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► **To cite this version:**

Isabelle Brill. LEXICAL RESTRICTIONS ON GRAMMATICAL RELATIONS IN VOICE CONSTRUCTIONS (NORTHERN AMIS). STUF - Language Typology and Universals , De Gruyter, In press. halshs-03483275

HAL Id: halshs-03483275

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Submitted on 16 Dec 2021

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LEXICAL RESTRICTIONS ON GRAMMATICAL RELATIONS IN VOICE CONSTRUCTIONS
(NORTHERN AMIS)

(Author's manuscript
to appear 2022. In Eva van Lier and Maria Messerschmidt (Eds.) *Lexical restrictions on
grammatical relations in voice and valency constructions. STUF* 75:1, 21-73.

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Abstract

Amis (Austronesian, Taiwan) displays a rich, partly symmetrical voice system and a split case-marking pattern which are selected and restricted by (i) verb classes whose basic diathesis correlates with semantic properties such as activities vs. states, and (ii) by Aktionsart features (i.e., atelic activities vs. telic accomplishment and achievements), which also denote degrees of patient affectedness. Referential features such as patient definiteness, and semantic features such as agent's animacy and intentionality also bear on voice selection. This voice system offers alternate ways of encoding arguments within a bipartite case-marking pattern; it also promotes peripheral, non-core arguments to subject function via applicative voice constructions.

Keywords:

Austronesian, symmetrical voices, voice alternation, applicative voices, split case-marking.

1. Introduction

Amis is an Austronesian language spoken along the eastern coast of Taiwan; it has four main dialects (northern, central, coastal, southern, Tsuchida 1988) with significant differences in phonology, lexicon and morphosyntax. Northern Amis (N.Amis) is the focus of this analysis, it is spoken in various locations around the city of Hualien.²

¹ This research is supported by the LACITO-CNRS and financed by the research strand 3 "Typology and dynamics of linguistic systems" of the Labex EFL (Empirical Foundations of Linguistics) (Investissements d'Avenir, ANR-10-LABX-0083/CGI). It is part of IdEx Paris University (ANR-18-IDEX-0001).

² In the villages of Natauran, Pokpok and Lidaw in the outskirts of Hualien, Daulik, Ciwidian and Apalu,

Previous research on this dialect includes Chen's (1987) analysis of the verb classes and voice system of Natauran Amis.³

What follows is a presentation of the voice system of N.Amis and a discussion of lexical restrictions bearing on this system. Following Witzlack-Makarevich (2019: 22, Mel'čuk 1993), diathesis is defined "as an attribute of a lexical unit, namely, the specification of how the semantic argument roles of a predicate relate to syntactic roles", while voice "is a narrower concept referring exclusively to an inflectional category of the verb, that is, voice is a diathesis formally marked on the verb".

In Amis, verb stems generally have a basic diathesis and diathesis alternations (commonly called voice alternations). Each of these diatheses select a privileged syntactic argument as its subject, whose thematic role corresponds to the selected voice: e.g., Actor Voice has a nominative Actor subject, Undergoer Voice selects a nominative Patient subject. Voices are marked by affixes and arguments are case-marked according to a bipartite system, antipassive-like and ergative.

Basic diathesis and alternate constructions depend on the multivariate factors discussed below, which include lexical and semantic verb classes, telicity, features such as patient definiteness and affectedness, agent animacy and intentionality, and in the case of applicative constructions, the promotion of non-core arguments to core argument functions. Usually, "one of the diatheses is considered basic, it is the one stored in the lexical entry" (Witzlack-Makarevich 2019: 22). This is generally true in Amis where some voice constructions, such as Actor Voice (AV) *mi-* and Non-Actor Voice (NAV) *ma-* also define types of stems⁴ (e.g., *mi-* activity-denoting stems and NAV *ma-* stative or medio-passive stems (detailed in Sections 3.2 and 5.1.2); these stems allow some voice alternations within the range of the diatheses allowed for specific lexical entries. For instance, roots denoting weather and natural phenomena like *urad* '(to) rain' allow two equally basic voices, NAV *ma-* and Locative Voice (LV) *-an* with subtle semantic differences, e.g., *urad-an* denotes a temporary event 'it rains', while *ma-urad* is more stative 'it is rainy'.

The article proceeds as follows; Sections 1 and 2 present the general features of N.Amis and its voice system, defined as symmetrical, with an overarching bipartite alignment. Section 3 discusses the grammatical relations and coding properties of AV *mi-*, NAV *ma-* and UV *ma-* constructions. Section 4 discusses the finite vs. non-finite forms of these voice morphemes which vary according to \pm declarative mood, and as dependents of modal auxiliaries or negative illocutionary mood auxiliaries. Section 5 presents the multivariate features selecting voices and characterises the functions and semantics of the various

south of Hualien. My analyses are based on a corpus of data recorded and collected over a period of approximately 14 months of fieldwork. It mostly contains spontaneous oral productions (i.e., stories, procedural texts), completed by elicitations in order to check paradigms and obtain missing data. I extend my gratitude to all Amis consultants and friends for their patient and precious collaboration. Unless otherwise mentioned, all examples are from my corpus. I also thank E. van Lier and two anonymous reviewers for their inspiring and constructive remarks.

³ Among the main studies of the other Amis dialects are Wu (2006) on central Amis, Tsukida (2008) on Fataan Amis, Kazu Imanishi (2009) on Central and Southern Amis.

⁴ Here, NAV (Non-Actor Voice) is not a cover term for all voices other than AV, but refers to the specific construction of a class of verbs whose subject is a Non-Actor, experiencer, or locus of some property.

voices. Section 6 shows that this symmetrical voice system occurs in both indicative and non-indicative moods. Section 7 discusses various tests to ascertain the symmetrical properties of the voice system by further identifying the core vs. non-core argument status of some participants (i.e., the oblique patient and the genitive agent). Section 8 concludes.

1.1 Characteristic features of Amis

Amis has verb/predicate initial order. The three case-markers (nominative *k-*, oblique *t-*, genitive *n-*)⁵ are prefixed (i) to the common noun marker/article *u* (without any number distinction), (ii) to the personal noun marker/article, which has number distinction and occurs as nominative *ci* (sing.) or *ca* (plur.) and as genitive *ni* or *na*, and (iii) to demonstratives.

Most roots are categorially neutral, and most lexical categories (N, V, modifiers, etc.) are identified once roots have been derived and affixed as stems in a given syntactic environment (Bril 2017). Roots carry lexical meaning and other conceptual and semantic features (i.e., ± entity denoting, ± activity, ± motion, ± state, ± property denoting, which specifies their diathetic structure). As Starosta (1995) pointed out, voice affixes have derivational properties in Formosan languages; in Amis, verb stems are derived from roots, including entity-denoting roots, by voice affixes. For instance, Actor Voice (AV) *mi-* stems usually refer to activities conducted in relation to that entity as in the following:

<i>u banuh</i> ‘feather’	<i>mi-banuh</i> ‘pluck feathers’
<i>u cengel</i> ‘a dye’	<i>mi-cengel</i> ‘to dye’
<i>u piyu</i> ‘flute’	<i>mi-piyu</i> ‘play the flute’

Mi- stems also include activities related to the ingestion of some entity:

<i>u nanum</i> ‘water’	<i>mi-nanum</i> ‘drink water’
<i>u icep</i> ‘betel’	<i>mi-icep</i> ‘chew betel-nuts’
<i>u tabako</i> ‘tobacco’	<i>mi-tabako</i> ‘smoke (tobacco)’

Non-Actor Voice (NAV) *ma-* stems denote states, body functions, natural phenomena, and can also be derived from entity-denoting roots:

<i>u remes</i> ‘blood’	<i>ma-remes</i> ‘bleed’
<i>u apa</i> ‘a fool’	<i>ma-apa</i> ‘be foolish’
<i>u bali</i> ‘wind’	<i>ma-bali</i> ‘blow wind’

Zero-voice \emptyset - verb stems denote states and properties, body functions, natural phenomena:

<i>u caldes</i> ‘heat’	\emptyset - <i>caldes</i> ‘be hot’
<i>u cahni</i> ‘itching’	\emptyset - <i>cahni</i> ‘to itch’
<i>u raqmed</i> ‘weakness’	\emptyset - <i>raqmed</i> ‘be weak’

1.2 The derivational and inflectional functions of voice affixes

Voice affixes in Amis are a functional category with derivational and inflectional features. Verb stems are derived from lexical roots by voice affixes and endowed with an argument structure (Foley 1998) that maps a thematic role onto a syntactic function with a specific

⁵ Genitive *n-* is syncretic for the Agents of Undergoer voices and for possessor marking.

type of case-marking and alignment. Thus, from the root \sqrt{kawit} ‘knit’, an activity verb stem is derived by AV *mi-*, which obligatorily selects an Actor subject and an oblique theme/patient, case-marked as *k-*, *t-* as in (1), and which at first sight suggests an antipassive-like case-marking (further discussed in Section 3).

	\sqrt{kawit}
Voice.Phrase	<i>mi-kawit</i>
Argument structure & case-encoding	NOM.Actor, OBL.theme

- (1) Mi-kawit k-uhni t-u tabukud.
 AV-knit NOM-3PL OBL-NM net
 ‘They are knitting the net.’ (i.e., repairing the net)

Voice-affixed verb stems determine event interpretations: for instance, AV *mi-kawit* denotes an activity conducted by an Actor subject on a \pm definite, not fully affected, oblique⁶ *t-* marked theme/patient, which will be shown to have some core-argument properties. Voice affixes also have inflectional properties, they have inbuilt aspectual features such as \pm telicity, and inbuilt mood features since their morphological exponents are different in indicative and non-indicative moods. The system is first discussed on the basis of indicative mood, non-indicative mood is presented in Section 6.

2. The voice system: symmetrical properties and hierarchy

Like many Formosan and Philippine languages, Amis has a multi-voice system. There are five voices and two applicative constructions marked by affixes, some of which are cognate with reconstructed Proto-Austronesian (PAN) affixes (Wolff 1973, Starosta 1995, Ross 2009). The five primary voices, thus labelled because they derive verb stems directly from the roots, are AV⁷ *mi-*, NAV⁸ *ma-* (including $\langle um \rangle$, *mu-*)⁹, UV *ma-*, UV *-en*, LV *-an*. Each voice selects a nominative subject which is its preferred syntactic argument (Dixon 1979), and one of the two patterns of case-marking, i.e., antipassive-like and ergative, encoding the roles of A, S, P¹⁰ arguments. In the antipassive-like construction, the nominative subject is case-marked by *k-* and the oblique patient/theme by *t-*; in the ergative construction, the Undergoer subject (or arguments treated as such) is marked by nominative *k-*, while Agents are marked by genitive *n-*. The semantics of the voice affix and the thematic role of the subject must match, e.g., AV *mi-* selects an Actor subject, UV *ma-* and UV *-en* select an Undergoer subject. This is briefly illustrated with AV *mi-* (2a), UV *-en* (2b), LV *-an* (2c).

⁶ The oblique *t-* case-marker encodes the core-arguments of AV and NAV constructions, as well as non-core arguments (cause, associative, instrument NPs) and time and place adjuncts.

⁷ AV Actor Voice, NAV Non-Actor Voice, UV Undergoer Voice, LV locative voice, Instr.V Instrument Voice, CV Conveyance/Beneficiary voice.

⁸ The label NAV refers to the fact that the nominative subject is not an activity performer, thus a Non-Actor (in contrast with the Actor of AV *mi-* verbs), but also different from the Undergoer subject of UV *ma-* voice.

⁹ These morphemes are reflexes of the PAN Actor Voice **um*; they are now residual.

¹⁰ In typological terms, S stands for the argument of an intransitive verb or a low transitive verb; A stands for the Agent of a transitive verbs; P for the Patient/Undergoer of a transitive verb (or applicative arguments treated as P) (Comrie 1978, 2005; Dixon 1979; Lazard 1994; Croft 1990).

- (2)a. Mi-baba cira t-u wawa.
 AV-carry NOM.3SG OBL-NM child
 ‘He was carrying the child.’
- b. Baba-en n-ira k-u wawa.
 carry-UV GEN-3SG NOM-NM child
 ‘He carried the child.’
- c. Iya lutungay hantu, tangic=tu a baba-an n-i kaka n-ira.
 DEM baby TPC <UM>cry=PFV COMP carry-LV GEN-PM elder.sibling GEN-3SG
 ‘As for the baby, (he) cried as his elder brother carried him.’ (Arikakay Ogawa)

The thematic prominence and subject continuity of *lutungay* in (2c) triggers the use of LV *-an* (alternately UV *-en*) in the subordinate clause; if an AV verb with an Actor subject was used in the subordinate clause, it would have a purposive (atelic) meaning, i.e., *tangic=tu a mi-baba ci kaka* ‘he cried so that his brother would carry him’.

2.1 Symmetrical properties

This voice system is symmetrical, though possibly in a non-fully canonical way, “the symmetry of voice systems being also a matter of degree” (Arka 2017: 102). A symmetrical voice system is “defined by the presence of at least two voice alternations, neither of which is the basic form.” (Foley 1998, 2008; Himmelmann 2005) and by the fact that AV and UV alternations do not change the core status of the other argument (Arka 2019: 272). Riesberg et al (2019: 524-525) add the condition that both these voice alternations be transitive.¹¹

Amis meets the first criterion: AV *mi-* and UV *ma-* constructions are basic voice alternations, equally marked, not derived from each other; they are obligatory in contexts conditioned by telicity, patient affectedness and patient definiteness. The analysis in section 7 of the status of the oblique *t-* theme of AV and of the genitive *n-* Agent of UV shows that they have core-argument properties and are not demoted.

As shown in (1, 2a, 3a), the oblique *t-* arguments are subcategorised for by the AV *mi-* verb, whose selection is conditioned by aspectual properties, as denoting an atelic activity or action, with antipassive-like *k-*, *t-* case-marking. By contrast, UV *ma-* is telic, with ergative *k-*, *n-* case-marking, as in (3b).

- (3)a. Mi-tenaq k-uhni t-u ada.
 AV-ambush NOM-3PL OBL-NM enemy
 ‘They are waiting in ambush for the enemies.’
- b. Ma-tenaq n-uhni k-u ada.
 UV-ambush GEN-NM NOM-NM enemy
 ‘They ambushed the enemies.’

¹¹ “Voice alternations in these languages involve two or more basic transitive constructions that are symmetrical in the sense that they are equally morphologically marked and that arguments retain core status in all voices (i.e., there is no argument demotion as in, for example, the active-passive alternation).” (Riesberg et al. 2019: 524-525).

The voice constructions (AV *mi-*, NAV *ma-*) with antipassive-like *k-*, *t-* coding properties, belong to the type defined by Polinsky (2017: 20) as “a case frame of individual lexically specified verbs that alternate with regular transitives”.¹²

In Amis, these are not intransitive derivations from a basic, transitive, ergative construction, as would be the case in a non-symmetrical voice system, whence the label antipassive-like, which accounts for the fact that oblique themes are core-arguments in a symmetrical voice system. On the other hand, the core-argument status of the genitive Agent of UV is not as straightforward; its post-verbal position suggests some structural properties and thematic Agent prominence, but other behavioural properties give mixed signals as discussed in Section 7.

2.2. Voice hierarchy

In spite of its generally symmetrical properties, the system also displays some hierarchy between voices indexing core arguments, and applicative constructions marked by Instrumental *sa-* and Conveyance *si-* (cognates with PAN *Sa/*Si). In contrast with all other voices which are affixed to the root form and derive finite verb stems, the applicative morphemes are affixed to non-conjugated stems, either *pi-* activity stems or *ka-* non-activity stems, which respectively correspond to the finite, activity-denoting AV *mi-*, and the state-denoting or medio-passive NAV *ma-* stems.

Starosta (1974 [2009]: 201, 206-208), Chen (1987: 81), then Ross (2015: 283), analyse *pi-* stems as the underlying form, and *mi-* stems as the conjugated form resulting from the affixation of the PAN Actor Voice **<um>*, either as *(u)m-*pi-* or infixes as *p<um>*i-*, then evolving or clipped as *mi-*. A similar evolution has occurred between the non-conjugated *ka-* form,¹³ and the conjugated, indicative form *ma-*.

In applicative voice constructions, the derived *sa-pi-/sa-ka-* stems have an instrument subject, while *si-pi-* stems have a conveyed entity or a beneficiary subject.

▪ Non-conjugated verb stems	<i>pi-</i> / <i>ka-</i>	root
▪ Conjugated verb stems	AV <i>mi-</i> / NAV <i>ma-</i>	root
▪ Instrumental voice	<i>sa-pi-</i> / <i>sa-ka-</i>	root
▪ Conveyance voice	<i>si-pi-</i>	root

In this approach, the instrumental and conveyance constructions are analysed as applicative voices since they promote an otherwise oblique instrument or oblique beneficiary~conveyed entity to subject function, together with ergative alignment, while AV *mi-* stems and NAV *ma-* stems have antipassive-like coding properties with an oblique patient/theme. In (4a), the AV verb *mi-sangaq* denotes an atelic activity, with a nominative Actor, an oblique core patient (*kupu*), and an oblique non-core instrument (*aul*) also marked by *t-*,¹⁴ while the applicative voice construction in (4b) promotes the definite

¹² “The antipassive bears analysis as a case frame of individual lexically specified verbs that alternate with regular transitives or as the output of a syntactic operation. [...] Within syntax [...] the difference between the transitive and the antipassive is reduced to a licensing distinction between absolutes (high objects) and accusatives (low objects). Often such differential licensing is associated with an extra-functional head with aspectual connotations.” (Polinsky 2017: 20)

¹³ See Blust (2013), Zeitoun and Huang (2000) for the analysis of *ka* in Formosan languages.

¹⁴ Oblique *t-* is syncretic for the core Theme/Patient arguments of AV *mi-* and NAV *ma-* constructions, for

instrument *aul* to subject function, with a genitive agent (=aku) in post-verbal position.

- (4) a. Mi-sangaq k-aku t-u kupu t-u aul.
 AV-make NOM-1SG OBL-NM cup OBL-NM bamboo
 ‘I’m making a cup with bamboo.’
- b. Sa-pi-sangaq=aku t-u kupu k-iya aul.
 INST-NFIN.MI-make=GEN.1SG OBL-NM cup NOM-DEM bamboo
 ‘I used this bamboo to make a cup.’

3. Voices, grammatical relations, coding properties and word order

As shown in Table 1, the various voices are distributed within the overarching bipartite antipassive-like and ergative case-encoding.

AV *mi-* and NAV *ma-* voices (plus the two residual <*um*> and *mu-* voice affixes) have the same antipassive-like encoding with *k-*, *t-* case-marking. All other voices, UV *ma-*, UV *-en*, LV *-an*, and the two applicative voices have ergative encoding with *k-*, *n-* case-marking. The subject (S) of AV and NAV is thus encoded differently from the genitive Agent of other voices, i.e., UV *ma-*, UV *-en*, LV *-an*, and applicative voices. Consequently, S and P are case-marked as nominative, A (agent) is genitive, T (theme/patient) is oblique.

Each voice has a preferred syntactic argument (PSA), marked as its nominative subject, whose thematic role matches the semantics of the voice affix: Actor for activity-denoting AV *mi-* verbs; Non-Actor/experiencer for NAV *ma-* verbs, Undergoer for UV *ma-*, UV *-en* and LV *-an* verbs;¹⁵ instrument, cause or means with InstV *sa-*, Conveyed entity or beneficiary with CV *si-*.

non-core arguments such as instrumental (*t-u aul* in (4a)), as well as for time and place adjuncts. But while time and place adjuncts can be topicalised with *t-u* as in *t-u cila, ma-ratar t-u dabak* ‘the next day, (they) got up early in the morning’ (U nipitebuc nu sikawasay.0047), this is impossible when *t-u* marks oblique core patients such as *kupu* ‘cup’ in (4a), which are then topicalised without any case-marking’.

¹⁵ Himmelmann (2005: 113) defines a Philippine-type language as having at least two formally and semantically distinct Undergoer Voices, at least one (nonlocal) phrase-marking clitic for nominal expressions, and second position pronominal clitics. Amis (Formosan) has all such features.

Table 1. Voice, argument structure and alignment

VOICE	SEMANTIC ROLE of <i>k</i> - nominative SUBJECT	ARGUMENT STRUCTURE	VALENCY
AV <i>mi-</i>	<i>k</i> - Actor	ANTIPASSIVE-LIKE S T NOM ; (OBL theme) <i>k-</i> <i>t-</i>	1 or 2 arguments
< <i>um</i> >	<i>k</i> - ± Actor, experiencer		mostly 1
<i>mu-</i>	<i>k</i> - non -actor, experiencer		1
NAV <i>ma-</i>	<i>k</i> - non -actor, experiencer, seat of properties		1 or 2
UV <i>ma-</i>	<i>k</i> - patient, fully affected	ERGATIVE A NOM ; GEN agent <i>k-</i> <i>n-</i>	2
UV <i>-en</i>	<i>k</i> - patient, ± fully affected		1 or 2
LV <i>-an</i>	<i>k</i> - patient, superficially affected & location		1 or 2
InstV <i>sa-</i>	<i>k</i> - instrument		2
CV <i>si-</i>	<i>k</i> - conveyed entity/beneficiary		2

Word order. A word of caution is necessary in relation to word order: since referential arguments are generally left unexpressed when they are easily or unambiguously retrievable, a sentence may be reduced to a voice-affixed verb stem. When arguments are expressed, their order is different in the two types of alignment. Antipassive-like constructions have dominant V S T order as in (5a), also allowing V T S order if S is a salient noun or is heavier than T. All ergative constructions have V A P order, with the genitive Agent (A), pronoun (5b) or noun (5d), occurring just after the verb, followed by the P subject.¹⁶ The Agent may be left unexpressed if known, as in (5c).

- (5)a. Mi-cangcang cira t-u sinabel.¹⁷
 AV-warm.up NOM.3SG OBL-NM dish
 ‘She’s/was warming up the/some dish.’
- b. Ma-cangcang n-ira k-u sinabel.
 UV-warm.up GEN-3SG NOM-NM dish
 ‘She warmed up the dish.’ (VAP)
- c. Ma-cangcang k-u [sinabel n-ira].
 UV-warm.up NOM-NM dish GEN-3SG
 ‘(She) warmed up her dish.’ (unexpressed referential agent)
- d. Ma-cangcang n-u ina k-u sinabel n-ira.
 UV-warm.up GEN-NM mother NOM-NM dish GEN-3SG
 ‘Mother_x warmed up her_y¹⁸ dish.’

The post-verbal position of the genitive Agent thus distinguishes the argument function from the possessive determiner of an NP, as illustrated in (5c, d) by *sinabel n-ira*.

The post-verbal position of the genitive A stands in contrast with the more flexible position of S. Both VS and VA positions might indicate some Agent or Actor thematic role

¹⁶ Word order has no relation with person hierarchy of the type 1 > 2 > 3 > noun.

¹⁷ *Sinabel* ‘the cooked dish’ is the lexicalised form of the root *sabel* ‘cook some dish’ infixed with the perfective nominalizer <*in*>, which only survives in a few roots. Its present form is the prefix *ni-*.

¹⁸ If coreferential, the possessive determiner may be left unexpressed.

prominence, as Riesberg et al. contend (2019: 546), even in ergative VAP constructions where the syntactic subject is a Patient (or is treated as such).¹⁹

Valency and telicity. Valency is a property of the derived voice-affixed verb stems. Verbs with AV and NAV voice are one- or two-argument verbs, whose second argument is an oblique *t*- theme/patient, for instance NAV *ma*- verbs of feeling and perception (6).

- (6) Ma-inap²⁰ k-aku iciraan.²¹
 NAV-envy NOM-1SG OBL.3SG
 ‘I envy him.’

The oblique case actually encodes non-fully affected, sometimes indefinite patients; these antipassive-like *k*-, (*t*-) constructions are lower on the transitivity scale with semi-cores (Arka 2017: 101), generally denoting atelic actions or events,²² yet are not intransitive. The core-argument properties of the oblique patient are evidenced by cleft constructions: when clefted, they are indexed by UV *-en* or LV *-an* voices, like other undergoer core-arguments (see Section 7.2.1), they are thus not demoted as in standard antipassive constructions. On the other hand, UV *ma*- constructions with ergative *k*-, *n*-case-marking such as (5d) are transitive with a definite, fully affected Undergoer/patient subject and a genitive agent.

In sum, semantic and referential features trigger the patient’s encoding either as an oblique theme/patient of atelic AV *mi*- and NAV *ma*- constructions, or as the subject of telic UV *ma*- constructions denoting accomplishments. Such differences of coding properties are precisely the main criteria for distinguishing NAV *ma*- from UV *ma*- (see Section 3.1). The distinct encoding of ± affected and ± referential P in turn determines the encoding of the other argument, either as a nominative S (of AV and NAV) or as a genitive A (of UV).

Both AV/NAV and UV constructions are as basic, alternating with telicity, Patient affectedness and referentiality. Neither the oblique T nor the genitive A are demoted, they retain some core-argument properties (see Section 7), consequently AV/NAV are not antipassive derivations of UV *ma*-, nor are UV *ma*- passive derivations of basic AV constructions. The voice system is symmetrical, with a bipartite case-encoding.²³

3.1 One or two different *ma*- affixes ? Argument structure as a distinctive feature

Despite their formal identity, their probable common origin, and the fact that their nominative subject is semantically a patient, the affix *ma*- in Amis has split into two morphemes which must be distinguished on two main criteria: (i) they are affixed to

¹⁹ The other reason invoked for the post-verbal position of the genitive A and its syncretism with possessive determiners is linked to the nominal to verbal hypothesis, defended by Starosta, Pawley, Reid (1982), Ross (2002, 2009), Kaufmann (2009), according to whom these constructions were former nominalisations reanalyzed as verbal ergative constructions.

²⁰ This NAV *ma*- verb disallows AV **mi*- construction (**mi-inap*).

²¹ The set of oblique personal pronouns include a locative form *i*, the oblique case *t*- and an oblique suffix *-an*, as in *i-c-ira-an* (3sg.obl.), *i-t-uhni-an* (3pl.obl.), based on *uhni* (3pl).

²² Analogous to the semi-transitive constructions of Oceanic languages.

²³ Kroeger (1993) shows that each construction in Tagalog has a pivot/subject as well as a non-pivot core argument that is distinguishable from an oblique/adjunct.

distinct verb stems whose nominative subject has distinct semantic roles, since it is an experiencer or the locus of some property with NAV *ma-*, but a fully affected definite Patient with UV *ma-*; (ii) they have distinct negative forms (see Section 4) and distinct forms in non-indicative moods (see Section 6).

NAV *ma-* verbs and their non-finite *ka-* form (Ross's M/K class, 2015) are mostly stative, medio-passive, intransitive verbs (detailed in Section 5.1.2); their nominative argument is an experiencer, cognizer, mover, or the locus of some property. With verbs allowing two arguments, the argument structure is antipassive-like, with *k-*, *t-* case-marking, as in (7).

- (7) Ma-cangal²⁴ k-aku iciraan.
 NAV-hate NOM-1SG OBL.3SG
 'I hate him.'

On the other hand, UV *ma-* constructions like (8a) have ergative case-marking; they must occur with transitive, event-denoting, telic verbs, expressing accomplishments, and whose nominative subject is a definite Undergoer, fully affected by some action carried out by a genitive agent, or due to some inanimate cause. These two *ma-* morphemes thus display distinct behavioural features and coding properties. On the other hand, AV *mi-* (8b) and NAV *ma-* constructions (7) have the same antipassive-like case-marking.

- (8) a. Ma-patay n-u mi-'adup-ay k-ira ngabur.
 UV-kill GEN-NM AV-hunt-NMZ NOM-DEM deer
 'The hunter killed the deer.'
- b. A mi-patay ituhnian !
 FUT AV-kill OBL.3PL
 '(We're) going to kill them !' (nu Kiwit atu Piyuma a lalais.037)

NAV *ma-* verbs of feeling as in (7), or NAV verbs denoting intradirective motion or movement, such as *ma-kumud* 'convene' (9a) only allow UV *-en* alternations as in (9b), and bar any UV *ma-* ergative alternation, such as those allowed for some AV *mi-*, like *mi-patay* and UV *ma-patay* in (8a-b). The two *ma-* affixes are thus exclusive of each other, they occur with distinct verb classes, with distinct valency (UV *ma-* verbs are transitive, while NAV *ma-* verbs have one or two arguments), and in constructions with distinct case-marking.

- (9) a. Ma-kumud k-ami t-u ni-ayam-an.
 NAV-gather NOM.1PL.EXC OBL-NM PFV.NMZ-hunt.bird-LV
 'We convened about the hunted birds.' (i.e., to share & eat them)
- b. Kumud-en²⁵=niyam k-u ni-ayam-an.
 gather-UV=GEN.1PL.INCL NOM-NM PFV.NMZ-hunt.bird-LV
 'We gathered the hunted birds.'

Intransitive, intradirective NAV *ma-* motion or movement verbs such as *ma-sadak* 'emerge' (10a), may only host a UV *ma-* voice after having first undergone causative derivation with a different meaning 'bring up' and with increased valency (10b).

²⁴ This NAV *ma-* verb disallows AV **mi-* construction (**mi-cangal*).

²⁵ A UV **ma-kumud* construction with ergative case-encoding is ungrammatical.

- (10) a. Ma-sadak=*tu* k-ina baru.
 NAV-emerge=*PFV* NOM-DEM flower
 ‘The flowers have grown.’
- b. Ma-pa-sadak (n-ira) k-u mali namaka tebun.
 UV-CAUS-emerge GEN-3SG NOM-NM ball from well
 ‘(He) brought up the ball from the well.’ (Tatakulaq atu Hungti.053)

3.2 AV *mi-* and NAV *ma-* constructions vs. UV *ma-* constructions

AV *mi-* and NAV *ma-* (including *<um>* and *mu-*) constructions share the same antipassive-like *k-*, *t-* case-marking.²⁶ AV *mi-* verbs denote atelic activities, while NAV *ma-* verbs denote states, properties or have medio-passive features (see Table 3). In contrast, UV *ma-* verbs denote telic events with fully affected nominative undergoers. Telicity is thus criterial in the choice of AV *mi-* vs. UV *ma-*, as shown by (11a-b).

- (11) a. Mi-tenaq k-uhni a mi-li-tabad t-u tangal n-u ada.
 AV-ambush NOM-3PL COMP AV-get-cut.head OBL-NM head GEN-NM enemy
 ‘They are waiting in ambush to cut off their enemies' heads.’
- b. Ma-tenaq n-u Pangcah k-u Taloko i lalan.
 UV-ambush GEN-NM Amis NOM-NM Taroko LOC road
 ‘The Amis ambushed the Taroko on the road.’

While undergoer definiteness is criterial for UV *ma-* (12b), the oblique *t-u* arguments of AV *mi-* (12a) and NAV *ma-* verb stems are under no such constraint.

- (12) a. Mi-taqmud cira t-u titi.
 AV-swallow.whole NOM.3SG OBL-NM meat
 ‘He’s gobbling down the/some meat.’
- b. Ma-taqmud n-ira k-ina titi.
 UV-swallow.whole GEN-3SG NOM-NM meat
 ‘He gobbled down the meat.’

Most two-argument AV *mi-* verbs, like ‘strike, cut, weave, etc.’, allow UV *ma-* alternations if the event denotes some achievement or accomplishment (as defined by Vendler 1957) on a fully affected and definite patient.

Even when cliticised by the change of state/perfective enclitic *=tu*, AV *mi-* verbs remain atelic with partly affected patients and do not denote accomplishments. In (13), the action is set in the past, but does not entail any result or achievement.

- (13) Mi-tengteng=*tu* i ci Balah-an a pa-ka-li-'pah.
 AV-pull=*PFV* OBL PM Balah-OBL COMP CAUS-NFIN-get-wine
 ‘They pulled at Balah to make him come drink with them.’ (Malasang Ciyaw.121)

Lexical semantics and lexical aspect thus concur in the range of allowed voice alternances. Verb stems denoting lexically atelic events (like ‘bark’), which do not fully

²⁶ So do the abilitative *maka-*, causative *pa-*, reciprocal *mal(a)-* constructions. These will not be discussed for reasons of space.

affect the patient, nor change its state, and which do not denote accomplishments, do not allow a UV *ma-* alternation, but only a UV *-en* or a LV *-an* alternation, with superficially affected patients. Compare the descriptive, atelic AV *mi-libabuy* ‘bark’ in (14a), with LV *libabuy-an* (14b) with the Theme as subject; a UV **ma-libabuy* construction is disallowed.

- (14)a. Mi-libabuy k-u wacu.
 AV-bark NOM-NM dog
 ‘The dog is barking.’
- b. Libabuy-an n-u wacu cira. (UV **ma-libabuy*)
 wait-LV GEN-NM dog NOM.3SG
 ‘The dog barked at him.’

Tests showing the core-argument properties of oblique *t-u* theme/patient are discussed in Section 7.3.1.

3.3 UV *ma-* and AV *mi-* alternations in two-argument constructions

Since UV *ma-* is the obligatory ergative construction of telic, event-denoting transitive verbs, with a fully affected, specific or definite undergoer subject, its default interpretation is that of a past event. UV *ma-* constructions alternate, under specific conditions, with two-argument, AV *mi-* verb constructions denoting activities carried out on non-fully affected patients/themes. UV *ma* and AV *mi-* constructions are in a symmetrical relation, none of them being more basic than the other, both being equally marked. In (15a) below, AV *mi-* indicates some potential, atelic event, while UV *ma-* denotes a telic event (15b), which may be due to some human agents or to some inanimate cause.

- (15)a. Raqcus=tu a mi-debung i nanum.
 bad=COS COMP AV-immersed LOC water
 ‘It’s bad to immerse in water.’ (Mi-buting.048)
- b. Ma-debung k-iyā da~danguy-an n-uhni.
 UV-immersed NOM-DEM CA.RDP~raft-LOC GEN-3PL
 ‘Their raft was flooded.’ (Surit.114)

While UV *ma-* is neutral for agent intentionality and animacy, UV *-en* requires an intentional and human agent. Another main difference is that UV *ma-* only occurs in declarative statements with indicative and affirmative illocutionary mood. In negative illocutionary mood and other moods, it is marked by a different suffixal form (see Section 6), while UV *-en* occurs in other moods than indicative mood.

4. Finite and non-finite voice morphemes

The non-finite forms of the various voices affixes occur in constructions dependent on some modal or illocutionary mood auxiliary: (i) with the negative auxiliary *caay*, the negative verb *naay* ‘not want to’; (ii) in imperative and prohibitive moods; (iii) in some subordinate clauses. In Table 2, the non-finite UV and LV *-i* form occurs in negative illocutionary mood, their form in other moods is shown in Table 4 of Section 6.

Table 2. Finite and non-finite voice morphemes

Voice	Non-finite form	Semantic	Case-marking
AV <i>mi-</i>	<i>pi-</i>	+activity, ±affected Theme	+ S control
< <i>um</i> >	<i>ka-<um></i>	non-state	±control
<i>mu-</i>	<i>ka-mu-</i>	non-state	±control
NAV <i>ma-</i>	<i>ka-</i>	±state	±control
Ø-	<i>ka-</i>	± state	no control
UV <i>ma-</i>	<i>-i</i> (neg.)	resulting state, fully affected Pat.	±A control
UV <i>-en</i>	<i>-i</i> (neg.)	± fully affected patient	+A control
LV <i>-an</i>	<i>-i</i> (neg.)	superficially affected patient	± A control

4.1 Distinguishing the negative forms of NAV *ma-* and UV *ma-*

In negative constructions NAV *ma-* and UV *ma-* have two distinct non-finite forms, i.e., *ka-* for NAV *ma-*, but *-i* for UV *ma-*, yet another reason for distinguishing them. In (16a-b), the declarative NAV *ma-* stem alternates with the non-finite *ka-* stem dependent on the negative auxiliary.

- (16)a. Ma-calibad k-iyā deku t-iyā wawa-an.
 NAV-be.angry NOM-DEM owl OBL-DEM child-OBL
 ‘The owl is angry at the child.’ (Frog story.061)
- b. Caay ka-calibad.
 PROH NFIN-be.angry
 ‘He is not angry.’

In (17a), the subject undergoer (the food items) is unexpressed and the quantifier ‘*amin*’ behaves like a second-position clitic; (17b) shows the negative UV stem.

- (17)a. Ma-tanam=‘amin numaku.
 UV-taste=all GEN.1SG
 ‘I tasted them all.’
- b. Anu caay tanam-i (k-u sinabel) iri ...
 if NEG taste-NFIN.UV NOM-NM dish TOP
 ‘If (the dish) is not tasted ...’ (then we don't know if it's cooked) (Turun.041)

4.2 Finite vs. non-finite forms of AV *mi-*, NAV *ma-* stems

The non-finite *pi-* forms of AV *mi-* and *ka-* forms of NAV *ma-* stems occur (i) in negative and prohibitive illocutionary moods, (ii) with the causative operator *pa-*, (iii) with the Instrum.V *sa-* and CV *si-* applicative voices, and (iv) in imperative mood (see Section 6). Consider *mi-'adup cira* ‘he’s hunting’ vs. *caay pi-'adup cira* ‘he’s not hunting’; *ma-butiq cira* ‘he’s sleeping’ vs. *caay ka-butiq cira* ‘he is not sleeping’. In (18) the non-finite verb stem is triggered by the negative verb *naay*. These non-finite forms are equivalent to infinitive forms and retain arguments, like *laku* in (18).

- (18) Naay k-aku pi-tabu t-u laku. (< AV *mi-tabu* ‘plough’)
 not-want NOM-1SG NFIN-plough OBL-NM rice.field
 ‘I don’t want to plough the rice-field.’

Argument structure does not change, as shown by (19a-b) with *k-*, *t-* case-marking.

- (19)a. Mi-biwbiw t-u tipus k-u babahi.
 AV-winnow OBL-NM rice NOM-NM woman
 ‘The woman is winnowing the rice.’
- b. Caay pi-biwbiw t-u tipus k-u babahi.
 NEG NFIN-winnow OBL-NM rice NOM-NM woman
 ‘The woman is not winnowing the rice.’

Causative constructions occur as *pa-pi-*, *pa-ka-* verb stems, as illustrated by *mi-cakay* ‘buy’ vs. *pa-pi-cakay* ‘make s.o. buy’; *ma-biyaraw* ‘be scared’ vs. *pa-ka-biyaraw* ‘frighten s.o.’. They occur with antipassive-like *k-*, *t-* case-marking, as in (20).

- (20) Pa-ka-belec k-uhni iciraan. (< NAV *ma-belec* ‘return’)
 CAUS-NFIN-return NOM-3PL OBL.3SG
 ‘They made him return.’ (Mawi.012)

4.3 Finite vs. non-finite forms of <um>, mu- and Ø- verbs

These verbs all display the non-finite *ka-* form, occurring as *ka<um>* or *ka-mu-* stems, as in *tangic cira* ‘he’s crying’ vs. *caay ka-tangic cira* (NEG NFIN<um>cry NOM.3SG) ‘he is not crying’; *mu-raraw cira* ‘he made a mistake’ vs. *caay ka-mu-raraw* ‘he did not make a mistake’. Consider the alternation in (21a-b).

- (21)a. Mu-lenek k-u lunan.
 MU-sink NOM-NM boat
 ‘The boat sank.’
- b. Caay ka-mu-lenek k-iyu lunan.
 NEG NFIN-MU-sink NOM-DEIC boat
 ‘The boat did not sink.’

Ø- stative stems also occur as non-finite *ka-* stems in negative contexts.

- (22)a. Ø-kapah k-u wayway n-ira.
 Ø-good NOM-NM behaviour GEN-3SG
 ‘(s)he behaves nicely.’ (lit. her/his behavior is nice)
- b. Caay ka-kapah k-u wayway n-ira.
 NEG NFIN-good NOM-NM behaviour GEN-3SG
 ‘(s)he does not behave nicely.’ (lit. her/his behaviour is not nice) (Malasang Ciyaw.130)

4.4 UV *ma-*, UV *-en* and LV *-an* in negative illocutionary mood

In the scope of negative and prohibitive mood auxiliaries, UV *ma-*, UV *-en* and LV *-an* are neutralised for the non-finite suffix *-i*, which also neutralises differences of patient

affectation as shown in (23) where LV *-an* is negated as *caay ala-i*.

- (23) Anu ahmaw, a=ala-an numaku; anu baqket, caay ala-i=aku.
 if light FUT=take-LV GEN.1SG if heavy NEG take-NFIN.LV=GEN.1SG
 ‘If it’s light, I’ll take it; if it’s heavy, I won’t take it.’

UV *-en* also has the negative form *caay stem-i*, as in (24b).

- (24) a. Pu-lenek-en=aku k-iyā lunan.
 CAUS.MU-sink-UV=GEN.1SG NOM-DEM boat
 ‘I sank the boat.’
 b. Na caay=aku²⁷ pu-lenek-i k-iyā lunan.
 PAST NEG=GEN.1SG CAUS-sink-NFIN.UV NOM-DEM boat
 ‘I did not make the boat sink.’ (lit. the boat was not caused to sink by me)

Only in negative and prohibitive moods are all three UV *ma-*, UV *-en* and LV *-an* voices neutralised as *-i*. In indicative, hortative, imperative moods, UV *-en* has the same form, while all other voices have different forms (see Section 6).

5. Multivariate features selecting voices

Voice selection follows various constraints including (i) verb classes, correlating with (ii) telicity and degree of patient affectedness, (iii) the referential properties of patients, (iv) the animacy and intentionality of agents, (iv) discourse effects (argument saliency, mood and modality). We first present voice alternations linked to diathetic verb classes, then move on to other types of voice alternations.

5.1 Voices defining diathetic verb classes

The AV *mi-*, NAV *ma-*, and the *<um>* and *mu-* voice affixes (more marginally LV *-an* on verbs denoting natural and atmospheric conditions), also help define diathetic verb classes. AV *mi-* verb stems denote atelic activities, while NAV *ma-* (and the residual classes of *<um>* and *mu-*) verb stems have a wider range of semantics, such as properties or states, mode of motion, feelings/emotion, experiencer, cognition, ingestion, natural process, spontaneous/ unintentional actions, etc. Table 3 gives a non-exhaustive overview of the semantic properties of verb classes.

²⁷ The genitive agent =*aku* is a second position clitic hosted by the negative auxiliary.

Table 3. Verb classes and their semantics

Voice	Semantics of verb classes	Case-marking
AV <i>mi-</i>	activity-denoting	ANTIPASSIVE-LIKE
< <i>um</i> >	properties, states, weather, position, mode of motion, feelings/emotion, experiencer, cognition, ingestion, natural process, spontaneous/ unintentional actions, body function, grooming, disease, modality, quantifiers, Aktionsart	
NAV <i>ma-</i>		
UV <i>ma-</i>	transitive, <i>fully</i> affected, definite patients	ERGATIVE
UV <i>-en</i>	ALL verbs (including \emptyset -V)	
LV <i>-an</i>	(in)transitive, with <i>superficially</i> affected patient or location, verbs of weather, natural phenomena	
InstV <i>sa-</i>	verbs allowing instruments	
CV <i>si-</i>	verbs denoting transfer	

The combination of roots and voice affixes is usually predictable; some roots select a basic voice marker in relation to their semantic class, but they also allow voice alternations that may modify their semantics. For instance, some verb stems belonging to the AV *mi-* class or to the NAV *ma-* class, allow voice alternations with different and predictable semantics; while other verb stems exclusively belong to one of these two classes (see Section 5.2.1). Other voice alternations, such as AV *mi-* and UV *ma-* alternations change the grammatical function of their arguments and consequently their case-marking.

5.1.1 AV *mi-* /*pi-* verbs

Conjugated AV *mi-* verbs denote atelic activities or actions, their (pro)nominal theme/patient (if any) is oblique, not fully affected, and \pm definite. Some of the two-argument, activity-denoting AV *mi-* stems (and only them) may have UV *ma-* voice alternations denoting accomplishments or achievements with a fully affected patient, as in (25a-b).

- (25) a. Itini han i nguyus a mi-temuq t-u limucedan.
 here do.so LOC mouth COMP AV-swallow OBL-NM young.woman
 ‘(it) put (her) here in its mouth to swallow the young woman.’ (Icep.080)
- b. Ma-temuq n-u quner k-u limucedan.
 UV-swallow GEN-NM snake NOM-NM young.woman
 ‘The snake swallowed the young woman.’

5.1.2 NAV *ma-/ka-* verbs

Non-Actor (NAV) voice *ma-* (and its non-finite *ka-* form, in (26b) is affixed to verbs with a great variety of semantics. Their subject is not an activity performer, but an Experiencer, or the locus of some property. These verbs are mostly intransitive or low-transitive with superficially affected oblique themes/patients, with *k-*, (*t-*) case frames, and these only allow UV *-en* alternations.

- (26) a. Ma-banaq haw k-isu iciraan ?
 NAV-know Q NOM-2SG OBL.3SG
 ‘Do you know him ?’

- b. Caay ka-banaq k-aku.
 NEG NFIN-know NOM-1SG
 ‘I don’t know (him).’

- (27) Ma-seneng k-uhni itisuwan.
 NAV-be.proud NOM-3PL OBL.2SG
 ‘They are proud of you.’

Among their most common and predictable semantics are (i) states, properties, *ma-apa* ‘stupid’; (ii) psych states, feelings, *ma-cunus* ‘angry’; (iii) cognition *ma-nanam* ‘have the know-how’; (iv) body functions, natural functions, such as ingestion, diseases, health conditions, *ma-murec* ‘digest’, *ma-qepi* ‘limp’; (v) grooming, *ma-laluup* ‘wash face’; (vi) life-stages, *ma-urip* ‘live’; (vii) positions, *ma-bukakang* ‘lie down’; (viii) intradirective²⁸ motion or movement, *ma-bukac* ‘run’, *ma-ruqruq* ‘tumble down’; (ix) atmospheric, natural states, *ma-lelen* ‘(there’s an) earthquake’; (x) meals, *ma-lahuk* ‘have lunch’; (xi) spontaneous, unintentional events or actions, *ma-bakuhac* ‘explode’; (xii) verbs of modality, quantifiers, Aktionsart, *ma-ngarah* ‘be willing’, *ma-hemin* ‘finish’, *ma-lingatu* ‘begin’.

Lexical or semantic classes are not fully predictable, for instance verbs of motion and movement are usually NAV *ma-*, but some are AV *mi-*.

5.1.3 <um>/ka<um> and mu-/ka-mu diathetic verb classes

The <um> and *mu-* verb stems are two residual verb classes; <um>verbs (around forty) are mostly intransitive, *mu-*verbs are even more residual (about sixteen) and are only intransitive. They have distinct voice alternations: <um> verbs behave very much like NAV *ma-* verbs, which have depleted the <um> verb class in the course of evolution.

Originally, the PAN infix *<um> expressed Actor Voice, while **-en* was the Undergoer Voice (Wolff 1973). In the course of evolution, many of the former <um> verb stems have migrated into the NAV *ma-* verb class. Among the residual <um> verbs are (i) verbs of position or movement *m-aruuq* ‘sit’ (<u)m-aruuq), *tireng* ‘stand up’; motion verbs, *tubu* ‘jump down’; (ii) emotion verbs, *tangic* ‘cry, weep’; (iii) speech verbs *suwal* ‘speak’; (iv) body care and functions: *kan* ‘eat’, *tayiq* ‘defecate’; (v) verbs with anticausative meaning, *lunu* ‘rise high, high tide’.

Most *mu-* verbs follow the same trend; these have spontaneous, anticausative semantics and generally occur with inanimate subjects lacking control: *mu-nabaw* ‘float’, *mu-lasak* ‘leak’, *mu-cerem* ‘fall, set (for sun)’, *mu-nihar* ‘rise’ (sun), *mu-sadak* ‘appear’ (for plants). A few allow animate subjects like *mu-raraw* ‘take the wrong way, make a mistake’, *mu-lecep* ‘disappear’ (under water).

5.2 Selecting UV *ma-* or UV *-en* alternations with two-argument verbs

Apart from the verb class feature, other differences correlate with (i) agent animacy and intentionality, (ii) tense-aspect, (iii) patient affectedness. While UV *ma-* is restricted to two-argument verbs, UV *-en* is compatible with all valency classes. UV *ma-*, UV *-en*, LV *-an* thus participate in voice alternations expressing different degrees of patient

²⁸ i.e., motion, movement and position verbs whose subject is both acting and being affected by the action.

affectedness, of agent intentionality or animacy, with ergative case-marking. The patient of LV *-an* is superficially and reversibly affected.

5.2.1 Agent animacy and intentionality

While the genitive agent of UV *ma-* and of LV *-an* is neutral for animacy and intentionality, the agent of two-argument UV *-en* must be intentional.

- (28) a. Ma-cengel=aku k-ina budui.
 UV-dye=GEN.1SG NOM-DEM clothes
 ‘I (accidentally) dyed the clothes.’ (due to colour-transfer while washing)
- b. Cengel-en=aku t-u muhting-ay k-u budui.
 dye-UV=GEN.1SG OBL-NM black-NMZ NOM-NM clothes
 ‘I’ve dyed the clothes in(to) black.’ (intentionally)

5.2.2 Tense-aspect-mood features: telicity, patient affectedness and definiteness

UV *ma-* is the default and obligatory construction of event-denoting, telic two-argument verbs with definite, fully affected patient subjects that have undergone some irreversible change of state.

- (29) Ma-besul n-u puhung n-u kararayan k-u tireng n-ira.
 UV-pierce GEN-NM horn GEN-NM deer NOM-NM body GEN-3SG
 ‘She was gored by the deer’s horns.’ (Kararayan.048)

By contrast, UV *-en* is compatible with all types of stems (stative, ± transitive), for instance with a stative stem like *adada* ‘hurt, sick’, *adada cira* ‘he’s sick’ vs. *adada-en k-ina wawa* (hurt-UV NOM-DEM child) ‘the child got hurt’ (wacu.023) expressing some caused change of state.

While UV *ma-* in (30a) presupposes some achievement or some accomplishment with a resulting state, there is no such presupposition with UV *-en* which is neutral in terms of theme/patient affectedness and neutral for tense-aspect, i.e., compatible with future or past actions as in (30b), with contextual interpretation.

- (30) a. Ma-kilim=tu haw numisu k-u hawan ?
 UV-find=PFV Q GEN.2SG NOM-NM knife
 ‘Have you found the knife?’ (Kararayan.048)
- b. Cima k-u kilim-en numisu ?
 who NOM-NM look.for-UV GEN.2SG
 ‘Who were you looking/did you look for/will you look for?’

The distribution, semantics and functions of UV *-en* are thus broader than those of UV *ma-* in Amis. UV *-en* has deontic interpretation in specific contexts such as (31b), and also occurs in imperative mood (see Section 6.2), while UV *ma-* is restricted to declarative utterances and indicative mood. Thus *31c may only mean ‘you love your mother’, but may not have any deontic meaning.

- (31) a. Ma-ulah cira itisuwan.
 NAV-like NOM.3SG OBL.2SG
 ‘He likes you.’

b. Ulah-en n-amu k-u ina n-amu.
 like-UV GEN-2PL NOM-NM mother GEN-2PL
 ‘You (have to) cherish your mother.’

*c. ma-ulah n-amu k-u ina n-amu.
 UV-like- GEN-2PL NOM-NM mother GEN-2PL
 (ungrammatical with deontic meaning)
 Intended meaning: ‘You (have to) cherish your mother.’

Like other voice affixes, UV *-en* has derivational properties. An entity-denoting stem such as *u kamay* ‘hand’ is derived as a stative NAV stem *ma-kamay* ‘be a thief’, and as a manner of action UV *-en* verb stem in complex verb constructions, such as *kamay-en* ‘done by hand’ in (32), with *hemay* as the Undergoer subject of the verb complex *kamay-en a kaen* ‘eat with the hands’.

(32) Kamay-en=tu k-u hemay a kaen.
 hand-UV=PFV NOM-NM rice COMP <UM>eat
 ‘Rice is eaten by hand.’

5.3 One-class membership vs. alternate membership

Some verb stems pertain to only one diathetic verb class, but most allow voice alternations, with concomitant changes of category, semantics and coding properties, thus pointing out the derivational and the semantic properties of voice affixes.

5.3.1 NAV *ma-* vs. AV *mi-* alternations

Most NAV *ma-* vs. AV *mi-* alternations contrast states to activities, e.g., *ma-ngata* ‘be close to’ vs. *mi-ngata* ‘approach’; *ma-simsim* ‘be familiar’ vs. *mi-simsim* ‘think, plan’. With perception verbs, some contrast of intentionality is expressed, e.g., *ma-araw* ‘see’ vs. *mi-araw* ‘watch, meet’.

A few roots, restricted to verbs of body conditions, which are basically stative NAV *ma-* stems, also have AV *mi-* alternations, which do not denote activities, but a change of state generally caused by some inanimate entity, for instance *ma-suaw* ‘thirsty’ vs. *mi-suaw* ‘make thirsty’, *ma-tanang* ‘sweat’ vs. *mi-tanang* ‘make s.o. sweat’. Verbs with these *mi-* alternate derivations do not have causative *pa-* constructions, which are the standard way of expressing a change of state, e.g., *ma-uning* ‘be dirty’ vs. *pa-uning* ‘make dirty’.

(33)a. Ma-ngeruq k-isu.
 NAV-tired NOM-2SG
 ‘You’re tired.’

b. Mi-ngeruq k-ina demak itisuwan.
 AV-tire NOM-DEM work OBL.2SG
 ‘This job is tiring you.’

5.3.2 <um> verbs vs. NAV *ma-* alternations

Some intransitive, unaccusative <um> motion verbs also allow NAV *ma-* constructions with different meanings. For instance, *rakat cira* ‘he’s walking’, has a property-denoting NAV *ma-* voice alternation as *ma-rakat cira* ‘he’s a (good) hiker’. Their negative forms are also different: *caay ka-rakat cira* ‘he’s not walking’ vs. *caay ka-rakat cira* ‘he’s not good at hiking’ (property). In both cases, the negative form requires the *ka-* morpheme, but the motion verb retains its <um> form, in contrast with the property-denoting stem (*caay ka-rakat*). These voice alternations denote dynamic vs. stative semantics and are inbuilt in the semantic structure of the lexical root.

5.3.3 NAV *ma-* verbs and UV *-en* alternation

NAV *ma-* verbs do not allow UV *ma-* alternation, this is yet another reason for analysing them as distinct morphemes. NAV *ma-* verbs only allow UV *-en* alternations which generally denote some change of state affecting a nominative experiencer, as in (34b), and which results from some event initiated by an animate agent marked as genitive.

- (34)a. Ma-palal k-iyā wawa.
 NAV-awake NOM-DEM child
 ‘The child is awake.’
- b. Palal-en=aku k-iyā wawa.
 awaken-UV=GEN.1SG NOM-DEM child
 ‘I woke up the child.’
- c. * ma-palal=aku k-iyā wawa. (*UV ungrammatical)
 UV-awaken=GEN.1SG NOM-DEM child
 (intended ‘I woke up the child’)

Some intransitive NAV *ma-* (<mu>, *mu-*) stems denoting spontaneous/unintentional actions, motions, body-functions, also allow UV *-en* alternation, never *UV *ma-* constructions. In (35a-b) NAV *ma-bekac* ‘run’ alternates with UV *bekac-en*, expressing manner or mode of motion in complex verb constructions.

- (35)a. Ma-bekac cira a ta-lumaq.
 NAV-run NOM.3SG COMP go-home
 ‘He runs/ran home.’
- b. Bekac-en n-ira a ta-lumaq.
 run-UV GEN-3SG COMP go-home
 ‘He goes/went home running.’

Manner of action is similarly expressed in complex verb constructions with UV *-en* (36b), never by *UV *ma-* constructions. In (36b), the complex verb, *siliw-en a mi-melaw*, shares a common set of arguments, i.e., a nominative Undergoer subject *wama* and a genitive agent *n-ira*.

- (36)a. Ma-siliw k-u mata n-ira.
 NAV-squint NOM-NM eye GEN-3SG
 ‘His eyes squint.’

- b. Siliw-en n-ira [a mi-melaw] k-u wama.
 squint-UV GEN-3SG COMP AV-look NOM-NM father
 ‘He looked askance at his father.’

Since NAV *ma-* verbs have UV *-en* alternations, but disallow ergative UV *ma-* alternation, then UV *ma-* and NAV *ma-* cannot alternate on the same verb stems, while UV *ma-* may alternate with two-argument AV *mi-* stems. On the other hand, UV *-en* has no class restriction and is compatible with all verb classes.

5.3.4 Bare \emptyset / *ka-* verb stems and UV *-en* alternation

Bare verb stems (i.e., stems without voice markers) are intransitive, denote states and properties, and include a few motion verbs, deictic like *tayni* (< *ta-ini*) ‘come’, *tayra* (< *ta-ira*)²⁹ ‘go’, or non-deictic verbs like *ta-h(e)kal* ‘go out’. The verbs belonging to this class denote: (i) body condition and function: \emptyset -*cah(e)ni* ‘itch’, etc.; (ii) physical properties: \emptyset -*tataak* ‘big’, etc.; (iii) basic colours: \emptyset -*buhcal* ‘white’, etc.; (iv) quantifiers: \emptyset -*adihay* ‘be numerous’ (things), etc.; (v) manner of action: \emptyset -*kalamkam* ‘hurry’, etc.; (vi) Aktionsart: \emptyset -*terep* ‘cease, stop’, etc.

Some of these stative verbs allow UV *-en* alternations as in (37b), never a UV *ma-* voice. These UV *-en* constructions express a change of state, possibly adversative, affecting an experiencer subject, with some unmentioned, inanimate cause/agent.

- (37) a. \emptyset -siqnaw k-aku.
 \emptyset -be.cold NOM.1SG
 ‘I’m cold.’ (state, factual)
- b. Siqnaw-en haw k-isu ?
 be.cold-UV Q NOM-2SG
 ‘Are you getting cold?’ (for instance, due to air conditioning)
- c. Hay ! siqnaw-en k-aku.
 yes be.cold-UV NOM-1SG
 ‘Yes I’m getting cold.’ (implied, ‘turn it off’)

Others occur with UV *-en* in complex verb constructions expressing manner of action as in (38b).

- (38) a. \emptyset -kalamkam cira a rakat.
 hurry NOM.3SG COMP <UM>walk
 ‘He walked fast.’
- b. Kalamkam-en (n-ira) a mi-ratuh t-ina kapah-ay a demak.
 hurry-UV (GEN-3SG) COMP AV-inform OBL-DEM good-MODF LNK affair
 ‘(He) hurried to tell the good news.’

5.4 Selecting UV *-en* vs. LV *-an* with two-argument verbs

Agent intentionality is a strong constraint for UV *-en*, but is immaterial with LV *-an*. Patient affectedness is more superficial, temporary and reversible with LV *-an*, as shown

²⁹ *Ini* ‘here’ and *ira* ‘there’ are deictic locative markers.

by *kalat-an* ‘peck at’ (for bird) vs. *kalat-en* ‘bite off’ (Bril 2017: 378). In (39a), the fish may or not be fully eaten, while it is completely eaten in (39b). In (40), the cup manufacturing is completed.

- (39) a. Kaen-an=tu k-iyā buting.
 eat-LV=PFV NOM-DEM fish
 ‘The fish has been eaten.’
- b. Kaen-en=tu k-iyā buting.
 eat-UV=PFV NOM-DEM fish
 ‘The fish has been eaten up.’
- (40) Sangaq-en=aku k-u kupu.
 make-UV=GEN.1SG NOM-NM cup
 ‘I made the cup.’

5.5 The hybrid status of the Locative Voice *-an*

LV *-an* has hybrid properties that have triggered debates as to whether it is an applicative affix, an applicative voice, or a nominaliser.³⁰ Ross (2009: 1268) states that PAN *-an was both a general nominaliser and a locative nominaliser (often occurring together with some other affixes). In Central Amis, Wu (2006: 111, 424) analyses *-an* as an applicative marker, not as an applicative voice, on the grounds that it co-occurs with other voice morphemes, and cites the co-occurrence of *mi-...-an* verb stems (41). But such *mi-...-an* constructions are systematically refused by all N.Amis speakers,³¹ who only allow derived perfective *ni-...-an* event nominals, which may have predicate (42a) or argument (42b) functions.

Central Amis (Wu 2006: 112)

- (41) Mi-’adup-an n-i mama k-u fafuy n-u lutuk.
 MI-hunt-LA GEN-PM father NOM-DEM pig GEN-NM mountain
 ‘Father hunted the mountain pig.’ (or)
 The mountain pig was what Father hunted.’

Northern Amis (Bril, fieldnotes)

- (42) a. Ni-’adup-an n-i ama k-u babuy n-u lutuk.
 PFV.NMZ-hunt-LV GEN-PM father NOM-DEM pig GEN-NM mountain
 ‘What Father hunted was a boar (lit. mountain pig).’
- b. Adada-en=tu cira t-u ni-panaq-an n-uhni.
 wound-UV=PFV NOM.3SG OBL-NM PFV.NMZ-shoot.arrow-LV GEN-3PL
 ‘He was wounded by their arrow-shooting.’ (Arikakai.077)

In N.Amis, LV *-an* verb stems cannot co-occur with any other voice, but may only occur with causative, valency increasing *pa-*, or with nominalising affixes (like perfective *ni-*). In her data, Chen (1987: 95-96) found a few cases of *-an* as a Locative Voice and concluded that “it might signal the incipient stage of a locative voice”. Some twenty years

³⁰ Tsukida (2008: 278) considers LV and CV as nominalisers.

³¹ The dialects of Amis are quite different in terms of lexicon, phonology, and in their use of the same morphological markers.

later, my fieldwork corpus shows that *-an* is quite commonly used as a voice affix in a verbal environment and that these forms cannot be analysed as locative nominals in equative constructions, as the following sections will show.

In fact, LV *-an* has hybrid status, (i) it is a voice marker on some intransitive verb stems denoting natural or atmospheric conditions and body conditions, as well as on some transitive verbs selecting a locative noun or a superficially affected patient as subject (with verbs like ‘yell’, ‘call’, ‘bark at’); (ii) it occurs on derived *pi-...-an* and *ka-...-an* nominal stems such as *u pi-'adup-an* ‘hunting time/ground’ from *mi-'adup* ‘hunt’; *u ka-butiq-an* ‘bedroom’ from *ma-butiq* ‘to sleep’.

5.5.1 LV *-an* with intransitive verbs denoting natural and body conditions

Stems denoting natural, atmospheric situations, spontaneous events or bodily conditions are derived by LV *-an* or by NAV *ma-* as an alternate form.

Natural phenomena. Verb stems denoting natural phenomena usually have no expressed subject, although a time or location subject noun may occur:

- urad-an k-ina remiad* (rain-LV NOM-DEM day) ‘it’s raining today’.
- adiyuc-an / ma-adiyuc* ‘there is a tornado’ (*u adiyuc* ‘a tornado’)
- kedal-an anini / ma-kedal anini* ‘it’s dry now’ (*kedal* ‘dry’)
- urad-an / ma-urad* ‘it’s raining’ (*u urad* ‘the rain’)

As verb stems, they may occur with past or future tense markers:

- a urad-an anucila* (FUT rain-LV tomorrow) ‘it’ll rain tomorrow’

Verbs of bodily function or with experiencer subjects. On intransitive verb stems denoting bodily conditions, LV *-an* has a patient/experiencer subject which is reversibly and superficially affected. There are subtle semantic distinctions: LV *-an* tends to denote temporary conditions, while NAV *ma-* tends to denote frequent or permanent conditions or states. Consider the alternate forms *seruuk-an cira* (hiccups-LV NOM.3sg) ‘he has hiccups’, *ma-seruuk cira* ‘he often has hiccups’ (denoting some propensity).

- (43)a. Ma-bursen k-u kukuq=aku.
NAV-numb NOM-NM leg=GEN.1SG
‘My legs are stiff.’ (general medical condition)
- b. Bursen-an k-u kukuq=aku.
numb-LV NOM-NM leg=GEN.1SG
‘My leg has gone numb.’

5.5.2 LV *-an* with transitive verbs

With two or three argument verbs, LV *-an* selects a location or locative patient noun as its nominative subject, like *sera* ‘land’ in (44a), together with ergative case-marking. Compare with the AV *mi-* construction in (44b). For those analysts supporting the nominal to verbal hypothesis, such verb stems are held to be originally nominal, occurring in equative constructions of the type ‘this land is my planting place for millet’. Synchronically, the presence of an oblique argument (*tu habay*) in (44a) prevents analysing *paluman-an* as a noun; it is a verb stem with a location noun as subject and an oblique

object, and it is morphologically different from deverbal nouns derived by the perfective nominaliser *ni-*, like *ni-paluma-an* ‘crops’ (lit. the planted things) in (44c).

- (44) a. Paluma-an=*aku* t-u habay k-*iya* s(e)ra.
 plant-LV=GEN.1SG OBL-NM millet NOM-DEM land
 ‘I planted this land with millet.’
- b. Mi-paluma k-*aku* t-u dateng i sera.
 AV-plant NOM-1SG OBL-NM veggies LOC land
 ‘I’m planting some veggies on the land.’
- c. Adihay k-u ni-paluma-an.
 plentiful NOM-NM PFV.NMZ-plant-LV
 ‘Their crops were plentiful.’ (Malasang Ciyaw.017)

With motion or manner of motion verbs. With motion verbs like *tara* ‘go somewhere’, the LV *-an* verb is derived as a two-argument verb as in (45a), marked for perfective aspect by =*tu*, with an unexpressed (but contextually identifiable) locative subject and a genitive agent (=aku).

- (45) a. Tara-an=*tu*=*aku* a pa-takid.
 go-LV=PFV=GEN.1SG COMP CAUS-offer.libation
 ‘I went (there) to offer some wine-offerings.’

In (45b), *batikar* is the locative-patient subject of the verb *awas-an*.

- b. Awas-an n-*ira* k-*iya* batikar a mi-dakaw.
 straddle-LV GEN-3SG NOM-DEM bicycle COMP AV-ride
 ‘He straddled the bicycle to ride it.’ (Mami.027)

5.5.3 LV *-an* denoting superficially affected patients

LV *-an* frequently occurs with verbs of perception, feelings, cognition (‘mock’, ‘tell off’) and more generally verbs whose patient or experiencer subject is superficially and reversibly affected (‘bark at’, ‘be out of order’). These verbs may denote (resulting) states, change of states and may have one or two arguments.

- (46) Baric-an=*tu* k-u batikar.
 impair-LV=PFV NOM-NM bicycle
 ‘The bicycle is out of order.’

Perception verbs. With perception verbs, LV *-an* promotes the object of perception as the subject of the verb complex, which has the form [V a V] with contiguous or non-contiguous [V S a V] verbs due to subject raising.

- (47) [Bangcal a melaw-an] k-u talakal ni Adek.
 beautiful COMP look-LV NOM-NM rainbow GEN-PM Adek
 ‘Adek’s rainbow is beautiful to look at.’
- (48) Luqnger cira a melaw-an!
 young.sprout NOM.3SG COMP look-LV
 ‘He looks so young !’

Transitive verbs of event. In such functions, LV *-an* has an undergoer subject which is superficially, temporarily or reversibly affected (49a), while a UV *ma-* verb denotes a fully affected patient. By contrast, the AV *<um>* alternate voice in (49b) profiles a punctual process and the location (*'a'iluc* 'neck') is marked as a locative adjunct.

- (49) a. Telik-an n-u alapal k-u 'a'iluc n-ira.
 touch-LV GEN-NM spark NOM-NM neck GEN-3SG
 'A spark touched his neck.'
- b. Tilik k-u alapal n-u lamal i 'a'iluc n-i Laliyuk.
 <UM>touch NOM-NM spark GEN-NM fire LOC neck GEN-PM Laliyuk
 'A fire-spark landed on Laliyuk's neck.' (U nipiketun ni Hayan.0084)

Similarly in (50a), the unexpressed patient subject (*cira*) of LV *-an* (*lalang-an=tu isaw* (*cira*)) is tentatively affected, but with cancelled result. Compare with AV *mi-lalang* 'forbid, prevent, stop' (50b).

- (50) a. Lalang-an=tu isaw n-u i tepar-ay a cabay, a maan-en aca?
 prevent-LV=PFV DISC GEN-NM LOC close-MODF LNK friend FUT do-UV DISC
 'The friend next (to him) tried to stop (him), in vain.' (Malasang Ciyaw.039)
- b. Mi-lalang cira ci Puyar-an a mi-taes t-u wawa.
 AV-prevent NOM.3SG PM Puyar-OBL LNK AV-hit OBL-NM child
 'He prevented Puyar from hitting the child.'

Ditransitive verbs of transfer. With verbs of transfer such as 'give, borrow, lend', LV *-an* promotes the beneficiary as subject (51) with the semantic status of a temporary repository, the theme (*cudad* 'book') is oblique, and the agent is genitive.

- (51) Pa-caliw-an=aku³² k-isu t-u cudad.
 CAUS-borrow-LV=GEN.1SG NOM-2SG OBL-NM book
 'I lent you a book.'

Like UV *ma-*, LV *-an* is restricted to declarative and indicative mood, as in (52a). In all other moods, their forms are different (see Section 6). LV *-an* has the form *-i* in imperative (52b), with *belac* 'rice' as the unexpressed patient subject of *luwan-i*.

The LV *-an/-i* mood alternations suggest that these are verbal forms synchronically.

- (52) a. Alamaanan, luwan-an=tu k-ita.
 sometimes reduce-LV=PFV NOM-1PL.INCL
 'Sometimes, we are deprived/suffer from deprivation.' (Male-paliw.036)
- b. Tada adihay k-ina belac, luwan-i a tudiq!
 very numerous NOM-DEM rice reduce-LV.IMP LNK little
 'There's too much rice, take away a little!'

³² The root *caliw*, has a *mi-* stem with a centripetal meaning, *mi-caliw* 'borrow' and a centrifugal *pa-* stem, *pa-caliw* 'lend'. Similarly, the root *cakay* 'trade' has a *mi-* and a *pa-* stem, *mi-cakay* 'buy', *pa-cakay* 'sell'.

6. Symmetrical voices and mood distinctions

The voice system in declarative mood has its parallel in other moods, with the same bi-partite case-marking system, i.e., in optative, hortative, imperative, prohibitive moods and in negative polarity, with some neutralisations for the latter two cases, shown in Table 4.

Table 4. Voice and mood morphemes in N.Amis

	AV	NAV	<UM>	MU-	UV	UV	LV
Indicative	<i>mi-</i>	<i>ma-</i>	< <i>em</i> >	<i>mu-</i>	<i>ma-</i>	<i>-en</i>	<i>-an</i>
Hortative	<i>mi- ... -a</i>	<i>ma-..-a</i>	< <i>em</i> >...-a	<i>mu-...-a</i>	<i>-a(w)</i>	<i>-en</i>	<i>-ay</i>
Imperative	<i>pi- ... -i</i>	<i>ka-</i>	<i>ka</i>	<i>ka-mu-</i>	<i>-a</i>	<i>-en</i>	<i>-i</i>
Prohibitive	<i>aka pi-</i>	<i>aka ka-</i>	<i>aka ka</i>	<i>aka ka-mu-</i>	<i>aka stem-i</i>	<i>aka stem-i</i>	<i>aka stem-i</i>
Negative indicative	<i>caay pi-</i>	<i>caay ka-</i>	<i>caay ka</i>	<i>caay ka-mu-</i>	<i>caay (ka)- stem-i</i>	<i>caay stem-i</i>	<i>caay stem-i</i>

In N.Amis, each one of the basic voices has different hortative and imperative forms. In all non-UV and non-LV voices, the hortative mood is based on the indicative verb stem with suffix *-a*, while the imperative mood is based on their non-finite form, together with additional morphemes displayed in Table 4, such as the imperative AV form *pi-...-i*.

UV *-en* stands apart in that it is identical in indicative, hortative and imperative moods, while UV *ma-* and LV *-an* have distinct indicative, hortative and imperative forms.

6.1. The voice system in non-declarative moods

Hortative mood in NAV is illustrated by (53a), and in UV by (53b), where hortative *-aw* cumulates voice and mood features.³³ Their respective alignments are preserved, antipassive-like in (a), ergative in (b).

- (53) a. Ma-kumud-a k-ita a radiw.
 NAV-gather-HORT NOM-1PL.INCL COMP <UM>sing
 ‘Let’s get together to sing.’
- b. Kumud-aw=ita k-ina ni-ayam-an.³⁴
 gather-HORT.UV=GEN.1PL.INCL NOM-DEM PFV.NMZ-hunt.bird-LV
 ‘Let’s put together these hunted birds.’

The LV hortative mood appears in (54a), compare with the declarative UV construction in (54b).

- (54) a. Risar-ay hen k-ira tumay !
 reduce-HORT.LV still NOM-DEM bear
 ‘Let (us) reduce those bears in number!’ (U tumay.029)

³³ *-aw* never co-occurs with other voice markers in N.Amis, thus, the co-occurring forms given by Wu (2006: 433) in Central Amis, *mi-...-aw*, *ma-...-aw*, *<um>-...-aw* are never produced, and always refused when suggested to N.Amis speakers.

³⁴ From *u ayam* ‘bird’, AV *mi-ayam* ‘hunt birds’ > PFV.NMZ *ni-ayam-an* ‘hunted birds’.

- b. Ma-risar=tu=aku k-ira dateng.
 UV-divide=PFV=GEN.1SG NOM-DEM vegetables
 ‘I have divided those seedlings.’

Compare the hortative AV based on the finite AV *mi-stem-a* in (55a), with the imperative mood formed on non-finite stems, as AV *pi-stem-i* in (55b).

- (55)a. Mi-sulac-a k-ita t-u wadis !
 AV-brush-HORT NOM-1PL.INCL OBL-NM teeth
 ‘Let’s brush our teeth !’
- b. Pi-sulac-i t-u wadis k-amu !
 NFIN-brush-IMP.AV OBL-NM teeth NOM-2PL
 ‘Brush your teeth !’ (to children)

The imperative mood of NAV *ma-* (<*um*>, *mu-*) stems is based on non-finite *ka-*, with the additional verb class form, i.e. as *ka-mu-* and *ka-<um>*, for instance as *ka-tireng* ‘stand up !’. UV imperative mood is marked by suffix *-a* (56), and LV imperative mood is marked by *-i* (57), both have undergoer subjects.

- (56) Pawan-a k-ina demak !
 forget-IMP.UV NOM-DEM matter
 ‘Forget that matter !’ (polite imperative)
- (57) Palal-i=tu k-u wawa !
 wake.up-IMP.LV=PFV NOM-NM child
 ‘Wake up the children !.’ (polite imperative)

The negative indicative auxiliary *caay* and the prohibitive mood *aka* command the dependent, non-finite verb stems *pi-* and *ka-*, with the addition of <*um*> and *mu-* for these verb classes, e.g., *aka ka-tangic* ‘don’t cry !’. On the other hand, UV *ma-* and LV *-an* stems are neutralized as negative *caay stem-i* or prohibitive *aka stem-i*. Compare the imperative UV verbs in (58a, 59a) with the prohibitive UV verbs in (58b, 59b) with undergoer subjects.

- (58)a. Palal-en cira !
 wake.up-IMP.UV NOM.3SG
 ‘Wake him up (please) !’
- b. Aka palal-i k-u ma-butiq-ay.
 PROH wake.up-IMP.UV NOM-NM NAV-sleep-NMZ
 ‘Don’t wake up the sleepers !’
- (59)a. Pa-kumud-en k-ina buduy a mi-bacaq !
 CAUS-gather-IMP.UV NOM-DEM clothes COMP AV-wash
 ‘Put the clothes together to wash (them) (please) !’
- b. Aka pa-kumud-i k-ina buduy !
 PROH CAUS-gather-IMP.UV NOM-DEM clothes
 ‘Don’t put the clothes together!’

The same bipartite alignment applies across moods; all non-UV and non-LV constructions have the actor or the experiencer as nominative subject (which may be left unexpressed); all UV and LV constructions have a nominative undergoer.

6.2 Imperative mood: evidence for S/P pivots

Since referential arguments are very often dropped, addressee's elision in imperative mood is not a compelling test in Amis. The central point is that imperative mood constructions abide by the same symmetrical voice system, but in that case, voice selection is driven by pragmatic and discourse functions.

AV and NAV imperatives have an S (Actor and Non-Actor) nominative subject encoding the addressee and usually left unexpressed, unless some more emphatic injunction is intended, while UV and LV have a P nominative subject encoding the Undergoer, not the addressee. Consider (i) the AV imperative *pi...-i* with optionally expressed S subject (60a), and (ii) the UV *-en* imperative with an Undergoer subject *k-u bidaul* (60b), and an unexpressed genitive Agent addressee which is most generally left unexpressed out of politeness. Imperatives thus evidence S & P pivots.

- (60) a. Pi-kilim-i (k-isu) t-u bidaul (< *mi-kilim* 'look for')
 NFIN-look.for-AV.IMP NOM-2SG OBL-NM cucumber
 '(you) (go) get cucumbers !' (Arakakai.009)
- b. Kilim-en k-u bidaul !
 look.for-UV.IMP NOM-NM cucumber
 'Find the cucumbers (please) !' (lit. let the cucumbers be looked for !)

Non-UV and UV alternations in imperative mood correlate with the politeness hierarchy. The more direct, thus less polite AV imperatives are addressed to children and equals, while the polite, less direct LV or UV imperatives are addressed to elderly and respected people. Voice alternations are further illustrated in (61a) for AV imperative, in (61b) for LV imperative, and in (61c) for UV imperative; for the latter two, the syntactic subject is the patient *buting*, the genitive Agent/addressee is unexpressed. As with declarative LV *-an*, LV *-i* imperatives denote a ± fully affected patient.

- (61) a. Ka-kaen (k-isu) t-ina buting-an !
 IMP-<UM>eat NOM-2SG OBL-DEM fish-OBL
 'Eat that fish !' (to a child)
- b. Kaen-i k-ina buting !
 eat-IMP.LV NOM-DEM fish
 'do eat that fish !' (as an invitation, i.e., help yourself)
- c. Kaen-en k-ina buting !
 eat-IMP.UV NOM-DEM fish
 '(please) eat that fish !' (polite order)

7. Testing alignment

We now aim at characterising this system as symmetrical, possibly in a non-fully canonical way, with a bipartite case-encoding. This involves showing that the oblique *t*- theme of AV/NAV and the genitive *n*- agent of UV have core argument properties and are not demoted. With that aim, control constructions, relative clauses, clefted constructions, reflexive constructions and floating quantifiers will be examined in turn.

7.1 Control constructions

Constructions with jussive verbs (order, assign, want) and assistive (help) verbs show that oblique Themes in the main clause may control, i.e., be the subject of the verb in the COMP clause, thus indicating their core-argument function.

In (62a), the oblique argument *t-u tamdaw* is the subject/controller of the verb in the COMP clause, i.e., the participant assigned to invite David, while the causative affix marks the causer's control on the oblique argument. The choice of AV *mi-ucur* and UV *ma-ucur* in (62a-b) is due to the referential properties of the patient: a non-specific indefinite NP like *tamdaw* may not be the Undergoer subject of a UV *ma-* verb, but must occur as the oblique *t-* theme/patient of an AV verb like *mi-ucur*. On the other hand in (62b), the definite noun *Adek* is the subject of both verbs, with distinct thematic role, i.e., as the definite Undergoer subject of UV *ma-ucur*, and the Actor subject of AV *mi-culuq* in the COMP clause.

- (62)a. *Mi-ucur ci Yesse t-u tamdaw a pa-pi-takus ci David-an.*
 AV-assign NOM.PN Jesus OBL-NM person COMP CAUS-NFIN-invite OBL.PN David-OBL
 'Jesus sent someone to make (him) invite David.' (Samuel 1, Bible)
- b. *Ma-ucur=aku ci Adek a mi-culuq t-u bekloh(-an).*
 UV-assign=GEN.ISG NOM.PN Adek COMP AV-transport OBL-NM stone(-OBL)
 'I ordered Adek to transport the stones.'

7.2 Relative clauses

In Philippine-type languages, only nominative pivots can be extracted and relativized (Keenan and Comrie 1977), this triggers voice alternations in the RC to match the thematic role of the relativized head.

In Amis, relative clauses are most commonly embedded and head-final, the RC is demarcated from the head by the linker *a*, and abide by the general [modifier LNK *a* modified] pattern. The verb of the RC has a non-finite, participial form modifying a noun. The head noun may have any thematic role (S, P, A) and any function in the main clause, as shown by (63 to 66), but in the RC, it must be a nominative S (of AV/NAV) or a nominative P (of UV), and it must be indexed by the voice matching its thematic role.

Sentence (63) shows an S & P pivot in the two clauses; the final head *demak* 'work' is the subject (S) of the quantifier verb *adihay* and the patient (P) pivot in the RC, triggering UV *-en* on the verb occurring under a non-finite, participial form *ka-naun-en*.

- (63) *Adihay k-u [ka-naun-en n-u babahi-^yan a] demak.*
 numerous NOM-NM NFIN-take.care-UV GEN-NM woman-COLL LNK task
 'The women have many tasks that (they) take care of.' (lit. numerous are the tasks taken care of by the women)

Example (64) has a P & P pivot in both clauses; the final head *awl* 'bamboo' is the oblique patient of *mi-ketun* and the patient pivot of a participial verb marked by *Ca-* reduplication (a type of non-finite verb form) and a LV *-an* verb in the RC.

- (64) *Mi-ketun t-u [sa~sa-lacu-an n-u panaq a] awl.*
 AV-cut OBL-NM Ca.RDP~do-throw-LV GEN-NM bow LNK bamboo
 '(he) cut some bamboo to be thrown by the bow.' (Mi-panaq Dihang.010)

The A & S pivot appears in (65) where the final head *wawa* ‘child’ is the agent of UV *ma-tupic* and the Actor (S) of the deverbal, participial stem *mi-salama-ay* in the RC. Thus, one way of relativizing a genitive A is by way of a nominalised AV *mi-...-ay* construction.

- (65) Ma-tupic k-ami n-iya [mi-salama-ay t-u nanum a] wawa.
 UV-wet NOM-1PL.EXC GEN-DEM AV-play-NMZ OBL-NM water LNK child
 ‘We were splashed by the children (who were) playing with water.’ (or) ‘The children (who were) playing with water splashed us.’

Finally, the OBL theme & P pivot is illustrated in (66), the final head *babahi* ‘woman’ is the oblique theme of NAV *ma-banaq* and the Patient subject of the deverbal, participial LV verb *ni-hakulung-an*.

- (66) Ma-banaq k-aku t-u [ni-hakulung-an numisu inacila a] babahi.
 NAV-know NOM-1SG OBL-NM PFV.NMZ-accompany-LV GEN.2SG yesterday LNK woman
 ‘I know the woman who you came with yesterday.’ (lit. you were accompanied by)

To sum up, even though the head noun may have all available functions in the main clause (nominative S or oblique T of AV/NAV; nominative P or genitive Agent of UV constructions), it is restricted to subject function in the RC and is indexed by the voice corresponding to its S, P or T function and thematic role. All arguments except for the genitive Agent have a corresponding indexing voice in the RC, while the Agents of UV constructions are only relativized by way of a non-finite AV *mi-...-ay* forms, suggesting that they have at least some form of logical subject properties.

7.3 Clefts: testing the core argument status of oblique arguments and genitive agents

In Amis, clefted core arguments and clefted non-core arguments display distinct properties which are now briefly summarized (see Brill 2016, Brill and Skopeteas 2020 for details).

The clefted NP is predicative, while the presupposition is encoded either (i) by a relative clause (RC) marked by the nominative marker *k-u* if the clefted NP is a core argument, or (ii) by a complement clause if the clefted NP is a non-core argument. The thematic role of a clefted core argument commands the voice occurring in the RC. Thus, a clefted Actor is indexed by an AV *mi-* verb in the RC, a clefted Undergoer is indexed by a UV verb in the RC, etc.

To sum up:

- Clefted core arguments head [*k-u* RC] constructions, i.e., RCs marked by the nominative marker *k-u*. The verb of the RC has a non-finite, participial form, its voice indexes the semantic role of the cleft NP.
- Clefted non-core arguments and adjuncts command [*a* COMP] clauses, i.e., complement clauses headed by the linker *a*. The clefted NP is not indexed on the verb’s voice form in the COMP. The verb has a finite form.
- Clefted Agents also trigger [*a* COMP] clauses, are not indexed by the verb’s voice form in the COMP, but the verb has a non-finite form.

Example (67b) illustrates the clefted Actor of an AV *mi-* verb construction given in (67a) for comparison. In (67b), the *k-u* RC is the argument of the clefted interrogative predicate *cima*, it contains a nominalised, participial *mi-...-ay* verb stem which retains its

two arguments, an oblique theme *nanum* and an oblique source argument *itisuwan*.

- (67) a. Mi-'ahen cira t-u nanum itakuwan.
 AV-ask NOM.3SG OBL-NM water OBL.1SG
 'He asked me for some water.'
- b. Cima [k-u mi-'ahen-ay t-u nanum itisuwan] ?
 who NOM-NM AV-ask-NMZ OBL-NM water OBL.2SG
 'Who asked you for some water?' (lit. it is who the one asking you water?)

Example (68) shows a clefted interrogative *u maan* whose patient role must be indexed by UV *-en* in the *k-u* RC. Since the thematic role of the clefted argument must be indexed in the RC, a clefted patient disallows an AV voice in the RC: thus, b) is ungrammatical.

- (68) a. U maan [k-u ka~kilim-en=isu]?
 NM what NOM-NM CA.RDP~search-UV=GEN.2SG
 'What are/were you looking for?'
- b. ** U maan ku *mi-kilim k-isu ? (intended: what are/were you looking for ?)

7.3.1 Clefts: testing the core status of oblique themes/patients

The oblique themes/patients of AV *mi-* and NAV *ma-* verbs behave as core arguments, as evidenced by the fact that they participate in voice alternations, and when clefted, they trigger a *k-u* RC with voice indexation generally marked by LV *-an* or UV *-en*. This is shown by (69b) in which the interrogative *u maan*, referring to the oblique theme *kawas* of (69a), is indexed by LV *-an* in (69b).

- (69) a. Ma-talaw k-aku t-u kawas.
 NAV-fear NOM-1SG OBL-NM ghost
 'I'm scared of ghosts.'
- b. U maan k-u ka-talaw-an=isu ?
 NM what? NOM-NM NFIN-fear-LV=GEN.2SG
 'What are you afraid of?' (lit. what (is) the x feared by you?)

Similarly, the clefted theme/patient of AV *mi-* constructions triggers a *k-u* RC, indexed by LV *-an* or by UV *-en* as in (70a-b).

- (70) a. Mi-kilim cira t-u badal.
 AV-look.for NOM.3SG OBL-NM berry
 'He's looking for berries.' (of *Smilax china*)
- b. U maan saw k-u kilim-en n-ira ?
 NM what? Q NOM-NM look.for-UV GEN-3SG
 'What is he looking for ?' (lit. what (is) the x looked for by him ?)

The clefted oblique patients of AV *mi-* verbs behave in the same way (71a-b).

- (71) a. Mi-kilim (k-uhni) iciraan.
 AV-look.for NOM-3PL OBL.3SG
 'They are looking for him.' (Maciwciw.052)

- b. Cima k-u kilim-en (n-uhni) ?
 who? NOM-NM look.for-UV GEN-3PL
 ‘Who are they looking for?’

The voice indexation by UV *-en* or LV *-an* in the RC is evidence of their argument function with the semantic status of a theme or non-fully affected patient.

For a small lexical subclass of AV *mi-* verbs, which is lexically determined (like ‘wait, pay a visit, scold, follow, call, visit’) and whose oblique theme/patient is superficially or transitorily affected, there is an alternate choice: these oblique themes generally behave as core arguments, as shown by the clefted construction with the *k-u* RC and a LV *-an* or UV *-en* verb in (72b-c), but they also allow an [*a* COMP] clause as in (72d), then behaving as non-core arguments. The crucial difference is that, if the oblique theme, *ci kaka-an* in (72a), behaves as a core argument, it is clefted without case-marking as in (72b-c), and its thematic role is indexed on the verb of the *k-u* RC, by LV *-an* or UV *-en* forms.

- (72)a. Mi-lisuq ci Balah ci kaka-an n-ira.
 AV-visit PM Balah PM elder.sibling-OBL GEN-3SG
 ‘Balah visited his elder brother.’
- b. Cima [k-u lisuq-en n-i Balah] ? (or:) Cima k-u lisuq-an n-i Balah ?
 who? NOM-NM visit-UV GEN-PM Balah
 ‘Who did Balah pay a visit to?’ (lit. who (is) the x visited by Balah?)
- c. Ci kaka [k-u lisuq-en n-ira].
 PM elder.sibling NOM-NM visit-UV GEN.3SG
 ‘It’s his brother that he visited.’

On the other hand, if the oblique arguments of this specific lexical class, behave as non-core, prepositional, more peripheral arguments, they are then clefted with their oblique case-marking and the optional preposition, as in (72d-e), with an [*a* COMP] clause and no voice indexation in the COMP clause, but never with a [*k-u* RC].

- (72)d. (i) cima-an a mi-lisuq ci Balah ?
 LOC who-OBL COMP AV-visit NOM.PM Balah
 ‘(to) whom is Balah paying a visit?’
- e. i c(i) ina-an n-umaku a mi-lisuq cira.³⁵
 LOC NOM.PN mother-OBL GEN-1SG COMP AV-visit NOM.3SG
 ‘it’s to my mother that he is paying a visit.’

The core or non-core behaviour is reminiscent of dative shift and double object raising constructions in English, such as *he paid her a visit* or *he paid a visit to her*.

Thus, the clefted non-core arguments of some verbs trigger [*a* COMP] constructions with finite verb forms, like clefted time and locative adjuncts, as shown in (73-74).

- (73) I ka-cerem-an n-u remiad a mi-radum.
 LOC NFIN-dive-LOC GEN-NM day COMP AV-draw.water
 ‘It is at sunset that (they) draw water.’ (Tipid.062)

³⁵ The answer can be reduced to *i c(i) ina-an n-umaku* ‘to my mother’.

- (74) A icuwa k-isu a ma-butiq ? – I hina-sera.
 FUT where NOM-2SG COMP NAV-sleep LOC ground
 ‘Where are you going to sleep ?’ – ‘On the ground.’

7.3.2 Clefts: testing the argument status of genitive agents

In contrast with core-arguments which are clefted with a [*k-u* RC] and whose thematic role is indexed by the corresponding voice form in the RC, the clefted Agents of UV ergative constructions are clefted with their genitive case-marking and command [*a* COMP] clauses (never *k-u* RCs) without any voice indexation of their thematic role, as in (75b, 76b). It is the nominative Undergoer subject (i.e., *budui*, *wawa*) which is indexed by LV *-an* in the COMP clauses of (75b-76b). On the other hand, these [*a* COMP] clauses have a non-finite, participial *ni-* verb form, in contrast with clefted non-core arguments discussed in (72d-e). The non-finite verb form of the COMP clause is a common feature with clefted core arguments and could be the hallmark of argument extraction.

- (75)a. Ni-padang-an=haw n-u ^wina k-isu ?
 PFV.NMZ-help-LV=Q GEN-NM mother NOM-2SG
 ‘Did you get your mum’s help?’
- b. Caay ! n-umaku=tu [a ni-tais-an k-ira budui].
 No! GEN-1SG=PFV COMP PFV.NMZ-sew-LV NOM-DEM clothes
 ‘No ! It was me who sewed the clothes.’
- (76)a. Cih^y-(e)n n-u ina k-iya wawa.
 Scold-^{EP}-UV GEN-NM mother NOM-DEM child
 ‘The child was scolded by (his) mother.’
- b. N-u n-ima [a ni-cih^y-an k-ira wawa] ?
 GEN-NM GEN-who? COMP PFV.NMZ-scold-^{EP}-LV NOM-DEM child
 ‘By whom was the child scolded ?’

Being deprived of subject function and of voice indexation, genitive Agents are barred from *k-u* RC constructions which require that an NP be the subject/pivot with voice indexing. These behavioural properties are obviously constrained by voices; since none is available for the genitive Agents of UV constructions, which thus stand apart from other core arguments, the alternative is either an [*a* COMP] construction with a non-finite verb or an AV construction such as (76c) enabling a *k-u* RC construction with a non-finite AV *mi-...-ay* verb form. The latter is common and preferred alternative to a clefted genitive Agent as in (76b).

- (76)c. Cima [k-u mi-cih^y-ay t-ira wawa-an] ?
 who? NOM-NM AV-scold-^{EP}-NMZ OBL-DEM child-OBL
 ‘Who scolded the child ?’

Finally, the behaviour of in situ WH- forms, which are restricted to echo-questions, is a last behavioural feature grouping the genitive Agents of UV constructions and the oblique themes/patients of AV *mi-* and NAV *ma-* verbs. In situ WH- forms are only allowed for non-pivot, Agent arguments (*n-ima*) in (76d), and for oblique themes (*cima-an*) in (76e); the declarative sentence is given in (76f) for comparison (see Brill 2016: 474-475, 478 for more details). In situ echo questions thus distinguish non-pivot Agents and oblique themes

from S, P subjects/pivots which cannot be questioned in situ.

- (76)d. Cih-en n-ima k-ira wawa ?
 Scold-UV GEN-who? NOM-DEICT child
 ‘The child was scolded by whom?’
- e. Mi-cihi ci Balah cima-an ?
 AV-scold NOM.PN Balah OBL-DEM child
 ‘Balah is scolding whom?’
- f. Mi-cihi ci Balah t-ira wawa-an.
 AV-scold NOM.PN Balah OBL-DEM child-OBL
 ‘Balah is scolding the child.’

7.3.3 Summary

In sum, all clefted core-arguments (i.e., the S subject, the oblique Theme of AV, NAV, and the P subject of UV) are indexed by the voice corresponding to their thematic role in a *k-u* RC containing participial, non-finite verb forms. Oblique arguments are marked differently according to whether they are core or non-core. Clefted oblique core arguments of AV *mi-* and NAV *ma-* verbs are typically indexed by LV *-an* or UV *-en* in *k-u* RCs, while clefted oblique non-core arguments trigger an [*a* COMP] clause without voice indexation and with a finite verb form as in (72d-e), like clefted adjuncts (73, 74).

Due to their lack of voice indexation, clefted genitive Agents behave differently from other core arguments, they also trigger [*a* COMP] clauses, yet the non-finite verb form in the COMP clause (75b-76b) points out some closer relation between the extracted agent and the verb form than the one that obtains between a clefted non-core argument and a finite [*a* COMP] clause. This property and their immediate post-verbal position suggest that genitive Agents have more central thematic role and argument function. The behavioural properties of clefted oblique arguments and of clefted genitive Agents support the notion that no demotion is involved and that the system has the characteristic features of a symmetrical voice system.

7.4 Reflexives constructions: testing core argument status

Reflexivity is marked by the noun *tireng* ‘body’, which behaves as a full noun, not as a reflexive pronoun nor as a reflexive anaphor. It can thus have argument functions as in (77) where the reflexive noun *t-u tireng* is the oblique argument of AV *mi-atad* and is bound by the S argument *cira* of the quotative verb *sa*.

- (77) « Wacu ! » sa cira a mi-atad t-u tireng.
 Dog say NOM.3SG COMP AV-curse OBL-NM body.REFL
 ‘“stupid me !” he said cursing himself.’ (Raqus a remiad.021)

In (78), a UV construction *pa-keda han=tu*³⁶ with *k-*, *n-* case-marking, the reflexive Undergoer subject *k-u tireng* is bound by the genitive Agent *n-ira*, suggesting that the Agent behaves as a logical subject, though not as the syntactic subject.³⁷

³⁶ *Han=tu* is a UV form (see Brill 2016), thus *pa-keda han=tu* is the equivalent of a UV construction.

³⁷ Similar constructions occur in Tagalog (Schachter 1976), in Balinese (Arka 2019) and are reported in

- (78) « U patay=tu=ita »³⁸ sa cira,
 NM death=PFV=GEN.1PL.INCL say NOM.3SG
 ‘‘That’s the end of me’’, he said,
 pa-keda han=tu n-ira³⁹ k-u tireng.
 CAUS-allow do.so=PFV GEN-3SG NOM-NM body.REFL
 he let himself go.’ (Maciwciw.010)

No instance of an oblique argument binding a reflexive noun occurred spontaneously, and attempts to elicit something equivalent to ‘Dawa said to *Dihang* to do it *himself*’, resulted in semi-direct speech constructions such as (79a), ‘let him do it (himself), Dawa said to *Dihang*’, with a clefted reflexive noun in predicate function and imperative mood marked by non-finite *ka* (*ka-u tireng nu nira* ‘let it be himself ...’). All cleft constructions trigger a *k-u* RC with a nominalized AV *mi-...-ay* verb form indexing the semantic role of the clefted pronoun. Thus, in its reflexive use, *u tireng* behaves as the nominal argument of a voice-marked verb, as in (78, 79a).

- (79)a. Ka u tireng=tu n-u n-ira k-u mi-demak-ay,
 NFIN NM body.REFL=PFV GEN-NM GEN-3SG NOM-NM AV-do-NMZ
 ‘Let him do it himself (lit. let it be his body the doer),
 han n-i Dawa ci Dihang.
 Do.so GEN-PN Dawa NOM Dihang
 Dawa said to Dihang.’

Non-reflexive constructions with clefted pronouns in predicate function *ka cira* and *ka isu* are given for comparison in (79b-c).

- (79)b. Ka cira:=tu k-u mi-demak-ay, han n-i Dawa ci Dihang.
 NFIN 3SG=PFV NOM-NM AV-do-NMZ do.so GEN-PN Dawa NOM Dihang
 ‘Let *HIM* do it, Dawa said to Dihang.’ (lit. let it be him the doer)
- c. Ka isu=tu k-u mi-demak-ay !
 NFIN 2SG=PFV NOM-NM AV-do-NMZ
 ‘*YOU* do (it) !’ (lit. let it be you the doer)

In (80) the clefted reflexive noun *n-u tireng=aku* is indexed by the nominalized AV *mi-bacay-ay* in the *k-u* RC, intensifying its Actor role.

- (80) Aw n-u tireng=aku k-u mi-bacay-ay t-ina buduy-an.
 PROSP GEN-NM body.REFL=GEN-1SG NOM-NM AV-wash-NMZ OBL-DEM clothes-OBL
 ‘It will be myself the one who washes the clothes.’

In sum, the reflexive noun *tireng* can be an oblique argument with an S binder (77), an Undergoer subject with a genitive A binder (78), a clefted Actor (79a, 80). Reflexive binding is restricted to syntactic subjects (S or P) and to genitive Agents in N.Amis.

Since core arguments can bind non-core arguments, but not the reverse (Arka 2019: 275), thus if a genitive A can bind the reflexive Undergoer subject *tireng* as in (78), it suggests that A retains some thematic role, possibly some logical subject function (distinct

Caucasic languages (Comrie et al. 2013).

³⁸ Modest self-reference uses 1pl. ‘we’ instead of 1sg ‘I’.

³⁹ In this position, *n-ira* is the Agent; the determiner of *tireng* would occur after it *k-u tireng n-ira*.

from the syntactic subject) allowing it to bind the reflexive. But such properties also correlate with the nominal properties of *tireng*, allowing it to be the argument of a voice-marked verb, thus behaving very differently from reflexive anaphors such as those found in English, in which *the man cut himself* precludes **‘himself cut the man’.

7.5 The « floating » quantifier '*amin*

Quantifier float (i.e., occurring in a non-adjacent position to the quantified noun) helps characterise alignment when its scope can be shown to be restricted to some functions and thematic roles. In Amis, the universal quantifier '*amin* ‘all’⁴⁰ can float away from its NP only if it is a subject, an S (like *babahi* in (81)) or a P (like *karias* in (82) and *lumalumaqan* in (83)). As a floating quantifier, '*amin* behaves like a second-position clitic, while the NP under its scope may be clause final, as shown in the following examples.

- (81) Tahkal=*amin* [a mi-melaw] k-u babahi.
 appear=all COMP AV-look NOM-NM woman
 ‘The women all came out to look.’ (Buduy nu Pangcah.024)
- (82) Ma-herək=tu=*amin* n-i Puyar [a subaw-an] k-u karias.
 UV-finish=PFV =all GEN-PM Puyar COMP wash-LV NOM-NM dishes
 ‘Puyar had finished washing all the dishes.’ (Masasiyay a tatusa.025)
- (83) Pel~pelung-en=*amin* n-ira k-inian u luma~lumaq-an.
 RDP~destroy-UV=all GEN-3SG NOM-DEM NM RDP~house-LOC
 ‘The villages were all destroyed by him.’ (Arikakay.037 Balah)

But '*amin* never floats away from the genitive Agent, it must occur before or after it.

- (84) “Ca:cay k-uni babahi!” han=tu⁴¹ [n-ira ma-li-epah-ay '*amin*].
 one NOM-DEM wife say=PFV GEN-DEM NAV-get-wine-NMZ all
 ‘“(You have) only one wife !” all these drunkards said.’ (Malasang Ciyaw.035)

Similarly, '*amin* never floats away from an oblique core Theme.

- (85) Mi-ratuh k-ina tauki [ituhnian '*amin*] t-ina demak-an.
 AV-inform NOM-DEM boss OBL.3PL all OBL-DEM affair-OBL
 ‘The boss informed all of them about this situation.’

Quantifier float is thus restricted to nominative subjects, S or P.

7.6 The tests summarized

These tests (summarized in Table 5 below, and inspired by Arka’s methodology 2017, 2019) highlight different properties of arguments. Some tests target the behavioural properties of the nominative (S or P) pivots, with quantifier float being restricted to pivots. Among the tests also targeting oblique core arguments are control constructions, relative clauses and clefting with *k-u* RCs, and these are allowed by their ability to participate in voice alternations and to be the nominative subjects of UV *-en* or LV *-an* verbs.

⁴⁰ The quantifier '*amin* is distinct from the Aktionsart stem *hemin* ‘finish’.

⁴¹ *Han=tu* is a UV form.

Additional features such as the structural post-verbal position of the genitive A of UV constructions, and in situ WH- forms which only target the genitive A and oblique arguments, identify distinctive properties of these arguments.

Table 5. Summary of features and tests evidencing the core properties of arguments⁴²

	nominative (S or P) subject	oblique core patient/theme	genitive Agent	oblique non-core argument
subcategorised for	X	X	X	
selectable as pivot	X	X		
voice indexing	X	X		
control construction	X	X		
RC	X	X		
clefting & extraction	<i>k-u</i> RC + voice indexing & <i>non-finite</i> verb	<i>k-u</i> RC + voice indexing & <i>non-finite</i> verb	<i>a</i> COMP + <i>non-finite</i> verb no voice indexing	<i>a</i> COMP + finite verb no voice indexing
Qnt float	X			
reflexive binding	X		X	
core indices	8/8 > 1	6/8 > 0,75	2,5/8 > 0,31	
Additional features				
structural position			fixed, post-V	peripheral
in situ echo WH- Q		X	X	X

Clefting shows that all core arguments behave in the same way, but differently from the genitive Agent whose clefting triggers [*a* COMP] constructions; yet their non-finite verb forms in the COMP clause suggest some intermediate status as arguments without voice indexation like non-core arguments, but with tighter semantic links to the VP than oblique non-core arguments. On the other hand, echo questions with in situ WH- is only available for core-arguments lower on the cline and for non-core arguments; S, P subjects must be clefted with voice indexing.

Finally, the ability for the reflexive noun *tireng* to be bound by the nominative S (of AV, NAV constructions) or by the genitive Agents (of UV constructions) also suggests that genitive Agents have some argument properties based on their semantic role.

The indices in Table 5 suggest the following hierarchy of argumenthood in Amis:

NOMINATIVE pivots > OBLIQUE CORE PATIENT/THEME > GENITIVE AGENT > OBLIQUE NON-CORE
(S or P: 1) (0,71) (0,35)

This hierarchy is similar, but not identical to the one pointed out by Arka (2017: 116) for Puyuma (Formosan), in which NOMINATIVE PIVOTS (S or P) are prototypical core arguments, OBLIQUE CORE PATIENTS/THEMES are semi-cores and GENITIVE AGENTS are marginal cores. In N.Amis, oblique core patients/themes are much higher on the cline, since (i) they may be indexed by voice morphology and participate in voice alternation as

⁴² This is inspired by Arka's (2017 and 2019) articles.

PSAs, and (ii) since they can be controllers in control constructions. Consequently, the voice system is also more symmetrical in Amis than in Puyuma.

8. Conclusion

Voice alternations and their coding features are driven by multi-variate factors including verb classes (contrasting activity vs. non-activity verbs, states, ambient verbs, etc.), semantic-syntactic features (telicity, patient affectedness), referential properties such as patient definiteness, and discourse effects.

The non-demotion of the oblique *t*- arguments of AV *mi*- and NAV *ma*- constructions and of the genitive Agents of UV constructions supports the notion that the voice system has symmetrical properties, i.e., is neither an active-passive, nor an ergative-antipassive system, but a bipartite alignment accommodating two distinct case-encodings, one reminiscent of (but different from) antipassive coding, the other ergative, whose behavioural properties evidence strong S = P syntactic pivots. The symmetrical properties of this voice system are also reinforced by the existence of parallel but distinct voice forms in indicative and non-indicative moods (i.e., imperative, hortative moods and negative illocutionary mood) within the same bipartite case-encoding system.

With regards to arguments, the backbone consists of the nominative S and P pivots, including oblique core arguments for some behavioural properties; they behave as syntactic pivots, command voice indexing in RCs, extraction and cleft constructions. By contrast, genitive Agents are left out of the voice indexing system, yet their immediate post-verbal position and their reflexive binding properties suggest that they have some argument property in UV constructions. Finally quantifier float also brings out a consistent S and P pivot, excluding oblique *t*- arguments and genitive Agents which do not allow it, which also supports the notion that the system has some properties of ergative syntax, but within the limits of a symmetrical voice system with a bipartite case-encoding system. This might result from the reanalysis of a former antipassive construction into a present lower transitive construction mostly based on aspectual and atelic features, with the concomitant feature of patient affectedness.

Abbreviations

ABILT abilitative;
AV actor voice;
CA.RDP Ca-reduplication;
CAUS causative;
COLL collective;
COMP complementiser;
COS change of state;
CV conveyance voice;
DEM demonstrative;
DISC discourse;

EP epenthetic;
 EXCL exclusive;
 FUT future;
 GEN genitive;
 HORT hortative;
 IMP imperative;
 IMP.NAV imperative.non-actor voice;
 INCL inclusive;
 INST instrumental;
 IRR irrealis;
 LA locative applicative ;
 LNK linker;
 LOC locative;
 LV locative voice;
 MODF modifier;
 NAV non-actor voice;
 NEG negation;
 NFIN non-finite;
 NOM nominative;
 NM noun marker;
 NMZ nominaliser;
 OBL oblique;
 PM personal marker;
 PFV perfective;
 PM person marker;
 POSS possessive;
 PREP preposition;
 Q question marker;
 RDP reduplication;
 TIMER timerative;
 TPC topic;
 UV undergoer voice.

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