MALAGASY PARTICIPANT NOMINALIZATIONS: A STRUCTURAL ACCOUNT[*]

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In this paper I present evidence from Malagasy supporting the implementation of structures of different sizes in the derivation of participant nominalizations. Malagasy agentive and instrumental nominalizations are formed by adding nominalizing morphology to the active trigger form of the verb. Despite using the same base form, these nominalizations exhibit a cluster of morphosyntactic differences including the ability to contain causative or reciprocal morphology; the possibility to express the internal argument of the verb as an accusative DP, whether they imply an event, whether this event can be anchored in time, and whether they can be modified by adverbials. The differences described above can be accounted for if we assume that nominalizing affixes attach at different heights of the clausal 'spine' determining how many and which of the available functional projections are contained within the nominalized string.

1. INTRODUCTION

This paper presents evidence showing that participant (agentive/instrumental) nominalizations in Malagasy contain clausal structures of different sizes, the size being detectible from the morphosyntactic properties that these nominalizations exhibit. Malagasy agentive and instrumental nominalizations are formed by adding nominalizing morphology or just a determiner to a verbal string that contains the verbal root and verbalizing/transitivizing morphology (1.b.):

(1)   a. *Root*:   zaitra   *'sewing'*

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b. *Active Trigger*:   m-   an- jaitra   *'to sew'*
                                          Asp- AT- sew
c. *Headless Relative Clause*: ny   m- an- jaitra   *'the one that sews'*
                                  D   Asp-AT-sew
d. *Agentive*:   mp- an- jaitra   *'tailor'*
                                          Nml AT sew
e. *Instrumental*:   f-   an- jaitra   *'needle'*
                                          Nml AT sew

As seen in (1), a category-neutral root (1.a.) is inflected with a verbalizer or voice prefix *an-* and an aspectual prefix *m-* to form the verbal complex in (1.b). Addition of the definite determiner *ny* nominalizes the verbal complex creating a headless relative clause (HRC), roughly translated as 'the one that Vs'. The agentive nominalizing prefix *mp-* and the productive nominalizing prefix *f-* form agentive (translated as English *er*-nominalizations) and instrumental nominalizations respectively. The above nominalizations exhibit a number of different morphosyntactic properties, including the ability to contain secondary verbal morphology, take definite, indefinite or incorporated complements, allow object scrambling and adverbial modification, and be interpreted as implying events or have episodic readings. The following table summarizes these properties[1]:

Table 1. Syntactic Properties of Malagasy Participant Nominalizations

Nominal Type	Secondary Verbal morph.	Internal Argument			Object Scrambl.	Adverbial Modificat.	Implied Event	Episodic Reading
		Def	Indef	Comp				
Headless Relative	✓	✓	✓	✓	✓	✓	✓	✓
Agentive	✓	✓	✓	✓	✓	✓	%	%
Instrumental	✗	✗	✗	✓	✗	✗	✗	✗

In order to account for these different properties of the involved nominalizations I propose three distinct attachment sites for nominalizers of AV verbs in Malagasy, indicated by numbers in the following bracketed structure:

[$_{DP}$ ny [$_{CP}$ [**(1)** [$_{TP}$ [T **(2)** [$_{EventP}$ [Event [$_{vP}$ [v …[$_{AspectP}$ [Aspect … **(3)** [$_{VP}$ NP V]]]]]]]]]]]]]

Such a structure presupposes that nominalizations of any type contain a VP-core with a possible number of verbal functional projections, in accordance with a number of recent accounts on nominalizations cross-linguistically (see for example Hazout (1990); Fu, Roeper and Borer (2001); Borsley and Kornfilt (2000); Alexiadou (2001)). Nominalizers attach at different heights resulting in nominalizations with gradient morphosyntactic properties: the higher the

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[1] The percentage symbol indicates dialectal and individual speaker variation.

attachment point of the nominalizer the more verbal/less nominal properties the nominalization exhibits (Fu, Roeper and Borer (1996); Alexiadou (2001); Schueler (2004)). Furthermore, the verbal domain is assumed to contain a series of VP-shells (Larson 1988) and aspectual projections (Travis 2000a, 2000b), and in particular a lower aspectual projection (AspP) where telicity of the entailed event is encoded and a higher aspectual projection (EventP) where the eventuality variable is closed off.

In the following sections I will spell out the details of the analysis, starting with a brief introduction to the syntactic properties of Malagasy that are relevant to the discussion and continuing with a presentation of the morphosyntactic differences between the different participant nominalizations. I return to the details of the proposal in section 4.

2. MALAGASY CLAUSE STRUCTURE

Malagasy is a Western Malayo-Polynesian language of the Austronesian family, spoken by over 12 million people throughout the island of Madagascar. There is a fair amount of work on Malagasy morphosyntax based mainly on the Merina dialect spoken in and around the capital Antananarivo.

Malagasy is conventionally characterized as having a VOS basic word order, and like many other Austronesian languages has a complex voicing system that promotes verbal arguments (agent, theme, instrument, etc.) to a predicate-external position called the 'trigger' in theory-neutral terminology. The promotion of arguments affects word order and is also reflected in distinctive verb morphology. Consider the following examples:

(2) a. n.i.vídy   boky   ho an'ny mpianatra ny mpampianatra.
         PST.AT.buy books for' D   student   D   teacher
         'The teacher bought books for the student.'

     b. no.vid.in'   ny mpampianatra ho an'ny mpianatra ny boky.
         PST.buy.TT.LNK' D   teacher   for ' D student D books
         'The books were bought by the teacher for the student.'

     c. n.i.vidi.ana.n'   ny mpampianatra boky   ny mpianatra.
         PST.PFX.buy.CT.LNK' D   teacher   books   D student
         'The student was bought books for by the teacher.'

In (2.a.) the agent argument of the verb is promoted as the external argument (underlined in the example) and the verb shows Actor Trigger (AT) morphology realized as the prefix *i-*. In (2.b.) the theme argument occupies the rightmost prominent position and the verb exhibits Theme Trigger (TT) morphology, realized as the suffix *-ina*. Finally, in (2.c.) the Benefactor is promoted and the verb has Circumstantial Trigger (CT) morphology realized as the prefix *i-* plus the suffix *-ana*. For a detailed account of the properties of these voices (or focus structures as

they are known in traditional literature) see Keenan & Polinsky (1998); Pearson (2001); Paul (2000).

3. MALAGASY PARTICIPANT NOMINALIZATIONS

As we have seen in (1), Malagasy participant nominalizations use the Agent Trigger (AT) form of the verb, i.e. the form associated with the promotion of the external argument (c.f. 2.a). The HRC can be formed by adding the definite determiner *ny* in front of the predicate which consists of the finite verb in AT-form (1.c) and possibly verbal arguments and modifiers. The agentive nominalization is formed by prefixing the AT-form of the verb with the prefix *mp-* (1.d). This latter form is interpreted exclusively as [+HUMAN]. The instrumental nominalization, is formed by prefixing *f-* to the AT-form (1.e). Instrumental nominalizations are exclusively interpreted as [-HUMAN]. In the following subsections I explore in detail the different morphological properties and syntactic distribution of these nominalizations.

3.1. *Verbal Morphology*

As we have seen, all three types of nominalizations (HRCs, agentive and instrumental) contain AT morphology. Malagasy verbs take additional secondary and tertiary morphology. For example the causative prefix *amp-* (c.f. 3.a.), attaches outside voice morphology. Unsurprisingly, HRCs may contain causative morphology (3.b.) and so may agentive nominalizations (3.c.). On the other hand, no such morphology is available inside instrumental nominals (3.d.):

(3)   a.   n.amp.i.asa   an- dRabe   izy
            PST.CAUS.AT.work ACC-Rabe   3.NOM
            'He/she employed Rabe'. (Lit.: He/she caused Rabe to work')

       b.%hita.ko   ilay   n.amp.i.asa   an- dRabe   omaly[2]
            see.1SG.GEN DEM   PST.CAUS.AT.work   ACC-Rabe   yesterday
            'Yesterday, I saw Rabe's (aforementioned) (past) employer'

       c.   n.a.hita   ny   mp.amp.i.asa   an- dRabe   aho
            PST.AT.see D   NML.CAUS.AT.work ACC-Rabe   1SG.NOM
            'I saw Rabe's employer'

       d.* n.a.hita   ny   f.amp.i.asa   aho
            PST.AT.see D   NML.CAUS.AT.work 1SG.NOM
            'I saw the (instrument that causes something to work) repairing tool.'

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[2] The % symbol indicates inter-speaker variation. While HRCs are common in formal texts, including textbooks, readers and newspapers, they are not as natural in spoken Malagasy. Speakers' judgments vary with respect to HRC acceptability depending on their grammatical function. All speakers found them acceptable in 'identificational' sentences with the use of topic marker *dia* (c.f. 4.b) and most speakers found them marginally acceptable as triggers. Almost all of them found them ungrammatical as objects of verbs or prepositions.

Similarly, with the reciprocal prefix *if-*, which attaches outside voice morphology but before tense/aspect (c.f. 4.a), HRCs (4.b) and agentive nominalizations (4.c) can contain it, while instrumental nominalizations (4.d)[3] cannot:

(4) a. n.if.an.oratra   taratasy   Rabe sy Rasoa
         PST.REC.AT.write   letters   Rabe and Rasoa
         'Rabe and Rasoe wrote letters to each other.'

     b. ny n.if.an.oratra   taratasy   dia   Rabe sy Rasoa
         D   PST.REC.AT.write   letters   PRT   Rabe and Rasoa
         'The ones that wrote letters to each other are Rabe and Rasoa.'

     c. ny mp.if.an.oratra   taratasy   dia Rabe sy Rasoa
         D NML.REC.AT.write   letters   PRT Rabe and Rasoa
         'The writers of letters to each other are Rabe and Rasoa.'

     d.* nahita   ny f.if.i.rako[4].n- dRabe   sy Rasoa   aho
         PST.AT.see D   NML.REC.AT.cover.LNK-Rabe   and Rasoa 1SG.NOM
         'I saw Rabe and Rasoa's (instrument) that covers each other.'

   If we assume, following Travis (2000a, 2000b), that the causative morphology occupies the head of a VP projection that takes the event denoted by the lower verb as its argument, then this VP projection as well as a lower aspectual projection (EventP) must be contained in the agentive nominalization. On the other head this part of the verbal domain is not available within instrumental nominalizations and thus causative and reciprocal morphology cannot be contained in the latter.

3.2. *Expression of Internal Arguments*

Only HRCs and agentive nominalizations allow for independent expression of the internal argument (5.a-5.b). This internal argument is marked with accusative case, morphologically realized only with proper names (5.b) or pronouns, which inflect for case (c.f. 5.c) (see also Keenan & Polinsky (1998: 615).

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[3] The ungrammaticality of (3.d) and (4.d) are not because of the incompatibility of the nominalizer f- with causative and reciprocal morphology as such nominalizations are available with the circumstantial trigger form of the verb (see Keenan and Polinsky (1998), for examples). Similarly the reason cannot be that these nominalizations are just not possible with or without the additional morphology, because the forms without the secondary morphology are available in the language. Thus, we have to conclude that these particular nominalization are simply not compatible with secondary verbal morphology.

[4] My consultants inform me that *fifirako* exists as an unrelated noun, meaning 'manner of cleaning something' or 'toilet paper', presumably built on the root *firako*.

(5) a. %hita.ko   ny n.amp.i.anatra   an-dRabe   omaly
        see.1SG.GEN D   PST.CAUS.AT.advice ACC.Rabe   yesterday
        'Yesterday, I saw the one who teaches Rabe.'

     b. n.a.hita   ny mp.amp.i.anatra   an-dRabe   aho   omaly
        see.1SG.GEN D   NML.CAUS.AT.advice ACC.Rabe   1SG.NOM yesterday
        'Yesterday, I saw Rabe's teacher.'

     c. n.a.hita   ny mp.an.jaitra azy   aho
        PST.AT..see D   NML.AT.sew   3.ACC 1SG.NOM
        'I saw his/her teacher'

On the other hand, expression of the internal argument is not possible with the instrumental nominalizations (6.a) except from the few cases where the argument of the nominalized verb is realized as an incorporated element of some sort, following the complex morpho-phonological rules of generalized incorporation, termed 'bonding' in Keenan & Razafimamonjy (1996):

(6) a. * n.a.hita   ilay   f.aka   sary   aho
          PST.AT..see DEM   NML.AT.take picture(s)   1SG.NOM
          'I saw the (aforementioned) (instrument used to take pictures with) camera.'

     b. n.a.hita   ilay   fakan-tsary   aho
        PST.AT..see DEM   NML.AT.take.LNK-picture 1SG.NOM
        'I saw the (aforementioned) (instrument used to take pictures with) camera.'

(7)   n.a.hita   f.an.ala   hidy   aho
        PST.AT..see   NML.AT.remove lock   1SG.NOM
        'I found a (instrument used to remove lock with) key.'

Incorporation often triggers consonant mutation or other morpho-phonological effects, in specific environments (c.f. (6.b.), see Keenan & Polinsky (1998) for details) or can be detected by syntactic means. For example, that some sort of incorporation has taken place in (7) is supported by the fact that the adjacency between the nominalized verb and its internal argument cannot be interrupted by the insertion of a definite determiner (8.a). Only the determinerless version is possible (c.f. 7). Such insertion however is possible for agentive nominalizations (8.b):

(8) a. * n.a.hita   ny   f.an.ala   ny hidy   aho
          PST.AT..see D   NML.AT.remove D   lock   1SG.NOM
          'I saw the (instrument used to remove the lock with) key.'

     b. n.a.hita   ny   mp.an.ala   ny hidim'bavahady   aho
        PST.AT..see D   NML.AT.remove D   lock.LNK'gate   1SG.NOM

'I saw the (one that removes the lock(s) of gates) gate-locksmith.'

Furthermore, the incorporated argument cannot be pronominalized in instrumental nominalizations (whether a genitive (9.a) or accusative pronoun (9.b) is used) while pronominal internal arguments, as we have seen (c.f. 5.c), are possible with agentive nominalizations[5]:

(9) a. * n.a.hita   ny   f.am.aina.ny   aho
        PST.AT..see D   NML.AT.dry.LNK.3 1SG.NOM
        'I saw the instrument one dries it with.'

     b. * n.a.hita   ny   f.an.ala   azy   aho
        PST.AT..see D   NML.AT.remove 3SG.ACC   1SG.NOM
        'I saw the instrument one removes it with.'

Summarizing, the internal arguments of HRCs and agentive nominalizations may be expressed as case marked DPs independently of their being indefinite or definite noun phrases or pronouns. On the other hand the internal argument of an instrumental nominalization is only realized as an incorporated argument.

3.3. *Events and Time Anchoring*

There is a distinction with respect to whether an event is implied, between nominalizations with PP-arguments and compounds (Rappaport & Levin 1992; Van Hout & Roeper 1998). Consider the following examples:

(10)   a.   The lawn-mower just walked in.
         b.   The mower of the lawn just walked in.

The lawn-mower in (10.a.) may have just finished a lawn-mowing school and never mowed a lawn in her life, while the mower of the lawn in (10.b.) has mowed at least one lawn. Van Hout & Roeper (1998) take this as evidence for the existence of functional structure within the nominalization, which contains a TP and an AspP. The TP projection is responsible for the event entailment and AspP deals with telicity.

It is argued here that it is not Tense that closes the event but a separate projection EventP (Travis, 2000a, 2000b; see also Stowell, 1996). This projection serves to 'close off' the predicate, converting it into an event-denoting constituent. In some analyses it introduces the external argument/event initiator i.e. it is a functional element that relates an external argument to an eventuality (VoiceP in Kratzer, 1994; Harley 1995; see also Pearson, 2001 for an implementation of EventP in Malagasy clause structure). As in Stowell (1996) the EventP (ZeitP in his terminology) is selected by Tense, which orders the event relative to some reference time.

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[5] (7.a) of course is grammatical if the 3rd person pronominal clitic is interpreted as a possessor: 'I saw his dryer'.

This time is the moment of speaking in main clauses or the main predicate's event time in subordinate clauses (Zagona 1990; Stowell 1996). This partition of the time reference information predicts that only when Tense is present there is obligatory anchoring of the event to some reference time. If Tense is not available an event may be implied but it is not necessarily anchored. The prediction then is that tenseless nominalizations will force a habitual rather than an episodic interpretation while HRCs can only be interpreted as episodic.

   Malagasy agentive nominalizations have usually a habitual interpretation but an episodic reading can be forced by the context. HRCs always imply an event and force an exclusively episodic reading. On the other hand, in instrumental nominalizations no event is implied. A 'needle' is interpreted as 'instrument one sews with'; no event of 'sewing' has necessarily taken place. Even when the internal argument is expressed, in a compound such as *fanala--hidy* 'instrument one removes locks with / key', it does not mean that the key has actually been used to open a lock. Similarly with agentive nominalizations. The only time they can imply an event is when they are used with an expressed definite argument. A 'locksmith' is a 'remover of locks' but in *mpanala hidy*, which is formed arguably by incorporation, someone may be a locksmith even if they have just finished a locksmith school and have become professional locksmiths without having opened any locks yet, as in :

(11)   a.   *mp.an.ala hidy*   tsy   m.an.an'asa   i   Rabe
              NML.AT.remove lock   NEG ASP.AT.have'job D Rabe
              'Rabe is a locksmith without a job'.

   However, when a definite determiner precedes the internal argument of the nominalized verb, in which case no incorporation has taken place, an event is implied:

(12)   n.a.hita ny mp.an.apaka ny hazo.n-dRabe   aho   omaly
              saw   D   NML.AT.cut   D   wood.LNK-Rabe I   yesterday
              'Yesterday, I saw the cutter of Rabe's wood'.

The agentive nominalization of (12) may or may not involve a professional lumberjack. It may just refer to a person of any profession who just happens to cut Rabe's wood habitually or who happened to cut it once. Independently of the habitual or episodic interpretation, an event of woodcutting is implied. Based on this fact it is claimed that EventP is available within agentive nominalizations. Furthermore, the projection is always available in HRCs:

(13)   % hita.ko   ny n.an.apaka   ny hazon-dRabe   aho omaly
              see.1SG.GEN D   PST.AT.cut   D   wood.LNK-Rabe I   yesterday
              'Yesterday, I saw the one who cut Rabe's wood'.

The HRC in (13) denotes a person that cut Rabe's wood once in the past, i.e. only an episodic reading is available. Unsurprisingly, (13) is the preferred expression when an episodic reading is implied, while (12) is reserved for habitual readings, including professions. The presence of a

past tense morpheme within the HRC in (13) means that the Tense head is present. It follows that the episodic-only reading is available when the tense head anchors the event in time, as discussed above. The lack of TP in agentive nominalizations on the other hand, means that the event is not anchored in time and takes a default habitual interpretation. This is the reason that only the agentive nominalization can be used as a profession name:

(14) a. ny mpaka sary 'the photographer; the one that takes photographs'
    b. ny maka sary '*the photographer; the one that takes photographs'

An episodic reading of agentive nominalizations however can become available when forced by the context. Consider the following examples:

(15) a. sosotra ny mp.an.deha t.any Antsirabe fa …
     frustrated D NML-AV-go PST.there Antsirabe because…
     'The ones that used to go to Antsirabe were frustrated because…'

    b. sosotra ny n.an.deha t.any Antsirabe fa …
     frustrated D NML.AV.go PST.there Antsirabe because…
     'The ones that were going to Antsirabe were frustrated because…'

In (15.a.) the locative adverbial is inflected with the past case marker *t-* which marks prepositional/adverbial elements in Malagasy (see Keenan & Polinsky 1998; Pearson 2000). This past tense marking on the oblique forces a past interpretation on the event denoted by the nominalization and thus *mpandeha* is interpreted as 'the ones that were going/used to go'. However, despite the presence of past tense the habitual reading is retained and is the preferred reading of the sentence, in contrast to (16.b.) where only the episodic reading is available (i.e. the sentence cannot be interpreted as 'the ones that used to go to …').

3.4. *Further Motivation: Adverbial Distribution*

The majority of Malagasy adverbials occur within the main clausal 'spine' between the verb in first position and the topic in the rightmost position in the clause (Pearson, 1998; Rackowski, 1998). There are a few adverbs that appear in preverbal position, including the adverbs *matetika* (generally) which appears usually at the edges of the clause, preverbally or following the trigger, but sometimes in intermediate positions, following the verb, *efa* (already) and *mbola* (still). The negation *tsy* can appear either after *matetika* or immediately preceding the verb, following *efa* and *mbola*. All other adverbs appear in postverbal position. Cinque (1999); Alexiadou (1997), show that empirical data from a variety of languages seems to support the assumption that the ordering of adverbs in a clause is determined by a universal hierarchy and that this hierarchy is determined by phrase structure, with the adverbs occupying unique specifiers of functional projections.

Rackowski (1998), shows how the distribution of adverbs in Malagasy can be shown to follow from a universal hierarchy, if one assumes phrasal movement of projections containing a verbal remnant to specifiers of different functional projections. These functional projections intervene between adverbial projections in the clausal structure. The interaction of the adverbial hierarchy with the movement of the verbal string results in the following order of elements in Malagasy:

2	3	4	5	(3)		10
na(dia)	matetika	tsy	efa	mbola	tsy	**verb**	tsara
'even'	generally	NEG	already	still	NEG		'well'

9	8	7	6		1
tanteraka	foana	intsony	mihitsy	aza	ve
'completely'	'always'	'anymore'	'at all'	'though'	QP

It seems then that the verb moves to subsequent specifier positions pied-piping the functional projections that host the adverbial phrases up to a projection following mbola/ 'still'. Thus the adverbs that follow the verb appear in the reverse order (c.f. Cinque, 1999) while the ones preceding the verb appear in the expected order (Pearson, 1998; Rackowski, 1998).

Both HRCs and agentive nominalizations exhibit a distribution of adverbial modifiers that is identical to the one exhibited by active verbs[6]:

(16)   a. m.aha.ndro   sakafo matetika   i Rabe
          ASP.PFX.cook food   often   D Rabe
          'Rabe cooks food often'

         b. ny mp.aha.ndro   sakafo matetika   dia i Rasoa
          D   NML.PFX.cook food   often   is D Rasoa
          'Rasoa is the frequent cook of food'

(17)   a. mbola m.aha.ndro   sakafo matetika i Rasoe na dia antitra aza   izy
          still   ASP.PFX.cook food   often   D Rasoe even aged   though 3SG
          'Rasoe still cooks food often even though she is old'

         b. ny mbola mp.aha.ndro sakafo matetika na dia antitra aza   dia i Rasoe
          D still ASP.PFX.cook food   often   even aged   though is D Rasoe
          'The one that still cooks food often even though she is old is Rasoe.'

(18)   a.? ny mbola mp.an.deha mitsangatsangana   matetika any an'ala nadia
          D still   NML.PFX.go ASP.PFX.walk   often   LOC forest even

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[6] (18.a-18.b) are given a question mark because the first part of the 'identificational' sentences is 'heavy' and my consultants would have preferred to use a different structure: *'Na dia marary aza i Rabe, dia mbola mpandeha mitsangatsangana matetika any an'ala izy.'*.

marary aza izy dia i Rabe
weak PRT 3.NOM is D Rabe
'The (one) who still goes often for a walk in the woods even if he is weak, is Rabe.'

b.? ny tsy mp.an.deha mitsangatsangana nadia matanjaka aza izy dia i Rabe
D NEG NML.PFX.go ASP.PFX.walk even strong though 3.NOM is D Rabe
'The one who doesn't go for a walk even though he is strong, is Rabe.'

As seen in (16-18) agentive nominalizations can retain a number of modifiers of the corresponding AT verb, including preverbal and postverbal adverbs (16-18), prepositional adjuncts denoting location (18.a.), and negation (18.b).

Furthermore, it has been noted that in Malagasy definite objects may appear higher in the structure than indefinites (Pearson 1998; Travis 2005). This variation in the position of direct objects in Malagasy can be detected with the insertion of adverbial modifiers:

(19) a. m.aha.ndro sakafo matetika i Rabe
ASP.PFX.cook food often D Rabe
'Rabe cooks food often'

b. m.aha.ndro matetika *(ny) sakafo i Rabe
ASP.PFX.cook often D food D Rabe
'Rabe cooks the food often'

Pearson (1998) calls the process 'Rightward Object Shift' and argues that it involves movement of a specific object to some unidentified 'inner topic projection'. Travis (2005) also assumes some unidentified XP that hosts the definite object in its specifier. The exact properties of this projection are not relevant for the present discussion. The important thing is that agentive nominalizations also exhibit a similar behavior:

(20) a. ny mp.aha.ndro sakafo matetika dia i Rabe
D NML.PFX.cook food often is D Rabe
'Rabe is the frequent cook of food'

b. ny mp.aha.ndro matetika ny sakafo dia i Rabe
D NML.PFX.cook often D food is D Rabe
'Rabe is the frequent cook of the food'

This means that the higher projection that is available to specific objects in clausal structures is also available in agentive nominalizations. We assume that this projection is AspectP, an aspectual projection related to the telicity of the event implied by the verb and to definiteness/specificity.

Clausal and nominal modifiers are identical in Malagasy. In other words the same elements can be used to modify a verb in the clausal domain or a noun in the DP without the addition of derivational morphology as is usually the case in Indo-European languages. Therefore, there is a possibility that the adverbials in (16-18) are ambiguous between an adverbial and an adjectival function. However, the specific lexical items that are used here usually have an adverbial function; they sound somewhat unatural in predicate positions (21.b.) and they do not readily modify non-derived nouns with similar meanings (21.a.)[7]:

(21) a.?? ny mbola profesera-na teny   gasy   matetika na dia antitra aza   dia i Rasoe
            D still professor-PRT language Malagasy often even aged though is D Rasoe
            'The one that is still professor of Malagasy often even though she is old is Rasoe'

     b.? matetika ny fandehanan-dRabe   any an-tsekolin'ny   zazany
            often   D NML.PFX.go.CT.LNK-Rabe there LOC-school.LNK'D child.3GEN
            'The going of Rabe to his child's school is often'

Instrumental nominalizations on the other hand do not allow for adverbial modification:

(22) a. * ny fakan-tsary   matetika   dia and-Rabe
            D NML.PFX.take.LNK-pictures often   is ACC-Rabe
            'The instrument that takes pictures often is Rabe's'

      b. * ny fakan-tsary   nanditriny adiny telo dia and-Rabe
            D NML.PFX.take.LNK-pictures throughout hour three is ACC-Rabe
            'The instrument that took pictures for three hours is Rabe's'

3.5. *Summary*

HRCs and agentive nominalizations contain secondary verbal morphemes while no such morphology is available with instrumental nominals. Only HRCs and agentive nominalizations allow for independent expression of the internal argument marked with accusative case. On the other hand, expression of the internal argument is not possible with instrumental nominalizations unless the argument forms a compound with the verb. HRCs always imply an event anchored in time; agentive nominalizations may imply an event with preferably a habitual or rarely an episodic reading, depending on the context; instrumental nominalizations never imply an event. Finally, adverbial modification is possible with HRCs and agentive nominalizations but not with instrumental nominals.

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[7] There is an additional reason why there is a difference in judgments between (17.a-17.b) and (21.a), namely the fact that the borrowed *profesera* has only the profession reading and thus it is incompatible with adverbs like frequently/ sporadically and so on. The agentive nominalization on the other hand can be interpreted either as a profession or as a habitual act and thus use of the above adverbs is natural. This can be assumed to further support the inclusion of an Event projection within these nominalizations.

4. ANALYSIS

The above distributional properties of participant nominalizations in Malagasy can be captured if we assume that the nominalizers involved merge at different heights in the clausal structure. The syntactic behavior of the nominalization is then a direct result of the 'amount' of verbal functional material the nominalization contains.

Following Travis (2000a, 2000b) and Pearson (2001), it is assumed that the clausal structure contains at least two aspectual projections that alternate with VP shells as in the following bracketed representation:

(23)   [$_{CP}$ C [$_{TP}$ [T [$_{EVENTP}$ [EVENT [$_{vP}$ [v [$_{ASPECTP}$ [ASPECT [$_{VP}$ [V NP]]]]]]]]]]]]

What is the motivation for these aspectual projections? Travis (2000a, 2000b) argues for a conception of VP that represents sub-eventual structure along the lines of Hale and Keyser (1993). The lower AspectP in the configuration in (23) is in the scope of the higher vP , including the Agent in the specifier of vP, and has in its scope the lower VP. Internal arguments of the verb may affect the aspectual properties of the event denoted by the verb. Mass or bare plural objects can change an accomplishment into an activity while PPs may change an activity into an accomplishment. Since AspectP dominates the projections where these VP-internal elements merge, the computation of the items that determine the situation aspect of the verb can be done in this projection (Travis 2000b:171). Pearson (2001) assumes that AspectP (which he dubs Asp$_r$P (r = result)), is associated with the telicity of the event denoted by the verb. It attracts the direct object, thereby checking its morphological case features. Thus, the specifier of AspectP is where Accusative case is licensed (parallel to AgrOP in Chomsky 1991). We will assume here that only quantized NPs move to AspectP. Non-quantized NPs (mass nouns and bare plurals) can remain inside the VP (van Hout 1996). This also derives the word order alternations observed in (20). In (20.b) the object has scrambled to the specifier of AspectP to check some specificity/telicity related feature and thus appears preceding the adverbial modifier (for the exact properties of the mechanism that derives the observed word-order see Pearson 1998).

The general property of Event is to bind the event variable. Immediately above Event, Tense, in a parallel way, combines with a predicate over times to bind that time variable and anchor it to the speech time in a particular way. In Stowell's (1996) terms EventP/ZeitP is one of the arguments of the tense head whose other argument is the speech time in matrix clauses. Travis (2000a) motivates EventP with possible morphological material that can occupy the head of the projection, including infinitival morphology in French and English and the nominalizer *f-* when participating in the formation of causatives in Malagasy. In her discussion EventP marks the boundary between lexical syntax (l-syntax) and syntactic syntax (s-syntax), the first being characterized by semantic and phonological idiosyncrasies and the latter by productivity and transparent semantics.

Pearson (2001) further motivates these projections by placing voice morphology in them and licensing verbal arguments in their specifiers. Thus, accusative case is checked in spec-AspectP while nominative case is checked in spec-EventP. When the head associated with each projection has a strong feature it attracts the corresponding DP, which is in this case an operator. The operator subsequently moves to spec-WhP to check some feature associated with the scope-taking property of topics. This is followed by predicate fronting, resulting in VOS word order.

The rest of the structure is motivated as in most syntactic frameworks with the additional assumption that the lower VP (the base) contains only the predicate and NP arguments. The rest of DP-functional material is added later on in the derivation. This lower VP is where syntax-based morphological compounding operates (Sportiche 1997). The determiner merges higher than the VP. In particular indefinite determiners/null determiners of bare plurals merge lower than definite determiners. Definiteness of the object may be identified as a property of AspectP since definite objects impose an end point in the event denoted by the verb and thus may be associated to telicity. Alternatively, definiteness can be assumed to be above case, i.e. selecting for AspectP. This issue does not immediately bear to the analysis discussed here and therefore I will not pursue it further.

I propose that the syntactic behavior of participant nominalizations in Malagasy provides further motivation for the existence of aspectual projections in the verbal complex. In particular I claim that there are three distinct attachment sites for nominalizers of AT verbs in Malagasy:

(24) $[_{CP}$ [**(1)** $[_{TP}$ [T **(2)** $[_{EventP}$ [Event $[_{vP}$ [v $[_{AspectP}$ [Aspect $[_{NumP}$ Num **(3)** $[_{VP}$ NP V]]]]]]]]]]]]

Following van Hout & Roeper (1998), it is proposed that the nominalizer *f-* attaches immediately above VP (position (3) in (28)), and in this case the nominal denotes an instrument. The resulting structure does not include any functional material and the NP argument of the verb has not been quanticized yet, i.e. has not been selected by a D element. Thus the only way it can surface is by incorporating into the verbal head. This assumes that synthetic compounding formation is a syntactic process taking place at the base layer (see Sportiche 1997 for arguments supporting such an approach; for a different account see Van Hout & Roeper 1998). Furthermore, since Event is not included there can be no event implied by these nominalizations. Finally, no functional projections hosting adverbs in their specifiers are available at this level and so adverbial modification is blocked.

The nominalizer *mp-* merges above EventP (position (2) in (28)), resulting in agentive nominalizations with an expressed internal argument. The internal argument can be expressed either as an indefinite in some projection outside the VP (possibly a NumP as in (24)). Alternatively it can move to spec-AspectP (or spec-DP) if definite/specific. The derived nominal is obligatorily interpreted as the Agent ([+HUMAN]) of the entailed event. Since this attachment site encloses a lower AspectP the internal argument of the verb can be licensed in the specifier of AspectP and appear marked with accusative case. The attachment site is below tense and thus

agentive nominals are unspecified for tense/aspect. However, episodic meanings of these nominals can become available if forced by the context (c.f. 15.a).

Finally, HRCs contain an event projection and a tense projection and therefore tense/aspect marking of the verbs is retained in these nominalizations. Tense forces an interpretation of the event as anchored in time, giving rise to an episodic reading. In these cases we can assume a null nominalizer/complementizer merging above TP (position (1) in the structure) and projecting a relative clause structure, selected by a determiner, as in Kayne (1994). A null operator originating in spec-vP (the position where the external argument of the verb merges) moves to spec-CP, deriving the desired agentive interpretation. Thus, HRCs are full finite clause and exhibit all the properties of finite clauses, including expression of internal arguments as accusative objects, adverbial modification, and eventive/episodic readings.

5. CONCLUSION

In this paper I argued that nominalization affixes cross-linguistically have no fixed subcategorization properties, providing evidence from Malagasy participant nominalizations. I proposed that the different morphological, syntactic and interpretive properties of these nominalizations follow straightforwardly if we assume that what determines these properties is the height of attachment of the nominalizing affix and consequently the number of functional projections that are contained within the nominalization.

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