the same grammatical relations,
 624 the same alignments, and the same symmetrical voice system as those of
 625 main and independent clauses.

626 It was also argued that ellipted heads result in stand-alone modifiers that may
 627 become lexicalized as de-adjectival nouns, like ‘the dark’ and ‘the rich’ in
 628 English. They are distinct from the productive lexical noun derivation marked
 629 by *Ca~ . . . -an* or *Ca~ . . . -en* constructions.

630 In Amis, Kavalan, and Thao, the reflexes of **-an* and **-en* are used both with
 631 deranking/nominalizing function and as exponents of LV and UV voices with under-
 632 goer pivots. In Amis, they are directly suffixed to verbal bases when used as LV and
 633 UV in indicative independent or main clauses, while they occur with nonfinite *pi-*
 634 and *ka-* stems suffixed by *-an* and *-en* in RCs and some other subordinate clauses.

635 In contrast, various other Formosan languages use the same affixed verb
 636 stems in indicative independent clauses and in dependent, nominalized clauses;
 637 this is reported, for instance, in Yami (Rau 2002:165). The reader is referred to
 638 Zeitoun (2002), Zeitoun and Teng (2016), Jiang (2016), and Blust and Chen
 639 (2017) for discussions.

640 Amis, with its fully verbal LV *-an* and UV *-en* voice constructions, thus pro-
 641 vides evidence for structural innovations and for a different direction of change
 642 than Tagalog, which is analyzed as lacking a verbal category, in the perspective
 643 of Kaufman’s nominalist hypothesis (2009a,b, 2017).

644

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QUERIES

AQ1: As per the author's comment, this has been tagged as a subsection and numbered as "5.2.1" as per OL style. Please check and confirm whether the change is correct.

AQ2: As per the author's comment, this has been tagged as a subsection and numbered as "5.3.1" as per OL style. Please check and confirm whether the change is correct.