

Agents and Causes in Malagasy and Tagalog*

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1. Introduction

In the discussion of theta-roles and the linking of arguments to phrase structure, the question has arisen as to whether all 'external' arguments are treated the same by the syntax. The particular question that I want to explore is whether AGENTS and CAUSES are realized the same way in phrase structure. Using a particular case of morpheme deletion in Tagalog as a probe, I will be claiming that CAUSES are realized in a position that is asymmetrically c-commanded by the AGENT position.¹ Since this conclusion is based a particular view of the structure and analysis of Tagalog and Malagasy, I will begin the paper by summarizing the details necessary for the remainder of the arguments. The main line of argument is that Tagalog has a morpheme *pag-* (realized as the head *v*) that introduces AGENTS (see Section 2.1) and that this morpheme deletes when its Specifier position is overt at Spell-out (see Section 2.2). Tagalog also has a morpheme complex realized as *maka-* that introduces CAUSES (non-volitional external arguments) (see Section 3.1). I argue that the *ka-* of this complex is in Asp(ect) which is realized below *v*P and encodes telicity (see Section 3.2). Further I argue that it is this *ka-* that introduces the CAUSE theta-role (see Section 3.3). Since *ka-* deletes when the CAUSE remains in its base position at Spell-Out, we have confirmation that the CAUSE is realized in the Spec, Asp position, a position lower than Spec, *v*P (see Section 3.4). In the conclusion (Section 4), I suggest that the results of this research can be used to explain an odd morphological pattern in cognition verbs in Tagalog as well as an unexpected generalization in nominal formation in Malagasy.

2. *v* and *v* Deletion in Tagalog

I will be claiming that we can determine the base position of AGENTS and of CAUSES by looking at a morpheme deletion phenomenon in Tagalog. Since I

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¹ See Fujita (1996) for a similar proposal, as well as Pylkkanen (1999) for a proposal that there are two different heads for Cause and external argument.

will also be using data from Malagasy to investigate the use of some particular morphemes, as I introduce Malagasy and Tagalog morphology in a parallel fashion. To set up the argument, I begin by reviewing the morpheme that introduces AGENTS in Tagalog and in Malagasy.

2.1 Lexical and productive causatives

Both Malagasy and Tagalog have productive intransitive/lexical causative alternations. Some examples of the alternation are given for each language below. I assume from these data that the lexical causative morpheme is *pag-* in Tagalog and *an-* in Malagasy.²

- | | | | | | |
|-----|-----------------------|---------------|--|---------------------|-----------------|
| (1) | Tagalog | | | | |
| | t-um-umba | X fall down | | m-pag-tumba | Y knock X down |
| | s-um-abog | X explode | | m-pag-sabog | Y scatter X |
| | um-akyat | X climb | | m-pag-akyat | Y bring up X |
| (2) | Malagasy ³ | | | | |
| | m-i-hisatra | X move slowly | | m-an-isatra | Y move X slowly |
| | m-i-lahatra | X be in order | | m-an-lahatra | Y arrange X |
| | m-i-sitrika | X hide | | m-an-itrika | Y hide X |

One reason that this morphological analysis is appealing is because both languages use the same morphemes for productive causatives. I first discuss productive causatives in Malagasy because the iteration of the causative morpheme is more apparent.

In Malagasy, the productive causative is formed by adding *m-amp* to the stem. This is shown below for the intransitive and the lexical causative forms of the root *hisatra* 'to move slowly'. Following Hung (1988), I assume that *m-amp-* is in fact formed from three morphemes, *m*, *an-*, *f-*.

- | | | | | |
|-----|----|--------------|-----------------------------|-------------------------------|
| (3) | | <i>Stem</i> | <i>Productive Causative</i> | |
| | a. | mihisatra | mampihisatra | <i>Intransitive Stem</i> |
| | | m-i-hisatra | m-an-f-i-hisatra | |
| | b. | manisatra | mampanisatra | <i>Lexical Causative Stem</i> |
| | | m-an-hisatra | m-an-f-an-isatra | |

² Many working on Tagalog syntax or morphology believe that *pag-* is part of the Topic Marking in this language (see e.g. Carrier Duncan 1985) parallel to the *-um-* infix of the intransitive. I have argued elsewhere that the *m-* prefix on the lexical causative is parallel to *-um-* and that the *pag-* is a causative morpheme (see e.g. Travis 2000, Maclachlan 1989). One reason is that the same morpheme is used for productive causatives as we will see shortly.

³ The *i-* morpheme in the intransitive will not enter into our discussion here though its place in the verbal paradigm will be mentioned in section 3.1.

As we can see in (3b) above, the productive causative of the lexical causative stem contains two causative morphemes *an-*.

2.2 Morpheme deletion

Tagalog, I argue, has the same underlying pattern, but this pattern is obscured by morpheme deletion.⁴ We start by looking at the productive causative in Tagalog, again comparing the the productive causative of the intransitive and the productive causative of the lexical causative. The relevant data are given below in (4).

(4)	<i>Stem</i>	<i>Productive Causative</i>	
a.	umakyat	magpaakyat	<i>Intransitive Stem</i>
	um-akyat	m- pag -pa-akyat	
b.	magsakyat	magpaakyat	<i>Lexical Causative Stem</i>
	m-pag-akyat	m- pag -pa- ?? -akyat	

We note first that where Malagasy has *f-* between the two causative morphemes, Tagalog has *pa-*. I do not discuss this morpheme further here (see Travis 1994 for an analysis). What is surprising here is that the two productive causative forms are identical — both *magpaakyat*. The form we get for the productive causative of the intransitive stem in (4a) is as expected, but the form for the lexical causative stem appears to be missing a morpheme (see (4b)). Instead of adding the productive causative morphology to the full lexical causative stem, we seem to be adding it to the intransitive stem in both cases. In other words, the lexical causative *pag-* disappears when the productive causative *pag-* is added.

It may seem that there is a surface filter on morpheme doubling, but other forms in the paradigm show that this is not the case. The forms that we have been looking at are the A2 Topic forms, i.e. those verbal forms that are used when the causer⁵ is in the subject position.⁶ Below, I compare the A2 Topic forms of the productive causative of the lexical causative with the A1 Topic form and the Object Topic form (from Ramos and Bautista 1986).⁷

(5)	a.	magpaakyat	m-pag-pa- pag -akyat	A2 Topic (causer subject)
	b.	papagakyat-in	m-pag -pa-pag-akyat-in	A1 Topic (causee subject)
	c.	ipaakyat	i- m-pag -pa- pag -akyat	Object Topic (embedded Theme subject)

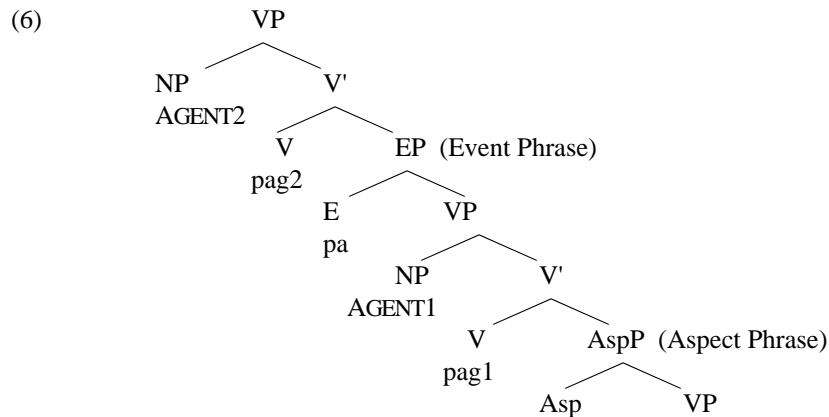
⁴ This is not morpheme deletion, as much as realization of a zero morpheme.

⁵ Causer (introduced by productive causative morphology) should not be confused with the CAUSE argument which we will see later.

⁶ I don't intend to enter the debate here about what is the subject in Tagalog (see e.g. Schachter 1976, 1996, Richards 2000) and I believe it is tangential to the issues that I will be discussing. I will, however, in my terminology, be suggesting that the subject is the *ang* marked NP sometimes called Topic (e.g. Carrier-Duncan 1985, Richards 2000, Schachter and Otnes 1972).

⁷ I make no claims about the morphemes *i-* and *-in* here.

I have presented the morpheme analysis as if every form underlyingly contains all the relevant morphemes and the surface realizations are created by deletion of certain morphemes. In terms of the syntax, I will assume that certain heads are able to surface with zero realization under certain conditions. I leave aside here what accounts for the realization of *m-* and concentrate on *pag-* deletion. Looking at the paradigm in (5), we can see that the lower *pag-* deletes when the higher AGENT becomes the subject (5a). The higher *pag-* deletes when the lower AGENT becomes the subject (5b). And both *pag-s* delete when the lower object becomes the subject (5c). A better way of looking at it is that the *pag-* remains only when the AGENT that it introduces has moved to the subject position (5a). When the higher AGENT moves to the subject position, the higher *pag-* is realized (5b). When the lower AGENT moves to the subject position, the lower *pag-* is realized. When neither moves (rather it is the lower Theme that becomes the subject), neither *pag-* can be realized (5c).⁸ The generalization is that when the Spec position of a *pag-* head is filled, then that *pag-* has a zero realization. In terms of the tree below, when AGENT2 remains in place, *pag2-* has a zero realization. When AGENT1 remains in place, *pag1-* has a zero realization. And when both AGENTs remain in situ, both *pags-* have zero realization.⁹



I will assume that this prohibition against the Spec and the Head of the *pag-* projection being filled at the same time is like the Doubly Filled Comp filter and

⁸ Thanks to Kie Ross Zuraw who first described the *pag-* facts to me this way. Though I don't take the details of her morphological analysis (Ross 1993), it is her generalization that led me to the syntactic analysis presented here.

⁹ This tree reflects the structure that I have argued for elsewhere. Event Phrase will not be important to us beyond being a position to place *pa-* in Tagalog and *f-* in Malagasy. Aspect will become very important shortly.

subsumed under a filter of the same type as the Doubly Filled Voice Filter proposed by Sportiche (1996) and given below in (7).¹⁰

(7) Doubly filled Voice Filter (Sportiche 1996)¹¹

*[HP XP [H ...]]

where H is a functional head licensing some property P
and both XP and H overtly encode P.

Having looked at the morpheme that introduces AGENTS in Tagalog and Malagasy, and the structural conditions which allow the zero realization of this morpheme in Tagalog, I now turn to the morphology that is used to introduce CAUSES and non-volitional AGENTS in both languages.

3. CAUSES and non-volitional AGENTS

Both Tagalog and Malagasy have a different set of morphemes to introduce CAUSES and non-volitional AGENTS. In Tagalog *maka-* is added to the root, and in Malagasy it is the cognate *maha-*. Some examples are given below for Malagasy since, as we will see shortly, morpheme deletion interacts with the realization of the prefixes in Tagalog.¹²

(8) Malagasy: (from Abinal and Malzac 1988)

sosotra	X be annoyed	m- <u>aha</u> - sosotra	Y annoy X
tezitra	X be angry	m- <u>aha</u> - tezitra	Y anger X
finaritra	X be happy	m- <u>aha</u> - finaritra	Y please X
menatra	X be ashamed	m- <u>aha</u> - menatra	Y shame X

I begin the discussion by showing (following Phillips 1996, 2000) that *aha-* and *aka-* are, in fact a sequence of two morphemes. Then I will argue that *a-* in both languages is in the top V (little *v*) and that the *ka-/ha-* morpheme is in Aspect.¹³

3.1 Morpheme make-up of *maha-* and *maka-*

Both Tagalog and Malagasy use (*m*)*a-* attached to roots to form stative predicates.

¹⁰ Thanks to Mark Baker for pointing me to this work.

¹¹ Unlike Chomsky (1995), I don't assume that causative little *v* is a functional category, however, I do believe that the Doubly Filled Voice Filter or something like it can be used to account for the zero realization of *pag-*.

¹² Not surprisingly, as this construction has a cause or non-volitional AGENT as its external argument, it is often used to form Object Experiencer psych predicates but we will see other uses of this morphology below.

¹³ Much of the next section owes much to Phillips' work and the reader is referred to her two works on this topic for more detail.

(9) Malagasy (from Abinal and Malzac 1988)

dio	cleanliness	m-a- dio	clean
loto	dirtiness	m-a- loto	dirty
zava	light, clarity	m-a- zava	clear
zoto	diligence	m-a- zoto	diligent

(10) Tagalog (from Ramos and Bautista 1986)

bigò'	disappointed	m-a- bigò'	be disappointed
gulat	shock	m-a- gulat	be surprised

Phillips (1996, 2000) argues that uses of *maha-* are also all stative, contributing to the non-volitional interpretation of the external arguments.

Further, by viewing *ma-* of *maha-* as the stative morpheme, we can fill in a paradigm in Malagasy where this *ma-* prefix is one of three prefixes that can be added to a root turning the root into a verb form. The other two prefixes we saw in (2) in the discussion of transitivity alternations in Malagasy — *mi-* for intransitives and *man-* for transitives. In fact, all three of these verbal prefixes can be attached to a stem containing the root and the prefix *ha-* (which becomes *ka-* following a nasal). We have already seen the cases of *m-a-ha-√* in (8) above but examples of *m-an-ha* and *m-i-ha* are given in (11) and (12) below.

(11) *manka* 'Y make X A' (m-an-ha-)

hery	strong _A	mank ahery	Y make X strong
mamy	sweet _A	mank amamy	Y make X sweet
rary	pain _N	mank arary	Y make X sick

(12) *miha* 'X become A' (m-i-ha-)

tsara	good	mih atsara	X get better
ratsy	bad	mih aratsy	X get worse

The last argument that the *aka-/aha-* causative prefix is best viewed as a sequence of two prefixes comes from morpheme deletion facts like those we have seen previously. We can see in the Tagalog data given below that the root *takot* 'fear' can take either *ma-* or *ka-* prefix depending on what argument is in the subject position (from DeGuzman 1992).

(13)

m-a- takot	Experiencer Subject	m-a- ka -takot
<u>ka</u> - takut -an	Object Subject	m-a -ka-takot-an

As above, I assume that both the *a-* and the *ka-* morphemes are present in both forms, but one simply has the zero realization. This account only makes sense, however, if these are, in fact two separate morphemes.

If it is true that *maha-/maka-* is a sequence of morphemes, and the morpheme *a-* creates a stative verb, the questions are: what does the *ha-/ka-* do, what introduces the CAUSE argument, and how do we account for this instantiation of morpheme deletion?

3.2. *ha-/ka-* as telicity marker

In this section I show that *ha-* in Malagasy marks telicity.¹⁴ First we have to note that Malagasy is, in general, an 'atelic' language in that the unmarked way of describing an event, which implicates but does not entail the end point. This is shown in the following examples for a transitive active construction, a passive construction, and an intransitive (unaccusative) construction.¹⁵

- (14) a. *namory ny ankizy ny mpampianatra* transitive active
PST.an.meet the children the teacher
'The teachers gathered the children'
- b. ... *nefatsy nanana fotoana izy*
but NEG PST.have time they
'... but they didn't have time.'
- (15) a. *Novorin'ny mpampianatra ny ankizy* passive
PST.meet.pass.GEN'the teachers the children
'The children were gathered by the people'
- b. ... *nefa tsy nanana fotoana izy*
- (16) a. *Nivory ny ankizy* intransitive (unaccusative)
PST.i.meetthe children
'The children met.'
- b. ? ... *nefatsy nanana fotoana izy*

There is, however, a way to insist on the end point of the event having been achieved with each of these constructions. With the active transitive we use the now familiar (set of) prefix(es) *maha-*.¹⁶ This has the double effect of insisting on the endpoint of the event and making the AGENT non-volitional. As we can see below, once this construction is used, the endpoint is no longer defeasible.¹⁷

¹⁴ While I restrict my discussion here to Malagasy, many of the same observations can be made for Tagalog as outlined by Dell (1983). What is different in Malagasy as far as I understand it is that Malagasy has a different set of telic morphemes for passives and unaccusatives.

¹⁵ My consultant found it difficult to undo the implicature for the intransitive construction in (16) but there was a strong contrast between being difficult in this case and impossible in the case we will see in (19) below where the telic morpheme has been added.

¹⁶ *m-* becomes *n-* in the past.

¹⁷ As is often the case, getting the exact translation is difficult. Many times these telic constructions are translated as abilitative (the teacher was able to gather the

- (17) a. nahavory ny ankizy ny mpampianatra
 PST.a.meet the children the teachers
 'The teachers gathered the children.'
- b. *... nefa tsy nanana fotoana izy

The passive and the intransitive also have telic counterparts. The passive form adds *voa-* to the root and the intransitive form adds *tafa-* to the root.

- (18) a. voavorin'ny mpampianatra ny ankizy
 voa.meet.GEN'the teachers the children
 'The children were gathered by the teachers.'
- b. *... nefa tsy nanana fotoana izy
- (19) a. tafavory ny olona
 tafa.meet the people
 'The people met.'
- b. *... nefa tsy nanana fotoana izy

3.3 Telicity and an extra argument

There is a surprising effect, however, when telicity is added to the intransitive (unaccusative). Let us first compare the telic passive construction and the telic unaccusative construction above. Here we see the classic difference between the passive and the unaccusative. While the passive has an AGENT realized, the unaccusative does not. Further, when the AGENT is not realized in the passive, it is still implicit. In the intransitive construction, however, there is no AGENT implied. This is not surprising as it behaves as in English. What is surprising is that an external CAUSE of this unaccusative predicate can be made overt within the VP as the following example shows.

- (20) Tafavorin'ny mpampianatra ny ankizy
 tafa.meet.GEN'the teacher the children
 'The teacher was able to gather the children.'

Here we see the same type of non-volitional AGENT appearing that appears in the subject position in the active transitive construction (see (17)) and within the VP in the passive (see (18)). The atelic form of the unaccusative is not able to have this extra argument expressed as the two attempts below show (in one case the

children). The important things are that the endpoint is achieved and the AGENT is non-volitional (see Dell, 1983).

attempted extra argument is placed in the subject position, in the other case it is placed within the VP).

- (21) a. *Nivory ny ankizy ny mpampianatra (cf. (16)).
 PST.i.meetthe children the teacher
- b. *Nivorin'ny mpampianatra ny ankizy

I will assume that it is the telicity itself which allows this extra argument to be realized.¹⁸ It can't, however, be that telicity always adds an argument to the theta-grid since the argument structure of the transitive active and the argument structure of the passive show no change in the number of arguments that they have. They do show a subtle change, however. In both cases, the AGENT is now a non-volitional AGENT. In order to collapse all three cases, I assume that telicity will take an AGENT and turn it into a CAUSE (non-volitional AGENT) when attached to roots that have AGENTS in their theta-grids. When attached to a root with no external argument (such as an unaccusative or an adjective), it will add a CAUSE argument.¹⁹

We have seen how the telic morpheme creates a CAUSE out of an AGENT in example (17) with the active transitive, and in example (18) with the passive. Example (19) shows how the CAUSE argument has been added to the argument structure of an unaccusative. Example (22) below shows a case where *maha-* attached to an adjective adds a CAUSE argument.

- (22) a. Tsara ny trano
 beautiful the house
 'The house is beautiful.'
- b. Mahatsara ny trano ny voninkazo
 PRES.a.ha.beautiful the house the flowers
 'The flowers make the house beautiful.'

Crucially for my claims, while the subject of a *maha-Adj* construction may be animate, it cannot be a volitional AGENT (see Phillips 2000, p. 90). In the example below, for the sentence to be acceptable, Rabe can only beautify the room by his presence not by doing something like painting it.

- (23) Mahatsara ny trano Rabe
 PRES.a.ha.tsara the house Rabe
 'Rabe makes the house beautiful.'

Given that telicity is what is relevant for both the change of the status of the AGENT and the adding of the CAUSE argument, I tentively place the external

¹⁸ See Chen (1995) for a similar conclusion concerning flip constructions in Chinese.

¹⁹ This argument will be obligatory when it is designated as the subject as with *maha-*. It will be optional if it would remain within the VP as with *voa-*.

argument in the Spec, Asp but will confirm its placement in this position in the following section. The *maha-* structures that I will be working with are given in (24) below. Note again that there are two types of arguments within the Spec, Asp. One is the pure causative (24a) where the external argument does not appear in the theta-grid of the root but is supplied by the telic Asp. The other (24b) is the argument that appears in the theta-grid as AGENT but which is realized as a CAUSE (non-volitional AGENT) in the Spec, Asp.

- (24) a. *maha-* causative
 [VP1 [V1' a- [AspP X [Asp' ha [VP2 Y [V']]]]]
 "CAUSE" [+telic] (Th)
- b. *maha-* non-volitional AGENT
 [VP1 [V1' a- [AspP X [Asp' ha [VP2 Y [V']]]]]
 "AGENT" [+telic] (Agt, Th,...)

So far my reasons for placing the CAUSE in a lower position than AGENT has been due to its dependency on telicity in Malagasy and Tagalog. In the next section I will argue that morpheme deletion provides further support for this claim.

3.4 Morpheme Deletion with CAUSES

Now we return to Tagalog morpheme deletion to use this as a probe in determining the base position of the external CAUSE (non-volitional AGENT) position. Previously in looking at morpheme deletion, we had *pag-* in *v* deleting. In the *maka-* causative construction, we would expect *ma-* to delete if deletion always targets *v* or if the non-volitional AGENT has its base position in Spec, vP. However, as the data below show, when we get a non-volitional AGENT which remains in its base position, it is the *ka-* that deletes, not the *ma-*. In (25a) the non-volitional AGENT has moved to the subject position and we have the full form of *maka-*. In (25b), however, it is the Theme that has moved to the subject position, the non-volitional AGENT remains in situ, and *ka-* is realized as a zero morpheme (from Schachter and Otnes (1972: 330)).

- (25) a. Nakagamit siya ng manggang hilaw
 PST.a.ka.use he.NOM ACCmango.LNK green
 'He was able/happened to use a green mango.'
- b. Nagamit niya ang manggang hilaw
 PST.a.~~ka~~.use he.GEN NOM mango.LNK green
 'He was able/happened to use a green mango.'

I take this *ka-* deletion as confirmation for the preliminary hypothesis that CAUSES and non-volitional AGENTS are generated in a syntactic position which is lower in the tree than the pure AGENT position. This conclusion raises many questions — some of which will be explored in the remainder of this paper.

4. Consequences and extensions

One consequence is that, if we take this morpheme deletion very seriously, we are forced to reanalyze the argument structure of some verbs such as experiencer verbs. De Guzman (1992) describes the following puzzle.²⁰ When looking at the paradigms of the verbs below, we get some irregularity — there appears to be a mismatch of syntax and morphology. Looking only at the highlighted areas, we can see that *ma-* is used for constructions where the object is the subject for perception and cognition verbs but for constructions where experiencer is the subject for emotion verbs.

(26) deGuzman's (1992) puzzle

Root		Experiencer Focus (EF)	Object Focus (OF)	Reason/Other Focus (RF)
<u>Perception</u>				
<i>kita</i>	see	<i>MA-KA+kita</i>	<i>MA-kita</i>	<i>I-KA-kita</i> (<i>MA-kita-AN</i>)
<i>dinig</i>	hear	<i>MA-KA+dinig</i>	<i>MA-dinig</i>	<i>I-KA-dinig</i> (<i>MA-dinig-AN</i>)
<i>punah</i>	notice	<i>MA-KA+punah</i>	<i>MA-punah</i>	<i>KA-punah-AN</i>
<i>damdam</i>	sense	<i>MA-KA+damdam</i>	<i>MA-damdam</i>	<i>I-KA-damdam</i>
<u>Cognition</u>				
<i>alala</i>	remember	<i>MA-KA+alala</i>	<i>MA-alala</i>	(<i>I-KA-alala</i>)
<i>alam</i>	know	<i>MA-KA+alam</i>	<i>MA-(a)lam-AN</i>	(<i>I-KA-alam</i>)
<i>isip</i>	think	<i>MA-KA+isip</i>	<i>MA-isip-(AN)</i>	(<i>I-KA-isip</i>)
<i>tutoh</i>	learn	<i>MA-tutoh</i>	<i>MA-tutoh-AN</i>	<i>KA-tutoh</i>
<u>Emotion</u>				
<i>takot</i>	fear	<i>MA-takot</i>	<i>KA-takot-AN</i>	(<i>I-KA-takot</i>)
<i>inis</i>	annoyed	<i>MA-inis</i>	<i>KA-inis-AN</i>	(<i>I-KA-inis</i>)

Given my assumptions, the *ma-* form is really the *ma-ka-* form with the *ka-* in its zero realization. Further, the zero form comes about because CAUSE is in situ. This forces us to reanalyze the object of an emotion verb as the CAUSE, and the experiencer of a perception or cognition verb as a CAUSE. Below I give De Guzman's argument structure contrasted with what this analysis forces us to say.

(27) a.	Emotion verbs:	X	FEARS	Y
	De Guzman	Exp		Obj
	Proposed	Obj		CAUSE
		Y = CAUSE of X's being frightened		

²⁰ De Guzman's interest is in first language acquisition, not in the determination of argument structure.

b.	Cognition/perception verbs:	X	KNOWS	Y
	De Guzman		Exp	Obj
	Proposed		CAUSE	Obj
		X = CAUSE of Y's being known		

Once the argument structure is viewed this way, the paradigm becomes less problematic and perhaps we have learned something about how these languages choose to organize the argument structure of such verbs.²¹

One can ask how the proposal presented here differs from other proposals that locate CAUSES in a lower syntactic position than AGENTS. One difference concerns the way that this CAUSE theta-role is assigned. First, it seems to be assigned by a non-lexical category, Aspect. Second, there are two manifestations of it. In one case, the theta-role comes partly from the theta-grid of the root (24b). In the other case, the theta-role comes purely from the +telic Aspect (24a). I think both of these complications of the theory are required. In other words, I think that this theta-role has to be seen as different from other theta-roles. My main reason to believe this comes from *f*-nominalizations in Malagasy. As we can see in the data presented below, *maha*-predicates can be made into *f*-nominals²², however depending on whether the external argument is encoded in the theta-grid of the root or not determines the meaning of the nominal.

- (28) a. $\sqrt{\text{SORITRA}}$ 'line'
 b. m-an- soritra manoritra 'to sketch'
 c. m-a-ha- soritra mahasoritra 'to be able to sketch'
 d. f-a-ha- soritra-a-na ny fahasoritana 'the capability of sketching'
- (29) a. $\sqrt{\text{KAMO}}$ 'lazy'
 b. *mankamo, *manakamo 'to enlaze?'
 c. m-a-ha- kamo mahakamo 'to make lazy'
 d. f-a-ha- kamo-a-na ny fahakamoana 'laziness'

Those roots with full theta-grids (i.e. having external argument) can combine with the prefix *an-* as shown in (28b). Adjectival roots have no external argument in their theta-grid and cannot combine with *an-* as shown in (29b). Only the former retains the meaning of verbal *maha*-form when in the *f*-nominal (compare (28c and d) vs. (29c and d)). When there is no external argument in the theta-grid of the root, the *f*-nominal has the meaning of an abstract noun (other examples are $\sqrt{\text{FINARITRA}}$ 'happy' — *fahafinaretana* 'pleasure'; $\sqrt{\text{MENATRA}}$ 'shame' — *fahamenarana* 'shame'). This may be due to the inability for Aspect to be active in a nominal vs. verbal expression. The theta-roles that are completely dependent on the Aspect head, then, are lost. Obviously, more work needs to be done here but the preliminary findings suggest that this theta-role is different from others so it is not surprising that the head responsible for the theta-role is different.

²¹ Phillips includes a discussion of transitive achievement verbs in her thesis.

²² Paul (1997) discusses the formation of *f*-nominals in detail.

An interesting outcome of this research is that we can now test whether external arguments act like AGENTS or CAUSES. Here I will just give some examples that raise questions, leaving a proper investigation to further research. As shown below, the 'AGENT' morphology can be used for instruments (from Paul 2000:53).

- (30) Mandidy tsara ny hena ity antsy ity
 PRES.an.cut well the meat this knife this
 'This knife cuts the meat well.'

Further, while generally the CAUSE morphology is used for Object Experiencer psych predicates, the 'AGENT' morphology can be used as well. Only when the 'AGENT' morphology is used, however, is the third argument (see Pesetsky 1995) possible.

- (31) Nahalina an-dRakoto (*an'iMadagasikara) ny mpampianatra
 PST.aha. interest ACC-Rakoto (in Madagascar) the teacher
 'The teacher interests Rakoto (*in Madagascar).'

- (32) Nampalina an-dRakoto (an'iMadagasikara) ny mpampianatra
 pst-an-fa- interest ACC-Rakoto (in Madagascar) the teacher
 'The teacher made Rakoto interested (in Madagascar).'

- (33) Nahalina ahy (*an'iMadagasikara) ny lahatsoratra
 PST.aha. interest ACC.1sg (in Madagascar) the article
 'The article interested me (*in Madagascar).'

- (34) Nampalina ahy (an'iMadagasikara) ny lahatsoratra
 PST.an-fa. interest ACC.1sg (in Madagascar) the article
 'The article made me interested in Madagascar.'

5. Conclusions

This paper explored the mapping of argument structure to phrase structure by investigating two types of causative morphemes in Malagasy and Tagalog as well as morpheme deletion in Tagalog. The conclusion is that CAUSES are introduced lower in the phrase structure than AGENTS and that tests that distinguish between the two can help us understand more clearly how natural language perceives and encodes different types of external arguments.

References

- Abinal and S.J. Malzac (1988). *Dictionnaire Malgache-Français*. Fianarantsoa:
 Carrier-Duncan, Jill (1985). Linking of Thematic Roles in Derivational Word
 Formation. *Linguistic Inquiry*. 16 (1): 1-34.

- Chen, Dongdong (1995). UTAH: Chinese Psych Verbs and Beyond. In *Sixth North American Conference on Chinese Linguistics*, ed. J. Camacho and L. Choueiri, 15-29. University of Southern California, LA: GSIL Publications.
- Chomsky, Noam (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.
- Dell, François (1983). An Aspectual Distinction in Tagalog. *Oceanic Linguistics*. 22-23 175-206.
- Fujita, Koji (1996). Double Objects, Causatives, and Derivational Economy. *Linguistic Inquiry*. 27 (1): 146-173.
- Guzman, De (1992). Acquisition of Voice Affixes in Psychological Verbs in Tagalog. Paper read at The 3rd International Symposium on Language and Linguistics: Pan-Asiatic Linguistics.,
- Hung, Henrietta (1988). *Derived Verbs and Nominals in Malagasy*. Ms., McGill University.
- Maclachlan, Anna (1989). The Morphosyntax of Tagalog Verbs: the Inflectional System and its Interaction with Derivational Morphology. *McGill Working Papers in Linguistics*. 6 (1): 65-84.
- Paul, Ileana (1997). f-nominals in Malagasy. In *AFLA IV*, ed. UCLA:
- Pesetsky, David (1995). *Zero Syntax*. Cambridge, MA: MIT Press.
- Phillips, Vivianne (1996). *Up-rooting the prefix maha- in Malagasy*. MA, McGill University.
- Phillips, Vivianne (2000). The interactions between prefix and root: the case of *maha-* in Malagasy. In Vivianne Phillips Ileana Paul, Lisa Travis (ed.), *Formal issues in Austronesian linguistics*, Dordrecht: Kluwer Academic Publishers, 85-104.
- Pylkkänen, L. (1999). Causation and External Arguments. *MIT Working Papers in Linguistics*. 35 161-183.
- Ramos, Teresita V. and Maria Lourdes S. Bautista (1986). *Handbook of Tagalog verbs: Inflections, Modes, and Aspects*. Honolulu, HI: University of Hawaii Press.
- Richards, Norvin (2000). Another Look at Tagalog Subjects. In Ileana Paul, Vivianne Phillips and Lisa Travis (ed.), *Formal Issues in Austronesian Linguistics*, Dordrecht, the Netherlands: Kluwer Academic Press, 105-116.
- Ross, Kie (1993). *Causatives in Tagalog*. Ms., McGill University.
- Schachter, Paul (1976). The Subject in Philippine Languages: Topic, Actor, Actor-Topic, or None of the Above? In Charles N. Li (ed.), *Subject and Topic*, New York: Academic Press, Inc, 491-518.
- Schachter, Paul (1996). The Subject in Tagalog: Still None of the Above. *UCLA Occasional Papers in Linguistics*. 15 1-61.
- Schachter, Paul and Fe T. Otones (1972). *Tagalog Reference Grammar*. Berkeley, CA: University of California Press.
- Sportiche, Dominique (1996). Clitic Constructions. In Jan Rooryck and Laurie Zaring (ed.), *Phrase Structure and the Lexicon*, Dordrecht, the Netherlands: Kluwer Academic Publishers, 213-276.
- Travis, Lisa (1994). Event Phrase and a Theory of Functional Categories. In *1994 Annual Conference of the Canadian Linguistics Association*, ed. 559-570. Toronto Working Papers in Linguistics.
- Travis, Lisa (2000). The l-syntax/s-syntax boundary: evidence from Austronesian. In Ileana Paul, Vivianne Phillips and Lisa Travis (ed.), *Formal Issues in Austronesian Linguistics*, Dordrecht, The Netherlands: Kluwer Academic Publishers, 167-194.