Ma- Verbs in Amis: A Role and Reference Grammar Analysis[1]

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ABSTRCT

This paper analyzes the verbs prefixed with *ma-* in Amis, a Formosan Austronesian language spoken in the east coast of Taiwan. This marker is notorious for its semantic complexity, which is manifested in its dual or even multiple presences in verb classes and voice marking. In this paper, I try to elucidate this complexity within the framework of Role and Reference Grammar (Van Valin and LaPolla 1997). In addition to the earlier verb classifying criteria such as argument structure and derivational process, *ma-* verbs are categorized primarily classified into activity verbs, state verbs, and active accomplishment verbs based on their properties of lexical aspect, and each class is represented with logical structures. The case marking patterns of *ma-* will fall out from their respective logical structures. For *ma-* verbs that have BECOME in the logical structures, they will follow the genitive-nominative pattern, while the nominative-dative pattern is found with *ma-* verbs lacking BECOME in their logical structures. The RRG analysis can thus help resolve the complexity of *ma-* without resorting the confusing "voice" (or focus) status of this affix.

1. Introduction

It is not uncommon in Formosan languages that so-called focus markers, especially the agent focus set, often serve as the indicators of verb classes (e.g. Huang 2000 for verb classification in Mayrinax Atayal). However, in Amis, an Austronesian language spoken in the east coast of Taiwan, verbs marked by *ma-*, one of the focus markers, display a greater degree of complexity than verbs that appear with other focus affixes (e.g. *mi-* and *-um-*) by default. To begin with, these *ma-* verbs exhibit greater semantic heterogeneity among themselves than other types of verbs. For

[1] Amis is spoken in the east coast of Taiwan. It has the largest population of speakers (around 130,000) among all the Formosan languages (i.e. Austronesian languages spoken in Taiwan). According to Tsuchida (1982), Amis has five major dialects: Sakizaya (or Sakiraya), Northern (or Nanshi Amis), Tavalong-Vataan, Central, (Haian Amis and Hsiukulan Amis excluding Tavalong-Vataan) and Southern (Peinan Amis and Hengchun Amis). The data discussed in this paper was collected from Haian Amis (i.e. Coastal Amis), one of the Central dialects spoken in Changpin, Taitung County. The author would like to thank the Amis informants Ms. Jin-Mei Li (Panay in Amis) and Mr. Jin-long Chen (Ofad in Amis) for providing the data, and Academia Sinica in Taiwan for the financial support on the Amis fieldwork from June to August 2000.

example, in Yan (1992), at least four classes of *ma-* verbs have been distinguished based on the number of arguments they take and whether it is possible for these verbs to undergo the derivation through the attachment of the prefix *mi-*. But, such seeming heterogeneity has not been reported with verbs marked by other affixes.

Secondly, the form *ma-* has been found in the so-called agent focus (or actor voice in this paper) set and patient focus (or undergorer voice) set (e.g. Yan 1992, Wu 1995, Liu 1998, and Liu 2003). Such dual presence in the focus or voice system has not been found with other affixes as well. Nevertheless, calling *ma-* as a agent focus marker is somewhat misleading for some so-called AF *ma-* verbs such as *ma-patay* 'become dead', which does not seem to have a semantic role of agent or actor.

In this paper, I reexamine *ma-* verbs in Amis and classify them based on the framework of Role and Reference Grammar (Van Valin and LaPolla 1997). Perspectives in addition to argument structure are taken into consideration in the classification. Three major classes of *ma-* verbs are differentiated based on the following criteria: lexical aspect, the occurrence of with *mi-*, *en1*, and suffix *-en2*, glossed as 'feel…'. These *ma-* verbs are primarily classified into activity verbs, state verbs, and active accomplishment verbs. The state verbs can be further subcategorized into result state, plain state, and stage-level state verbs, depending on their morphosyntactic behaviors. These classes of verbs are decomposed and represented in logical structures, and with the reference to these logical structures, the case marking rules of *ma-* verbs are postulated. The advantage of such an analysis is that, first, it offers another perspective of looking at these verbs in addition to the traditional treatment based on argument structure or case marking patterns only. Second, this analysis also solves the seeming confusion caused by the dual presence of *ma-* verbs in the so-called actor voice (or agent focus) set and the undergoer voice (or patient focus) set mentioned in the previous studies. Whether a *ma-* verb follows the AV case marking pattern (nominative-dative) or the UV pattern (genitive-nominative) is predicable from the logical structures of the verbs. For *ma-* verbs that have BECOME in the logical structures, they will follow the genitive-nominative pattern, while the nominative-dative pattern is found with *ma-* verbs lacking BECOME in their logical structures. Third, this analysis also helps better understand the semantics and functions the prefix *ma-*. The findings here clearly show that *ma-* is a derivational morpheme; the inflectional function implied by the term focus marker or voice marker is not a primary function of this affix. This is similar to Himmelmann's (in press) claim for the morpheme *ma-* in Tagalog. However, it is also found that the active accomplishment *ma-* seems to become an

undergoer voice marker, especially for stem verbs that already have BECOME in their logical structures (e.g. three-place predicates).

This paper is organized as follows. In Section 2, I will review the phenomena related to ma- that have been discussed in the previous studies. In Section 3, I will introduction the RRG approach that is adopted in the present analysis, which is presented in Section 4. Section 5 concludes this paper by discussing the significance of this paper and proposes directions for follow-up research.

2. The Syntactic Phenomena of *ma-*

As mentioned earlier, the peculiarity of the prefix *ma-* is mainly manifested in two aspects: verb classification and voice marking. As verb classes closely tie with the so-called voice markers (or focus markers) they take, I will discuss the voice marking system in the following section.

2.1 *Ma-* in the Voice Marking System

Previous Studies often distinguish a four-voice or a four-focus system in Amis, with forms of each voice varying from different researchers. Such a system can be exemplified by the following table (cf. Yan 1992, Wu 1995, Liu 1999, and Liu 2003).

Table 1 Amis Voice System

Actor Voice (AV) Markers	mi-	-um-	ma-
Undergoer Voice (UV) Markers	ma-	ma-um-[2]	ma-ka-
	mi…an		ka…an
	-en		
Instrument Voice (InV) Markers	sa-pi-	sa-ka-…-um-	sa-ka-
Locative Voice (LV) Markers	pi…an	ka…-um-…an	ka…an

However, as argued in Wu (2003), the Amis voice markers displayed in Table 1 should be divided into two sets: voice makers and applicative markers. This proposal is shown in Table 2 and Table 3:

Table 2 Amis Voice Markers

Actor Voice (AV)	mi-	-um-	**ma-**
Undergoer Voice (UV)	**ma-**	ma…-um-	ma-ka-
	-en		

[2] I only found one example with *ma-um-* so far in my field notes.

Table 3 Amis Applicative Markers

Instrument Applicative (InA)	sa-		
Goal (?) Applicative (GA)	mi…an		ka…an
Locative Applicative (LA)	pi…an	ka…-um-…an	ka…an

Nevertheless, no matter it is a four-voice system or two-voice, a common thing that can be found is that the prefix ma- appears in the actor voice (agent focus) set as well as the undergoer voice (undergoer focus) set. Data in (1) are typical *ma-* examples illustrating the two voices:

(1) a. Ma-ulah kaku t-u pusong.[3]
AV-like 1S.NOM DAT-NCM Taitung[4]
'I like Taitung.'

b. Ma-ruray tu kaku.
AV-tired ASP 1S.NOM
'I am tired.'

c Ma-palu n-i sawmah ∅-ci mayaw.
UV-beat GEN-NCM Sawmah NOM-NCM Mayaw
Mayaw was beaten by Sawmah.'

d. Mi-palu ∅-ci sawmah ci mayaw-an.
AV-beat NOM-NCM Sawmah NCM Mayaw-DAT
'Sawmah is going to beat Mayaw.'

As one may notice in (1), there are at least two interesting points displayed in the data. First of all, while UV *ma-* verbs (e.g. (1c)) show up with two arguments, the so-called AV *ma-* verbs appear with either two arguments (e.g.(1a)) and one argument (e.g. (1b)). The verbs with a single argument make the term actor voice rather dubious, as now there is one core argument, which gives no reason why a voice mechanism

[3] The phonetic symbols used in the transcription generally follow the IPA system, with the following exceptions: /e/ stands for schwa [□], /d/ for voiceless lateral [□], /'/ for glottal stop[□], /q/ for epiglottis stop /ʔ/, and /ng/ for /ŋ/.

[4] The following abbreviations and symbols are used in the gloss:
1/2/3S: first/second/third person singular 1/2/3P: first/second/third person plural ASP: Aspect
AV: Actor Voice CAU: Causative DAT: Dative GEN: Genitive INCL: Inclusive
InA: Instrument Applicative LNK: Linker LA: Locative Applicative NCM: Noun Class Marker
NEG: Negative Verb NOM: Nominative PREP: Preposition RED: Reduplication
UV: Undergoer Voice <>: Angle brackets enclose infixes in transcription

should be exploited for such verbs. Second, while verbs marked by UV ma- are mostly dynamic in nature (i.e. activity or active accomplishment), the verbs marked by *ma-* display a much greater diversity than its corresponding *mi-* and *-um-* verbs. I will discuss this point in the following section. Here, what is relevant to the data is that some *ma-* verbs apparently do not take an "agent" or "actor" argument, but the ma- is still glossed as actor voice or focus. This is, again, very misleading.

2.2 *Ma-* and Verb Classes

In addition to the dual presence in the voice marking system, verbs that can be prefixed with *ma-* also exhibits a much higher degree of diversity that verbs occur with other prefixes (e.g. *mi-* and *-um-*) by default. For example, while only postulating one class for *mi-* and *-um-* verbs, Yan (1992) differentiates four classes for *ma-* verbs. His classification is summarized in Table 4:

Table 4. A Summary of Yan's (1992) Classification of Amis Verbs

	Semantic Features	Number of Arguments	Attachability of *mi-* to enhance the transitivity	Examples	Notes
ma- I	phenomenal or meteorological, human propensity physical property	1	No.	ma-cidal "sun rise" ma-fali "wind blow" ma-laluk "diligent ma-su'su "fat" ma-lales "blunt (for knife)"	
ma- II	Involuntary behavior	1	O.K.	ma-futiq "sleep" ma-klu "dance" ma-patay "die"	mi-futi' "rape" mi-klu "tease" mi-patay "kill"
ma- III	emotion psychological state cognition	2	O.K. for some of them.	ma-ulah "like" ma-kter "angry" ma-ngudu "ashamed" ma-fana' "know"	mi-ulah "like"(expresed in words or actions) mi-fanaq "learn" *mi-ngudu
ma- IV	result state	2	O.K.	ma-stiq "(be) beaten" ma-ala "(be) taken"	passive form of *mi-* verbs
mi-[5] (ni-)	activity; always transitive	2	N/A	mi-sti' "beat" mi-ala "take"	
-um-	simple activity without involving external argument	1-2	O.K. for some of them.	k<um>aen "eat" r<um>adiw "sing" t<um>angic "cry" t<um>ireng "stand" r<um>akat "walk" c<um>ikay "run" s<um>uwal "say"	mi-kaen "go to a feast" mi-radiw "sing"

As seen in Yan's classification, three criteria are mainly employed: number of

[5] Yan is a native speaker the Southern Dialect of Amis, in which the mi- verbs in the dialect that I investigated corresponds to the *ni-* form in his dialect.

arguments, *mi-* attachability, and semantic features. In fact, argument structure and *mi-* derivation are two criteria frequently exploited in the discussion of verbal semantics in Amis. For example, Huang (1988) also makes use of the possible transformation of attaching *mi-* as a criterion to classify verbs, in addition the case frame that each class of verb co-occurs with.

Even though these studies have discussed the semantic features of *ma-* verbs quite thoroughly, there are still some important features left undiscussed. For example, although both Yan (1992) and Huang (1988) discuss the possibility of attaching *mi-* to the roots that appear with *ma-* by default, they do not discuss why for some roots, the derived forms carry a causative sense, but for others, there is no causation involved. This observation is even discovered for roots that are placed under the same category by Yan (1992). For instance, while the two words *mi-futiq* 'rape' and *mi-patay* 'kill' are both derived from ma-II verbs *ma-futiq* 'sleep' and *ma-patay* 'die' in Yan's classification, the latter carries a causative sense (i.e. cause to die) that is not found in the former. This suggests that the classification must be further refined.

Another interesting issue that has not been discussed for *ma-* verbs, or even verb classification in general, is the default temporal reading that some voice affixes or focus affixes usually carry. As pointed out in Zeitoun et. al. (1996) the AV markers in Amis carry preferred tense and aspect reading when the context is free. Such preference is shown in Table 4

Table 4 Interaction between AV Markers and Tense/Aspect Interpretations (based on Zeitoun et. al. 1996)

AV Marker[6]	Default Tense/Aspect
mi-	on-going or future
ma-	on-going
-um-	on-going
∅ (unaffixed verbs in this study)	on-going or future

Here we can see that AV *ma-* verbs carry an on-going reading. Similar findings have been proposed for UV *ma-* verbs, but the TAM reading is different, as seen in the review made by Tsukida (1993):

[6] As seen in the gloss of the examples, some of the so-called AV markers are not analyzed as voice markers as they show up with a one-place predicate, which has no need to signal a voice distinction.

Table 5 The Temporal Information of Different Voice Markers (based on Tsukida 1993)

Voice Marker	Temporal Information
mi-	1. active imperfect expressing future events, habitual actions, facts which are true in general (Tseng 1988 and He et. al. 1986) 2. [-perfective] for action verbs (Huang 1988:31)
ma- (UV)	1. [+perfective] for action verbs (Huang 1988:31) 2. the action is over and the undergoer is affected by the action (Tsukida 1993:131)
-en	Disposal passive imperfect (Tseng 1988)

The preferred temporal reading, however, will be neutralized when the context is made clear. Observe the following examples:

(1)a. **Mi**-palu ∅-ci kilang ci canglah-an **anini/anudafak/**
AV-beat NOM-NCM Kilang NCM Canglah-DAT now/tomorrow/

inacila.
yesterday
'Kilang is beating Canglah now.'
'Kilang is going to beat Canglah tomorrow.'
'Kilang beat Canglah yesterday.'

b. **Ma**-palu n-i kilang ∅-ci canglah **anini/**
UV-beat GEN-NCM Kilang NOM-NCM Canglah now

anudafak/inacila.
tomorrow/yesterday
'Canglah is being beaten by Kilang now'
'Canglah is going to be beaten by Kilang tomorrow.'
'Canglah was beaten by Kilang yesterday.'

As shown in (1), the temporal interpretation of the events is solely based on the time expressions appearing the sentences. There seems to be no co-occurrence restrictions between the voice markers and the time expressions. This shows that the preferred temporal reading might be just an inference. However, what triggers such inference has not been discussed in the studies of verbal semantics.

In this paper, I will re-examine the *ma-* verbs in light of the framework of Role and Reference Grammar (RRG). In particular, I will classify the verbs based on features that have not been adopted in the previous discussion such as lexical aspect

and agency. Before I move to the discussion, let me briefly review the framework and language-specific criteria that will be adopted in my discussion in the following section.

3. The Framework

The verb classification model from RRG is adopted in this paper. Two points from this framework are particularly referred to in my analysis. First, the classes of verbs display various properties of lexical aspect (i.e. aktionsart, as firstly discussed in Vendlar (1967) and later elaborated in Dowty (1979)). Five basic classes can be differentiated based on the features such as punctuality and telicity. These classes are shown in Table

Table 6 Aktionsart Classes and Their Features

State	[+static], [-dynamic], [-telic], [-punctual]	be sick, be tall, be dead, know
Activity	[-static], [+dynamic], [-telic], [-punctual]	march, walk, roll (vi) swim
Achievement	[-static], [-dynamic], [+telic], [+punctual]	pop, explode, collapse, shatter (vi)
Semelfactive	[-static], [±dynamic], [-telic], [+punctual]	cough, flash
Accomplishment	[-static], [-dynamic], [+telic], [-punctual]	melt, freeze, dry (vi), learn
Active Accomplishment	[-static], [+dynamic], [+telic], [-punctual]	walk (to the park); eat (the pizza)

These verb classes can be identified through various tests, as displayed in Table 7:

Table 7Aktionsart Tests

Criterion	States	Achieve	Accomp	Activity	Active Accomp	Seml
1. Occurs with progressive	No*	No*	Yes	Yes	Yes	No*
2. Occurs with adverbs like *vigorously*, *actively*, etc.	No	No	No	Yes	Yes	Some*
3. Occurs with adverbs like *quickly*, *slowly*, etc.	No	No*	Yes	Yes	Yes	No*
4. Occurs with *X for an hour*, *spend an hour Xing*	Yes*	No	Irrelevant*	Yes	Irrelevant*	No
5. Occurs wit *X in an hour*	No	No*	Yes	No	Yes	No*

6. Can be used as stative modifier	Yes	Yes	Yes	No	Yes	No
7. Has causative paraphrase	No	No	No	No	No	No

Each verb class is represented in the logical structures as shown in Table 8. These logical structures constitute the semantic representation in RRG, to which the syntactic representations will refer.

Table 8 Verb Classes and their Local Structures

Verb Class	Logical Structure (LS)
State	**predicate'** (x) or (x, y)
Activity	**do'** (x, [**predicate'** (x) or (x, y)])
Achievement	INGR **predicate'** (x) or (x, y), *or* INGR **do'** (x, [**predicate'** (x) or (x, y)])
Semelfactive	SEML **predicate'** (x) or (x, y), *or* SEML **do'** (x, [**predicate'** (x) or (x, y)])
Accomplishment	BECOME **predicate'** (x) or (x, y), or BECOME **do'** (x, [**predicate'** (x) or (x, y)])
Active Accomplishment	**do'** (x, [**predicate$_1$'** (x) or (x, y)]) & INGR **predicate$_2$'** (z, x) or (y)
Causative	α CAUSE β, where α, β are LSs of any type

In addition to utilizing the discussion of lexical aspect, the RRG perspective of agency is also adopted in the analysis of Amis verbs. In RRG, the notion "agency" is not necessarily lexically marked. As argued in Van Valin & Wilkins (1996), in most cases, agency is an implication of the way a particular verb is used in a sentence, and not an inherent lexical property (e.g. *kill* vs. *murder* in English). The operator **DO** will show up in the logical structure for the verbs with lexicalized agency such as English *murder* (**DO'** (x [**do'** [kill' (x, y)]])).

Tests related to lexical aspect and agency will be employed in the classification of *ma-* verbs in Amis. These tests include the co-occurrence of the incomplete aspect marker *ho* and the attachment of three affixes *mi-*, *-en1*, and *-en2*. The affixes *mi-* and *-en1* have long been treated as voice markers. However, both of them also play an important role in verbal derivation, which can be seen from the discussion of previous research such as Yan (1992), Huang (1988), and Tsukida (1993). Wu (2003), using the RRG approach, propose the following logical structures for *mi-* and *-en1*as proposed in Wu (2003),

(2)a. The logical structure of *mi-*:

mi-: (**do'** (x [**go'** (x)]) & INGR **be-at'** (z, x)) PURP) **do'** (x, [**pred'** (x, y)])

b. The logical structure of *-en1*

-en1: **DO'** (x (do' (pred' (x, (y))) ….**BECOME** (pred' (x, y))

As shown in (2), *mi-* can be roughly interpreted as a motional purposive activity, while *-en1* roughly corresponds to an agentive active accomplishment. As discussed in Section 3, the attachment of *mi-* and *-en1* helps to divide *ma-* verbs into two groups: activity and states. The suffixes *-en2* is metalinguistically represented as **feel'** (x, (y)), which signals a state that is over a limit or standard. This affix, due to semantic compatibility, only occurs with state predicates. However, as we will see later, not every state predicates can be prefixed by this morpheme.

4. Classes of *Ma-* Verbs

Based on the above-mentioned criteria. at least five classes of ma- verbs can be differentiated. These classes are displayed in Table 9 and Table 10.

Table 9 Classes of *Ma-* Verbs

Types	Logical Structures	Case Marking Patterns	Examples
*ma-*1	**do'** (x, [**pred'** (x, (y))] (ma- activity)	NOM-DAT	ma-tayal 'work' ma-lingad 'plow'
*ma-*2	**be'** (x, [pred']) (ma- stage-level state)	NOM	ma-hemek '(be) happy'
*ma-*3	**pred'** (x, (y)) *ma-* emotional or cognitive state	NOM-DAT	ma-ulah 'like'
*ma-*4	INGR/BECOME (**pred'** (x, (y) (ma-result state)	NOM	ma-ruhem 'become ripe'
*ma-*5	**do'**(x, [**pred'** (x, (y))]) ….INGR/BECOME (**pred'** (x, y))	GEN-NOM	ma-palu 'beat and become beaten'

Table 10 Classes of *Ma-* Verbs and their Diagnostic Tests

Types	Logical Structures	*ho*	*mi-*	*-en1* 'agentive marker'	*-en 2* 'feel…'
ma-1	**do'** (x, [**pred'** (x, (y))] (*ma-* activity)	on-going antipatory telic point 'yet'	motional/ purposive action	volitional action	not allowed
ma-2	**be'** (x, [pred']) (*ma-* stage-level state)	on-going	causative	causative	o.k.
ma-3	**pred'** (x, (y)) *(ma-* emotional or cognitive state)	on-going	purposive/ motional action (?)	volitional action	o.k.
ma-4	INGR/BECOME (**pred'** (x, (y) (*ma-* result state)	not allowed	causative	causative	not allowed or special context required
ma-5	**do'**(x, [**pred'** (x, (y))]) …. INGR/BECOME (**pred'** (x, y)) (*ma-* active accomplishment)	not allowed or iterative	purposive/ moitioal action	volitional action	not allowed

As shown in Table 9, when appearing with *ho*, activity verbs are either interpreted to have an on-going status or carry an anticipatory telic point (i.e. 'yet'), depending on where the stress falls. This is illustrated in (3a). State predicates (e.g. (3b) and (3c)), except the result state, are interpreted to have an "on-going" sentence when appearing with *ho*. It is quite unlikely or rather difficult to elicit the examples where the result state and active accomplishment *ma-* verbs co-occur with *ho* (e.g. (3d-f. There is a natural explanation, as these two verbs have a telic nature, which conflicts with the incomplete sense of *ho*. The relevant examples are provided below:

(3) a. Ma-tayal ho kaku.
MA-work ASP 1S.NOM
'I am still busy.'
'I will go work first.'

b. Ma-su'su' ho cingra.
MA-fat ASP 3S.NOM
'He is still fat.'

c. Ma-ulah ho ∅-ci panay ci kacaw-an
MA-like ASP NOM-NCM Panay NCM Kacaw-DAT
'Panay still likes Kacaw.'

d. *Ma-patay ho cingra.
MA-death ASP 3S.NOM

e. *Ma-icang ho k-u-ra rikor
MA-dry ASP NOM-NCM-that clothes

e'. Ca' ho ka-icang k-u-ra rikor.
NEG ASP KA-dry NOM-NCM-that clothes
'That dress is not dry yet.'

f. Ma-palu ho n-u-ya mama k-u wawa.
UV-beat ASP GEN-NCM-that father NOM-NCM child
'The child was beaten **again** by that father.'

g. Ma-nanum heca/??ho n-i kacaw k-u sayta
UV-water again/ASP GEN-NCM Kacaw NOM-NCM soda

aku.
1S.GEN
'My soda was drunk by Kacaw again.'

Different classes of *ma-* verbs also have different interpretation when being affixed with *mi-* and *-en1*. While *ma-* verbs containing an activity feature (i.e. **do'**) tend to get a motional purposive activity when being affixed with *mi-* and volitional active accomplishment with *-en1*, others will get a causative interpretation when appearing with the two affixes. Notice that this is not so clear with the cognition/emotional verbs, which tend to behave like the activity verbs, though more investigation is needed. Examples follow:

(4) a. Mi-palu ∅-ci sawmah ci mayaw-an.
AV-beat NOM-NCM Sawmah NCM Mayaw-DAT
'Sawmah is going to beat Mayaw.'
'Sawmah is beating Mayaw.'

b. Ma-ranam kaku.
MA-have.breakfast 1S.NOM
'I am having breakfast.'

c. Mi-ka-ranam kaku i ci kaka-an
MI-ka-have.breakfast 1S.NOM PREP NCM older.brother-DAT
'I am going to Brother's place to have (a special) breakfast.'

d. Ma-patay tu k-u-ni oner.
MA-death ASP NOM-NCM snake.
'The snake is dead.'

e. Mi-patay k-u matu'asay t-u oner.
AV-death NOM-NCM old.man DAT-NCM snake
'The old man is going to kill a snake.'

f. Ma-tuniq k-u ti'ti'.
MA-soft NOM-NCM meat
'The meat is soft.'

g. Mi-tuniq k-u kuwaq t-u ti'ti'.
AV-soft NOM-NCM papaya NOM-NCM meat
'The papaya will tenderize meat.'

(5) a. Palu-en n-i aki ∅-ci panay
beat-UV GEN-NCM Aki NOM-NCM Panay
'Aki will beat Panay (for sure).'

b. Patay-en k-u-ra 'oner!
death-UV DAT-NCM-that snake
'Kill that snake (for sure)!' (The snake is near the speaker and the addressee.)

c. Tuniq-en aku/* n-u kuwaq k-u ti'ti'
soft-UV 1S.GEN/GEN-NCM papaya NOM-NCM NOM-NCM
aca.
a.little
'I will cook the meat to a bit tender.'

The last test is the attachment of-*en2*, which is only allowed to appear with ma- verbs with a non-result state interpretation. Result states do not readily co-occur with *-en2*; specific contexts are required. Examples are provided below:

(6) a. Ma-ulah-en cingra$_i$ t-u nguhah nira,
MA-like-EN2 3S.NOM DAT-NCM lover 3S.GEN

sa-pi-kadafu-an tu (cingra$_i$)
SA-PI-marry-AN ASP 3S.NOM
'She likes her lover very much, so she wants to get married.'

b. Ma-keter-en cingra$_i$ tu wawa nira, sa-pi-palu-an
MA-angry-EN2 3S.NOM DAT child 3S.GEN SA-PI-beat-AN

tu cingra$_i$
ASP 3S.NOM
'He feels very angry at his child, (so) he wants to beat him.

c. Ma-orad-en kaku, sa ca ka-tayra kaku
MA-rain-EN2 1S.NOM so NEG KA-go 1S.NOM
'It seemed like rain to me, so I didn't go.'

d. *ma-palu-en (> ma-palu)

e. *ma-nanum-en (> ma-nanum)

f. *ma-patay-en (> ma-patay)

5. Discussion and Conclusion

The RRG analysis of *ma-* verbs is significant in at least two aspects. First, it provides a better understanding about the semantics of the prefix *ma-*, which has been "notorious" for it's multiple functions and interpretations. The classification here can help elucidate the semantic complexity of this prefix, especially the aktionsart features the *ma-* verbs carry. The RRG analysis also facilitates understanding the interaction of *ma-* verbs with other affixes such as *mi-* and *-en2*, as it provides a natural account for the causative reading that some *ma-* verbs might get when being affixed by *mi-* and *-en1*. As both *mi-* and *-en1* contain a **do'** (i.e. activity)

component in their logical structure, for an activity to be able to co-occur with a state, the desired result will be the activity bringing about the state (hence, causative accomplishment). That is why we only get this reading in *ma-* state predicates.

Second, the logical structures displayed in Table 9 indicate an interesting correspondence regarding the case marking patterns of the *ma-* verbs. It seems that *ma-* verbs can be categorized whether or not there is a BECOME in their logical structures. The *ma-* verbs containing BECOME tend to follow the genitive-nominative case-marking pattern, while those do not have BECOME will appear with nominative-dative pattern. Following this observation, we might tentatively postulate the following case assignment rules for the *ma-* verbs in Amis:

(7) Case Assignment Rules for *ma-* verbs (a tentative proposal)

A. NOM-(DAT) Pattern-- *Applied to Verbs marked by ma- lacking BECOME in LS*
   a. Assign nominative case to the highest ranking macrorole argument.
   b. Assign dative case to other direct core argument(s).

B. GEN-NOM-(DAT) Pattern--*Applied to Verbs marked by ma- containing BECOME in LS*
   a. Assign genitive case to the highest macrorole argument.
   b. Assign nominative case to the lowest macrorole argument.
   c. Assign dative case to other direct core argument (s).

Rules stated in (7) may help decide the case assignment for *ma-* verbs that used to be categorized as AV (AF) and UV (PF) verbs. For example:

(8) a. Ma-patay tu k-u-ni oner.
MA-death ASP NOM-NCM snake.
'The snake is dead.' (NOM-(DAT) pattern)

b. Ma-patay tu n-u matu'asay k-u-ni oner.
UV-death ASP GEN-NCM old.man NOM-NCM snake.
'The old man killed the snake.' (GEN-NOM pattern)

c. Ma-patay k-u-ni oner t-u sapaiyo n-u
MA-death NOM-NCM snake. DAT-NCM medicine GEN-NCM

'edu
mouse
'The snake might die on the poison for killing mice.' (NOM-(DAT) Pattern)

The difference between (8b) and (8c) lies on the argument status of *matu'asay* 'old man' and *sapaiyo nu 'edu* 'mouse poison'; while the former is a macrorole, the latter is not. The case marking patterns in (8) are all within the prediction of the case rules in (7), as *ma-patay* in the three examples all contains BECOME in its logical structure. Once the logical structure is decided and the macrorole selection is completed, it makes no difficulty in assigning the correct case marking pattern for a given *ma-* verb.

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