CHAPTER 6

L-SYNTAX AND S-SYNTAX

In this chapter, I look more closely at the domain of phrase structure below and above the E projection.[1] What I have been creating below the E projection is an articulated VP, which encodes parts of the verb meaning that are often not independently realized. For instance, while in Tagalog the intransitive verb *tumba* ('fall down) and the transitive verb *pagtumba* ('knock down') are distinguished through morphology, in English they are not. One of the questions that can arise, then, is whether this is a matter of syntax or something that should be kept in the lexicon. In particular, we will see that many of the phenomena discussed above are quite idiosyncratic in their application, suggesting that, indeed, they are part of the idiosyncrasies of the lexicon rather than part of the computational system of syntax.

Hale and Keyser (1993) introduce a new level to the grammar by suggesting that syntax may be divided between S-syntax (syntactic syntax) and L-syntax (lexical syntax). As with any innovation, the range of application of this new level must be motivated and constrained. Below I shall examine the characteristics of L-syntax with the aim of both determining and restricting its use. I will argue that event-related categories such as ASP and EVENT play an important role in the representation of event structure within the phrase structure and that the event-related category E represents the phrase structure boundary between L-syntax and S-syntax. Evidence will come from causatives in Tagalog and Malagasy and from empty anaphors in Tagalog. When we investigate these two languages, issues that are obscure in many better-studied languages become clearer.

---

[1] Much of the material in this chapter appeared in Travis (2000b).

6.1   BACKGROUND

As we have already seen in Chapter 4, section 4.2.2.3, Hale and Keyser (henceforth H&K 1993) observe, following Clark and Clark (1979), that denominal verbs such as *shelve* appear in structures for which a near paraphrase containing the nominal exists. A typical example of such paraphrase pairs is given in (1).

(1)   a.   The librarian put the books on the shelf.
        b.   The librarian shelved the books.

They argue that, while traditionally such pairs would be related only through some morphological relationship within the lexicon, in fact the relation can be described using the vocabulary of syntax. Their argument is that, since denominal verb formation displays the same array of constraints as head movement, it is best accounted for through the same syntactic notions.[2]
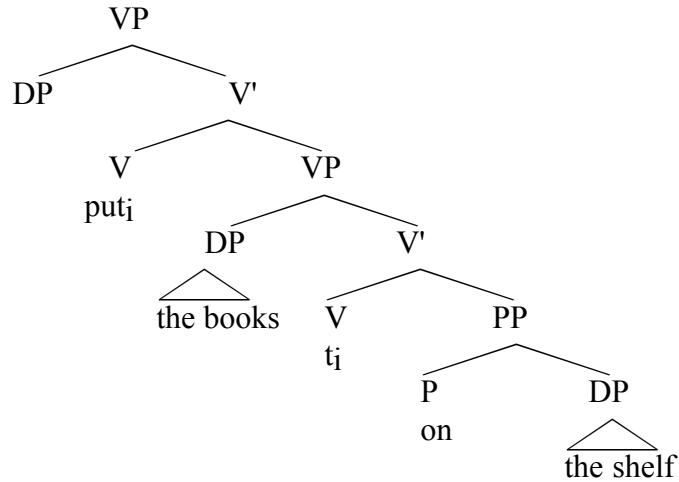
> Thus, for example, if established principles of syntax function to constrain denominal verb derivations, then the simplest assumption to make is that these derivations are, in fact, syntactic in nature. (H&K 1993: 54)

Given the pair in (1), one could imagine a derivation in which the two structures have similar underlying representations, but in the denominal form shown in (1b) there is head movement from the prepositional object position through the P to the V. The derivation would be as shown in (2) below (H&K 1993: 70).[3]
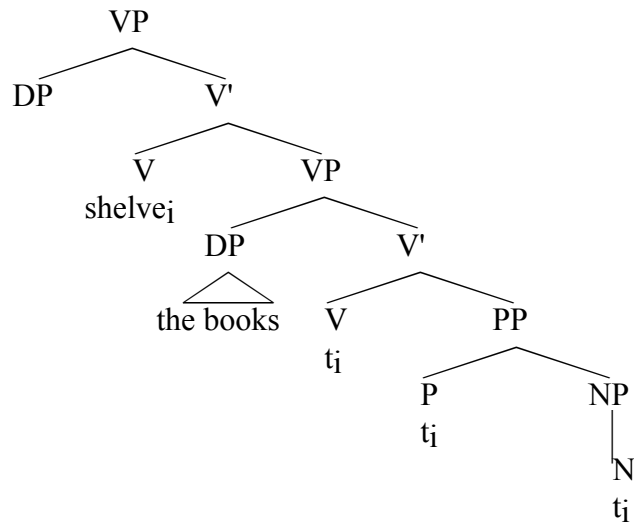
---

[2] I apply a combination of the framework presented in Hale and Keyser (1993) and Hale and Keyser (2002). Because the structures and processes I argue for are in several ways more compatible with the older work, I often use the trees, the terminology, and the account of Hale and Keyser (1993). However, on more minor issues such as the use of DPs rather than NPs, I follow Hale and Keyser (2002). I will discuss differences between the two accounts as they come up.

[3] Here I have updated the NPs to DPs. I have chosen not to use the representation in Hale and Keyser (2002) as there is no lower V in that structure (see Hale and Keyser 2002: 7). The morphology in the languages central to my research (e.g., Malagasy and Tagalog) suggest a need for two verbal heads.

(2) a.

```
                    VP
              ┌──────┴──────┐
             DP            V'
                      ┌─────┴─────┐
                     V            VP
                    putᵢ     ┌─────┴─────┐
                            DP           V'
                          ╱‾‾╲      ┌─────┴─────┐
                       the books   V          PP
                                   tᵢ     ┌────┴────┐
                                         P         DP
                                         on      ╱‾‾╲
                                              the shelf
```

b.

```
                    VP
              ┌──────┴──────┐
             DP            V'
                      ┌─────┴─────┐
                     V            VP
                  shelveᵢ    ┌─────┴─────┐
                            DP           V'
                          ╱‾‾╲      ┌─────┴─────┐
                       the books   V          PP
                                   tᵢ     ┌────┴────┐
                                         P         NP
                                         tᵢ         │
                                                    N
                                                    tᵢ
```

In Hale and Keyser (2002), syntactic movement is reserved for deadjectival verbs such as *to thin* and they use a different process, conflation, for denominal verbs. In my discussion of causatives, it is the deadjectival type of construction that interests me.

If H&K have succeeded in demonstrating that certain cases of verb formation are created through syntactic means, one might ask why it is not simply syntax. Why does the notion of an L-syntax have to be introduced? Not surprisingly, given that this process is generally considered to be a lexical rule, it is quite easy to argue that denominal verb formation has lexical characteristics. I use four diagnostics for lexical rules: change of category, semantic idiosyncrasies, phonological idiosyncrasies, and lexical idiosyncrasies

(nonproductivity).[4,5] In what follows, I will be looking at two different processes that may arguably occur in both L-syntax and S-syntax. My aim will be to examine the differences in the L-syntax and S-syntax uses of the construction to determine whether a principled distinction may be made between the two. Not surprisingly, my conclusion will be that there is a principled distinction. One process is idiosyncratic and therefore appears to happen in the lexicon; this will be the L-syntax version of the process. The other process is productive and therefore arguably happens in the computational system (i.e., syntax); this will be the S-syntax version of the process.

Other distinctions, however, must also be accounted for and it is the investigation of these that leads us to interesting results. One distinction involves a consistent difference in morphological realization in certain L-syntax and S-syntax processes. I claim that this difference is due to morphology that appears in E. The other is a principled account for what syntactic processes can and cannot occur in the L-syntactic component. This, I argue, follows from a view of event structure and a related view of phrase structure, which I will elaborate on later in the discussion.

6.2   CAUSATIVES

Causatives provide an obvious place to start looking at the lexical versus productive distinction.[6] I will begin by looking at the two causatives in English, arguing that the lexical causative is part of L-syntax and the productive causative is part of S-syntax.[7]

---

[4] One of the idiosyncrasies of denominal verb formation is that the verb must reflect the canonical use of the noun. For example, Kiparsky (1997) notes that *saddle* is a locatum verb and *corral* is a location verb because the canonical use of a corral is as a location and the canonical use of a saddle is in its appropriate position on a horse. He argues that it is this canonical use of the element and not syntactic structure that predicts possible denominal verbs. His arguments are convincing but I do not see that a syntactic account is precluded. The point would still be that the N → V shift (or, as we will see shortly, A → V) occurs in the syntax.

[5] Marantz discusses apparent lack of productivity. Marantz (2001: section 3) suggests that, in some cases, lack of productivity does not point to anything deep, but rather to accidental gaps. I still distinguish VP-internal processes, in which idiosyncratic processes are common.

[6] Shibatani (1976) provides a nice overview of the distinction.

[7] In fact, it may be that examples like *shelve* have become lexical. Note that we can say *Shelve the books on the windowsill*. In such a construction, it is difficult to see what the exact structure would be if it were to be derived through syntactic movement. This is one of the reasons why Hale and Keyser (2002: 71) derive denominal verbs by a different process, conflation. Deadjectival verbs, however, do not have this sort of doubling, supporting the idea that they may be derived in the syntax (Hale and Keyser 2002: 98). See Kiparsky (1997) for a typology of these constructions.

6.2.1 English

A clear example of an L-syntax causative in English comes from deadjectival verbs such as *to thin*. H&K use this verb to argue for an L-syntax operation, which, through head movement, incorporates an adjective into a verb, as shown in (3) (H&K 1993: 72).
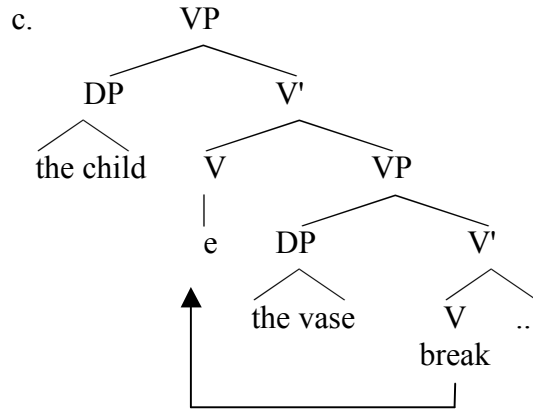
(3)   a.   The cook thinned the gravy.

          b.
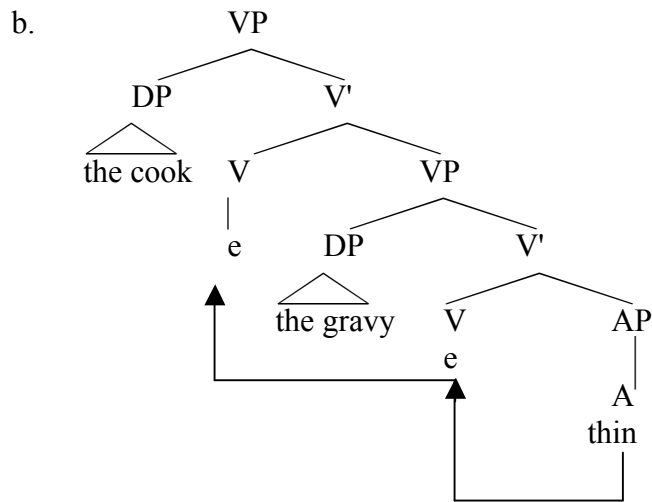
          c.   The cook (CAUSE) the gravy (BECOME) thin.

We can see the transitive verb *to thin* as containing sublexical items meaning something like 'cause' and 'become' and it is through these two empty V heads that the adjective *thin* moves. We can also assume that this process is used to account for transitivity alternations such as the one given in (4). The structure for (4b) is given in (4c).

(4)   a.   The vase broke.
          b.   The child broke the vase.

c.

```
                    VP
              ┌──────┴──────┐
             DP             V'
            ┌─┴─┐      ┌─────┴─────┐
        the child     V           VP
                      │      ┌─────┴─────┐
                      e     DP           V'
                          ┌─┴─┐       ┌──┴──┐
                      the vase        V    ...
                                    break
```

d. The child (CAUSE) the vase break.

The fact that these causatives are lexical (or part of L-syntax) is clear from their characteristics. As we can see in examples (5) to (7) below, they can change category,[8] they are semantically idiosyncratic, and they undergo lexical phonological changes.

(5) $[_A$ thin$]$ $\Rightarrow$ $[_V$ thin$]$

(6)   The make-up artist reddened the movie star's cheeks.
          $\neq$ The make-up artist caused the movie star's cheeks to redden.

(7)   The chef softened the butter.
          = sofnd
          $\neq$ softnd

Furthermore, it is not a productive process. As we will see later, only unaccusative verbs in the sense of Perlmutter (1978) can undergo lexical causativization. But as (8) below shows, not even all unaccusatives can be causativized in this way.[9]

---

[8] An alternative is that roots are category-neutral and all lexical category information is added syntactically (see Marantz 2001). Demirdache and Matthewson's (1995) work on Salish and my own work on Malagasy (Travis 2001) has convinced me that roots do have categorial information.

[9] One way of looking at this, however, is simply that *kill* is a suppletive realization of CAUSE-*die*.

(8)   a.   * They will appear the children.   (=They will cause the children to appear.)

         b.   * They died the plants.   (=They killed the plants.)

Productive causatives in English are formed by the addition of a causative verb such as *make*.[10] Unlike the lexical causative, the productive causative cannot trigger a change in category or any lexical phonological processes. The semantics are fairly predictable and the process is productive. So, for example, while the lexical causative could not apply to the unaccusative verbs given above, the productive causative can.

(9)   a.   They will make the children appear.

         b.   They made the plants die.

In English, then, we have the two types of causative that we want to study. The lexical causative is idiosyncratic in the expected ways and need not be indicated by overt morphology. The productive causative is always indicated by a separate lexical item and is productive with predictable results.

6.2.2 Tagalog and Malagasy

Tagalog and Malagasy also have two types of causative (we briefly looked at Malagasy causatives in Chapter 3, section 3.3.1.2), but they are more instructive than the English equivalent as both use affixation. In fact, I will argue that the morpheme used is exactly the same not only in Malagasy, as we have seen, but also in Tagalog. The difference in appearance is due, I argue, to a morpheme that always co-occurs with the productive causative morpheme but not with the lexical causative morpheme. I will provide evidence that the difference in behavior between the productive and lexical causatives has to do with where on the tree the morpheme is generated, since the position on the tree will determine whether the morpheme is part of L-syntax or S-syntax.

In Tagalog, the lexical causative is formed by adding the prefix *pag-* to the root. Some examples of the alternation already seen in Chapter 3, section 3.2.1, are repeated in (10).

---

[10] There are other causative verbs such as *cause* and *have,* which show the productivity of *make* but which have characteristics of their own, as described, for instance, by Ritter and Rosen (1993).

(10) Alternations (Maclachlan, 1989)

a.	**tumba**	X fall down	b.	**pagtumba**	Y knock X down
	sabog	X explode		**pagsabog**	Y scatter X
	luwas	X go to the city		**pagluwas**	Y take X to the city
	sabit	X be suspended		**pagsabit**	Y hang X
	sali	X join		**pagsali**	Y include X

Note that the morpheme *pag-* may be used even when there is no alternation, that is, when only the transitive form of the root exists. Thus, even though there is no form *luto* meaning something like 'X be cooked', there is a form *pagluto* meaning 'Y cook X'.

Within sentences, the forms given in (10) above are combined with another morpheme. In (11a) the other morpheme is *-um-* and in (11b) it is *n-*, which I assume to be an Actor Topic morpheme and a perfective morpheme, respectively, following Maclachlan (1989) and the discussion in Chapter 3.

(11)   a.   Tumumba   ang   bata   t-um-umba

            AT-PERF-tumba NOM child   um=AT; 0=PERF

            'The child fell.'

        b.   Nagtumba   ng bata   si   Rosa.   n-pag-tumba

            AT-PERF-pagtumba ACC child NOM Rosa   0=AT; n=PERF

            'Rosa knocked the child down.'

We have already seen that in Malagasy we can find similar alternations, also mediated by morphology. Again, my assumptions here, following Hung (1988), are that the inchoative form is *-i-* and the lexical causative is formed by the addition of *-an-*. The *m-* found in both members of each pair I analyze as an Actor Topic morpheme similar to the *-um-* found in Tagalog. Further, as in Tagalog, there are some forms that do not have an unaccusative counterpart such as *manome* 'Y give X to Z'. The forms are given in (12) with exemplifying sentences in (13).

(12) Alternations (Malagasy)

	a.				b.		

a. **mihisatra**   X move slowly   b. **manisatra**   Y move X slowly

    milahatra   X be in order   **mandahatra**   Y arrange X

    milona   X soak   **mandona**   Y soak X

    misitrika   X hide   **manitrika**   Y hide X

    No alternation:

                                      manome   Y give X to Z

(13)   a.   Nisitrika   tao   an-trano   izy   (Abinal and Malzac 1988: 612)

             PST.AT.hide   PST.there   ACC-house   NOM.3SG

             'He hid in the house.'

     b.   Nanitrika   ny vola   tao   an-trano   izy

             PST.AT.hide   the money   PST.there   ACC-house   NOM.3SG

             'He hid the money in the house.'

It is immediately clear that these causative alternations are lexical in nature. It can be argued, in Malagasy at least, that they always change category. Typically the roots are either nominal or adjectival in nature. Some examples of typical roots are given in (14).[11]

(14)   MALAGASY

     a.   hisatra$_N$ action of slowly moving

     b.   lahatra$_N$ organization

     c.   lona$_N$ action of putting in a liquid

     d.   sitrika$_N$ action of hiding

Also, there are clear cases of semantic drift. In Tagalog, the bare root *sabog* means 'to explode' while the causativized form means 'to scatter'. This has the result that one

---

[11] See Phillips (2000) for an extensive discussion of the use of roots in Malagasy. In the main Malagasy-French Dictionary (Abinal and Malzac 1988), which was first published in 1888, all roots are given a category label even though the root might never be used on its own.

form may be used in situations where the other one would produce a semantically odd sentence.

(15) TAGALOG

    a. Sumabog   sa Boston ang bomba

       AT-PERF-sabog in Boston NOM bomb

       'The bomb exploded in Boston.'

    b. # Nagsabog   ng   bomba sa Boston   ang   terorista

       PERF-pag-sabog ACC bomb in Boston   NOM terrorist

       cannot mean: 'The terrorist exploded the bomb in Boston.'

       gets the odd reading: 'The terrorist scattered the bomb in Boston.'

Further, it is clear in Malagasy that the causativizing suffix triggers a lexical rule of phonology rather than a postlexical rule. In a postlexical rule, such as reduplication, a nasal preceding a consonant triggers prenasalization. In the lexical rule that is triggered by the lexical causative affix, the result is fusion: the voiceless consonant drops.

(16) MALAGASY

  POST-LEXICAL (prenasalized consonant)

  n + p → ^{m}p   pentso**n**+**p**entson   pentso^m**p**entsona   N 'chatter'

  n + s → ^{n}ts   m+an+sampo**n**+**s**ampon   manampo^n**ts**ampona   V 'to stop'

  LEXICAL (fusion)

  n + p → m   ma**n** + **p**etraka   ma**m**etraka   'to put'

  n + s → n   ma**n**+**s**itrika   ma**n**itrika   'to hide'

Finally, the lexical causative, while more productive than in English, is not completely predictable. Some forms may appear with or without the prefix with no change in meaning, as example (17a) shows; some, where we expect the prefix because

the verbs have external theta-roles (i.e., are not unaccusative), do not have it, as (17b) shows.

(17) a. TAGALOG

hiwa or **paghiwa**   X cut/slice Y

b. MALAGASY

mividy   X buy Y

All of these characteristics simply confirm that this is a lexical causative rule with all the expected idiosyncrasies. The end result, however, is that there is a morpheme that is used in both languages that in many cases indicates a transitivity alternation (i.e., causativization) between two forms. Also, in both languages, this morpheme may be used simply to indicate a transitive (or agentive) structure even if there is no intransitive counterpart. In Tagalog, the lexical causative morpheme is *pag-* and in Malagasy it is *an-*.

(18)	INTRANSITIVE	TRANSITIVE (agentive)	(generally)
	(UNACCUSATIVE)	(LEXICAL CAUSATIVE)	
Tagalog	0	*pag-*	
Malagasy	*i-*	*an-*	

Both Tagalog and Malagasy also have another causative which is much more productive and predictable. As we saw in Chapter 3, in Malagasy, the productive causative appears to be formed by attaching the causative morpheme *amp-* to the stem, and we reanalyzed this morpheme as *an + f*. The examples in (19) show that the stem may either take the form of the lexical causative verb (*anitrika*) or the unaccusative verb (*isitrika*). It is clear that the productive causative (PC) morpheme can be attached to a form containing the lexical causative (LC) morpheme. This is shown in (19b').

(19) MALAGASY (*amp-*, or *an-* + *f-*)

	STEM		PRODUCTIVE CAUSATIVE	
a.	*misitrika*	'X hide'	*mampisitrika*	'Z make X hide'
b.	*manitrika*	'Y hide X'	*mampanitrika*	'Z make Y hide X'

b'.	*m*	+	*an*	+	*f*	+	*an*	+	*sitrika*
	M	+	PC	+	F	+	LC	+	ROOT

In Tagalog, the productive causative prefix is, for the most part, *pagpa-,* which I will argue is *pag* + *pa,* parallel to the Malagasy *an* + *f.*[12] What makes it different from Malagasy is the effect that the addition of this morphology has on the realization of the stem. Once the productive causative morpheme has been added, the lexical causative morpheme drops. This has the end result of collapsing the unaccusative form with the lexical causative form, thereby making the productive causative ambiguous between the two. In other words, when the productive causative morpheme *pagpa-* is attached to the stem *pagbukas*, instead of getting *pag-pa-pag-bukas*, the form is *pag-pa-0-bukas*, homophonous with the productive causative form of the unaccusative.

(20) TAGALOG (Actor Topic: *pagpa-*)

	STEM		PRODUCTIVE CAUSATIVE	
a.	*bumukas*	'X open'	*magpabukas*	'W make X open'
b.	*magbukas*	'Y open X'	*magpabukas*	'W make Y open X'

b'.	*m*	+	*pag*	+	*pa*	+	??	+	*bukas*
	M	+	PC	+	PA	+	LC	+	ROOT

Thus far, we have been looking solely at Actor Topic forms. In the Theme Topic form of the productive causative, however, where the Causee appears as the Subject/Topic, we get two interesting results. One is that the form of the productive

---

[12] The forms of the verb that do not surface as *pagpa-* will be very important to the discussion of the morphological analysis of the causative and will be looked at in more detail below.

causative morpheme changes from *pagpa-* to *pa-*. The second is that the lexical causative morpheme reappears on the transitive stem. This is shown in (21) below. Sentences are given showing the use of each form. With the morphological change of the verb comes a change of the Subject/Topic.

(21) TAGALOG (Theme Topic: *pa-*)

    a. pabuksan[13]   'X be made to open'   (see (20a))

    b. pa**pag**buksan   'Y be made to open X'   (see (20b))

    b'. ?? + pa + pag + bukas   + an

         PC + pa + LC + ROOT + ThemeTopic

The first observation suggests that the productive causative morpheme, in fact, consists of two morphemes, *pag-* and *pa-*, and the *pag-* drops in the Theme Topic form. Independent evidence for this analysis comes from the fact that the lexical causative morpheme *pag-* also drops in the Theme Topic form of the simple lexical causative. The relevant forms are given in (22) below.

(22) TAGALOG

    a. Actor Topic of lexical causative: *pagbukas* 'X opens Y'

    b. Theme Topic of lexical causative: *buksan*   'Y is opened by X'

While I will save the account of why the "top" *pag-* drops off in the Theme Topic form till section 6.4.2, we can now at least make the observation that *pag-* drop occurs with both the productive causative and the lexical causative, in particular forms.

This brief excursion into Tagalog morphology has left us with two results. One result is the realization that, underlyingly, Tagalog and Malagasy are quite similar. The productive causative morpheme may be attached to a form containing the lexical causative morpheme. In Tagalog, this fact is obscured by the null realization of the lexical causative when the productive causative is overt. The second result is that,

---

[13] There is a syncope in the root when a suffix is added.

because we are forced to reanalyze the productive causative morpheme in Tagalog as *pag-* and *pa-*, we can now see that at least part of the productive causative morpheme is identical to the lexical causative morpheme (*pag-* in both instances).[14] In fact, this is very similar to the analysis of the Malagasy productive causative, which I argued in Chapter 3 also consists of two morphemes, *an-* and *f-*. As proposed earlier for the morpheme *f-* in Malagasy, we will assume that the extra Tagalog morpheme *pa-* is generated in E. What distinguishes the productive causative from the lexical causative is where the causative morpheme is generated on the syntactic tree—productive causatives are generated above E and lexical causatives are generated below E.

(23)   a.   MALAGASY   b.   TAGALOG
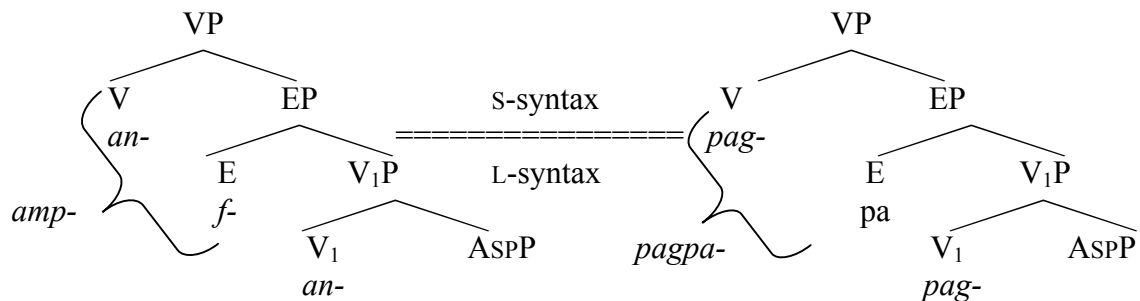
My account for these morphemes is basically a development of the analysis presented in Hung (1988), but I have used her results as a starting point to investigate the differences between L-syntax and S-syntax. We have seen that causatives divide nicely between L-syntax and s-syntax, but we would expect this distinction to show up in other areas of the grammar. We will see in the next section that Tagalog offers another phenomenon that shows the same split in properties.

---

[14] This analysis of causatives in Tagalog is not universally accepted. Many authors see the causative morpheme as unanalyzable. Schachter and Otanes (1972) simply list it as *magpa-* in the Actor Topic form and *pa-* in the Theme Topic form. Carrier (1979) breaks *magpa-* down into *mag-* and *pa-* but treats *pa-* as the causative morpheme and *mag-* as the Actor Topic morphology. Rackowski (2002) analyzes *pag-* as an anti-EPP marker found in voiceP, following some ideas expressed by Pylkkänen (2002). I will comment on Rackowski's analysis in section 6.4.3.

6.3   EMPTY ANAPHORS IN TAGALOG

In Tagalog there is evidence for an empty category that is obligatorily bound. Because it is empty but in a position that can be filled, I assume that this empty category is pro. Because it is obligatorily bound, I assume that it is anaphoric. Del Pilar (1993) argues that this anaphoric pro appears in productive (syntactic) causatives and has very particular characteristics which suggest that it has syntactic status (and is not simply pragmatically determined). As she points out, anaphoric pro also appears in some noncausative structures. In the next section, I develop her observations and conclude that anaphoric pro may be licensed by morphology that is added either in the L-syntax or the S-syntax. If it is licensed by the L-syntax morpheme, it shows the idiosyncrasies expected at this level. If it is licensed by the morpheme added in the S-syntax, however, its behavior is predictable.

6.3.1   S-Syntax Anaphoric pro

Del Pilar (1993) begins by introducing the productive causative in Tagalog, which we have already seen above. As we can see in (24a, b) below, the productive causative turns a two-argument predicate into a three-argument predicate with the addition of an Agent.[15]

(24) a.   Sumundo   si A   ng B
           AT-PERF-fetch NOMA   ACCB
           'A fetched a B.'

       b.   Nagpasundo   si K   kay A ng B
           AT-PERF-pagpa-fetch   NOMK   OBLA   ACCB
           'K caused A to fetch a B.'

       She notes further, however, that in the productive causative, one can leave out the third argument and get obligatory binding with the causer.

---

[15] I use del Pilar's data, which indicate arguments with letters. I have merely changed the letters in (24) to make the relevant argument structures clearer.

(25)   Nagpapuri   si A   kay B

       AT-PERF-pagpa-praise NOMA OBLB

       'A caused/let B (to) praise A's self.'

    This is unlike pro-drop in that the antecedent may not come from outside the sentence. So, for instance, (25) cannot mean that A caused or let B praise K. Furthermore, the empty category must exist in the syntax since it is able to control PRO in a control structure, as in (26b) below.[16]

(26) a. Nagpahikayat   si A   kay B ng K   na   bumili   ng   bahay

     AT-PERF-cause-persuade NOMA OBLB ACCK COMP AT-buy ACC house

     'A caused/let B (to) persuade K to buy a house.'

    b. Nagpahikayat   si A   kay B na   bumili ng   bahay

     AT-PERF-cause-persuade NOMA OBLB COMP AT-buy ACC house

     'A caused/let B (to) persuade **A** PRO to buy a house.'

   c. [$_{IP}$ nagpahikayat [$_{DP}$ si A]$_i$ kay B [$_{DP}$ pro]$_i$ [$_{CP}$ na [$_{IP}$ bumili PRO$_i$ ng bahay]]]

    In (26a), the third argument, K, controls the empty subject of the embedded clause. In (26b), this third argument is not lexically realized and the empty embedded subject appears to be controlled by the highest argument, A. Del Pilar assumes that the control facts are captured by assuming a syntactically active but not lexically realized third argument. This argument is an anaphoric pro that takes as its antecedent the highest argument, A. This is shown structurally in (26c) where A binds pro and pro controls PRO.

    What is interesting for my purposes, however, is that these forms cannot passivize (i.e., be put in the Theme Topic form), as (27) below shows.

---

[16] Some speakers find this construction odd, not because of the binding, but because they do not get object control structures; (26a) is also not possible for them. In dialects, then, that do not have object control, this cannot be tested. I am relying on data provided by del Pilar (1993). I am grateful to R. Mercado for discussion of these data.

(27)   Pinapagpuri   ni A   si B

      TT-PERF-papag-praise GENA   NOMB

      ≠ 'B was caused by A to praise B/A's self.'

At this point, we can make the following observations. With the productive causative morpheme, we can license an empty category that behaves like an anaphor in that it must be bound, and its antecedent must be the Agent in an Actor Topic construction.

What I will suggest in this section and hope to confirm in the next is that the anaphoric pro of Tagalog is similar to the long-distance subject-oriented anaphors of languages like Icelandic and Chinese. I argue that two conditions must hold in order for the anaphor to be licensed: the *pag-* morpheme must be overt, and the antecedent must be in subject position. Before turning to my account of Tagalog, I will briefly introduce one of the first accounts of long-distance anaphora.[17]

Pica (1987) investigates the problem of long-distance anaphora, using data from Scandinavian languages. His observation is that long-distance anaphors must be monomorphemic whereas local anaphors may be compound. This is very clear in Chinese, for example, where the long-distance anaphor is *ziji* and the local anaphor is *ta ziji*. In the Danish and Icelandic examples below, we see in (28a, b) that the long-distance anaphor may be bound by a DP that is outside of a small clause in (28a) and outside of an embedded (subjunctive) sentence in (28b). Example (28c) shows that this anaphor in Danish cannot take an object as its antecedent.[18]
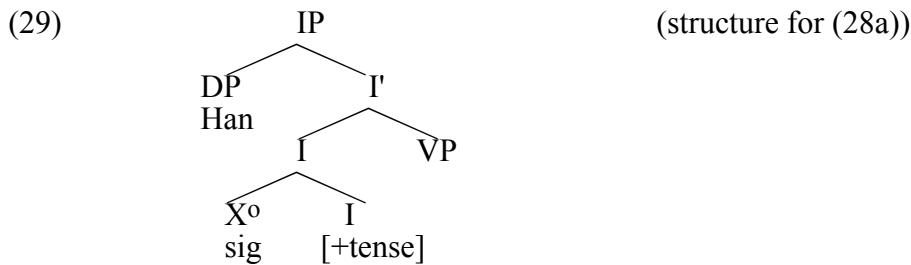

(28) a.   Han$_i$ betragter patienten som farlig for sig$_i$ DANISH (Pica 1987: 484)

        'He considers the patient as dangerous for himself.'

---

[17] The phenomenon of long-distance anaphora has been the topic of many papers. Some of the relevant references can be found in Cole et al. (2001). Pica's account is sufficient for my needs.

[18] These examples appear in Pica's paper without glosses. I have modified b) slightly. Joan Maling (p.c.) has pointed out to me that the original example *Jón$_i$ upplýsti að María elski sig$_i$* translated by Pica as 'Jon says that Mary love himself' has several problems with it. She also notes that the verb *upplýsa* means 'to inform rather that 'to say' but given that 'inform' requires an object, I have left the translation as 'say'.

b.   Jón$_i$ upplýsir að María elski sig$_i$ ICELANDIC (Pica 1987: 484)

'Jon says that Mary loves himself.'

c. * Jeg fortæller Hans$_i$ om sig$_i$ DANISH   (Pica 1987: 485)

'I told John about himself.'

Pica's account links the monomorphemic shape of the anaphor with the facts that it may be bound long-distance and that it is subject-oriented. He assumes that monomorphemic anaphors are X^{O}s rather than XPs. As X^{O}s, they move to INFL[19] at LF and in this position take the closest c-commanding DP, which is the subject, as their antecedent. In this account, the structure for (28a) would be as in (29).[20] Example (28c) is ungrammatical since the object will not c-command the anaphor at LF and therefore cannot act as its antecedent.

(29)   IP   (structure for (28a))

```
              IP
            /    \
          DP      I'
          Han    /  \
               I     VP
             /   \
           Xᵒ     I
          sig   [+tense]
```


Along the same lines as Pica, one could propose that the empty anaphor in Tagalog is an X^O which must move to INFL to be licensed; in the position of INFL, it can take only the subject as its antecedent. The question remains, however, why these forms cannot passivize (i.e., appear in the Theme Topic form) as in (27). Recall from our discussion of productive causatives above that the *pag-* morpheme in a productive causative disappears in the Theme Topic form. I hypothesize for the moment that it is this morpheme that

---

[19] In fact, the Xᵒ anaphors must move to INFL to be saturated. I refer the interested reader to Pica's article for more details. Whether or not this is the appropriate way to account for long-distance anaphora is actually not crucial to my analysis. It is only important to note that Tagalog anaphoric pro behaves like a long-distance anaphor in being subject-sensitive.

[20] In (28b), the anaphor would have moved to the higher INFL.

licenses the empty anaphor in INFL; if this morpheme is not lexically realized, then the empty anaphor cannot be licensed. This issue will be addressed again in the next section.

6.3.2 L-Syntax Anaphoric pro

What is interesting about the anaphoric pro found in the causative construction is that a similar phenomenon occurs in structures that do not contain a productive causative. Del Pilar points to a few examples in her paper such as the one in (30) below.

(30) a. Bumaril   si A   ng B

           AT-PERF-baril NOM A ACC B

           'A shot a B.'[21]

    b. Nagbaril   si A

           AT-pag-baril NOM A

           'A shot himself/herself.'

     Other verbs that allow this alternation, according to del Pilar, are *wash, shave, dress, clean, shoot, cure, hit/whip, shut in, blame, force, lose*.[22] Note that the Actor Topic form of the verb changes from the paradigm that shows *-um-* insertion (*b-um-aril*) to the paradigm that contains *n+pag* (*n+pag+baril*). In these cases of anaphoric pro, the fact that there is a missing argument seems to have as much to do with the meaning of the verb as with the construction in which the verb appears. In fact, many of the Tagalog verbs that allow a reflexive reading also allow a reflexive reading in English when the second argument is dropped, such as *wash* and *shave*.[23] On closer examination, however, we can see that what is crucial for the anaphoric reading of these verbs is not merely the choice of verb but also the syntactic configuration that it appears in. To show this more clearly, I turn to an article by Carrier-Duncan (1985), which discusses the issue in more depth.

---

[21] Accusative objects are invariably indefinite.

[22] Del Pilar does not give the Tagalog equivalents of these verbs. Since this process is so variable across speakers, it is difficult to know exactly which forms she had in mind.

[23] It is equally important to note, however, that other Tagalog verbs are quite different from their English counterparts. For example, while *wash* becomes reflexive when used intransitively in English, other verbs such as *hit*, *cure*, and *blame* do not. (*The child hit* cannot mean 'the child hit himself.')

Using lexical rules, Carrier-Duncan sets out to collapse two phenomena in Tagalog. She starts by describing Rule 1 and Rule 2. With Rule 1, the second argument of a verb appears to be bound to the first argument (this is similar to del Pilar's examples given in (30)). In (31a, b), we can see her description of the facts. She assumes that the verb form remains the same, but that the choice of topic paradigm changes. The verb in (31a) with no binding chooses the *-um-* form of the Actor Topic, while the verb in (31b) with the argument binding chooses the *mag-* form of the Actor Topic. The paradigm choice is indicated by the morphemes placed above each of the arguments in a theta-grid. For example, with the root √*hiwalay*, if the theme (highest argument) becomes the subject,[24] the morphology that appears on the verb is the infix *-um-*. If the source argument becomes the subject, the relevant affix on the verb is *-an*. In the form of the root that shows the binding effect, the verb form which surfaces when the highest argument (Theme) is the subject is a *mag-* form. Since the source argument in this form is always null (i.e., bound by the theme argument), it never appears as the subject so no morpheme is required.

(31)   *-um-*   *-an*
    a.   HIWALAY: (theme   source)
        'X separate from Y'

                                            mag-
    b.   HIWALAY: $(\text{theme}_i$ $\text{source}_{rec,i})$
        'X and Y separate
        from each other'

Rule 1, which binds the second argument with the first argument, can be used with other verbs such as *fight with*, *meet*, *see*, *converse*, and triggers a reciprocal reading, as shown in the Actor Topic constructions below.[25]

---

[24] Carrier-Duncan assumes that this promotion of arguments via verbal morphology is a process of topicalization and not a process of promotion to subject. So as not to confuse the reader, I describe and gloss the Tagalog data in a way that is consistent with my view of this process. In doing so, I depart from Carrier-Duncan's original characterization of these facts. Further, I continue to refer to the *-um-* and *mag-* forms as Actor-Topic forms, and the *-in* forms as Theme-Topic, as is done in the Austronesian literature. In my analysis of the Austronesian morphemes, they designate subjects not topics.

[25] Carrier-Duncan also gives only the English translations and not the relevant Tagalog roots.

(32) a. H-um-iwalay   sa kaibigan ang bata   (adapted from Carrier-Duncan)

     AT-PERF-separated   *SA* friend   NOM child

     'The child separated from his friend.'

   b. Nag-hiwalay   ang mga kaibigan

     AT-PERF-*PAG*-separated NOM PL   friend

     'The friends separated from each other.'

Carrier-Duncan's conclusion, then, is that by changing from the *-um-* Actor Topic paradigm to the *mag-* Actor Topic paradigm, the verb triggers the binding of the second of its arguments by the first of its arguments. The result is that a two-argument verb becomes a one-argument verb with a reciprocal interpretation.

Rule 2 applies to three-argument verbs and binds the third argument to the second argument. Once again, according to Carrier-Duncan, the rule does not add morphology to the verb, but it does affect the choice of paradigm for topic morphology. Without the binding, the Theme Topic morphology is *i-*, but with the binding, this morphology is *-in* (again shown by the morphemes listed over the respective theta-grids).

(33)   *mag-*   *i-*   *-an*

     a.   SAMAH   (agent   theme   goal)

         'X puts Y with Z'

                             (mag-)   *-in*

     b.   SAMAH   (agent $theme_i$ $goal_{rec,i}$)

         'X put Y and Z together'

Other verbs that can undergo this process are *join* (X joins Y and Z to each other), *paste* (X pastes Y and Z to each other) and *put* (X puts Y and Z near each other). As shown in the examples below, the resulting meaning is again reciprocal.

(34) a. I-sasamah   ang karne sa gulay   ng   magluluto

        TT-IMP-put   NOM meat   *SA* vegetables *GEN* cook

        'The cook will put the meat with the vegetables.'

                              (adapted from Carrier-Duncan)

    b. Pag-sasamah-in   ang karne at   gulay   ng   magluluto

        PAG-IMP-put-TT   NOM meat and vegetables *GEN* cook

        'The cook will put the meat and vegetables together (with each other).'

The verb forms undergoing Rule 2 are the most interesting at this point because of the restrictions placed on them and a morphological quirk that they show. Note first that the morphological paradigm given for these verbs has the Actor Topic form (*mag*-) in parentheses in (33b). It is in parentheses because this verb form never appears in an Actor Topic construction, but only in a Theme Topic construction. Carrier-Duncan explains this as follows:

> For subclass 2 [verbs undergoing Rule 2], the [**Actor Topic**] **form is not used in a sentence**, a quirk shared by a few nonderived verbs as well. However, the [Actor Topic] form exists since it **serves as the stem to which the** [**Theme Topic**] **suffix -in** is added (causing *mag*- to show up as *pag*-) (Carrier-Duncan 1985: 15) (emphasis added)

It is strange that the derived verb form is part of a small idiosyncratic verb class when the nonderived form behaves normally. Another way to explain this fact, however, is to say that there is a syntactic restriction on the binding relation and that the antecedent must always be in the subject position. This is central to my account.

There is a further oddity to be noted. A strange morphological fact about these verb forms is that the *pag*- from the Actor Topic form remains in the Theme Topic form (and Carrier-Duncan cites this as the reason why she knows that the Actor Topic form is *mag*- even though it is unattested). This retention of *pag*- in the Theme Topic form is unlike both the productive causative *pag*- and the lexical causative *pag*-. It is certainly unlike any other paradigm of topic morphology. To see this more clearly, let us look more closely at the paradigm choice for the bound forms described in (33b). The paradigm

chosen by these verbs is *mag-* for Actor Topic (which, in fact, never surfaces) and *-in* for Theme Topic. While most nonderived verbs that take *-in* for Theme Topic take *-um-* for Actor Topic, there are some verbs that take *mag-* as Actor Topic and *-in* as Theme Topic. When they do, however, the *pag-* predictably disappears in the Theme Topic form. A few examples of this are given below. In fact, returning to (34a) above, we see that *m+pag* is not realized on this form of the same root (cf. (34b)).

(35)   AT   TT

'pray'	*magdasal*	*dasalin*	**pagdasalin*
'water'	*magdilig*	*diligin*	**pagdiligin*
'mix'	*maghalo*	*haluin*	**paghaluin*

The paradigm for the Rule 2 verbs, then, is odd for two reasons. The Actor Topic form never surfaces, and the Theme Topic form retains the *pag-* morpheme. In fact, though it is not as clear in the case of the Rule 1 verbs, we can make a generalization that the antecedent will always be the subject in both sets of verbs (forcing the Rule 2 verbs to appear in the Theme Topic form), and the *pag-* must always be present (forcing the unexpected Theme Topic form of the Rule 2 verbs).

These characteristics now make Carrier-Duncan's reciprocal verbs (e.g., (32b) and (34b)) look very similar to del Pilar's productive causative reflexive constructions (e.g., (25)) and the lexical reflexive verbs (e.g., (30b)). In all of these cases, the antecedent must be the subject and the *pag-* must be lexicalized. To try to relate these data to Pica's analysis of long-distance anaphora, I will assume that the empty anaphor in Tagalog is a head (perhaps nonhead anaphors in Tagalog must be lexically realized) and it moves to an INFL (or T position) that contains a phonetically realized *pag-*. This would explain the obligatory presence of *pag-*. In the T position, the anaphor may have only the subject as its antecedent. We can then propose the structures below for anaphoric binding in the four types of verb we have been discussing: productive causatives, lexical reflexives, lexical reciprocals (Rule 1), and lexical reciprocals (Rule 2).[26]
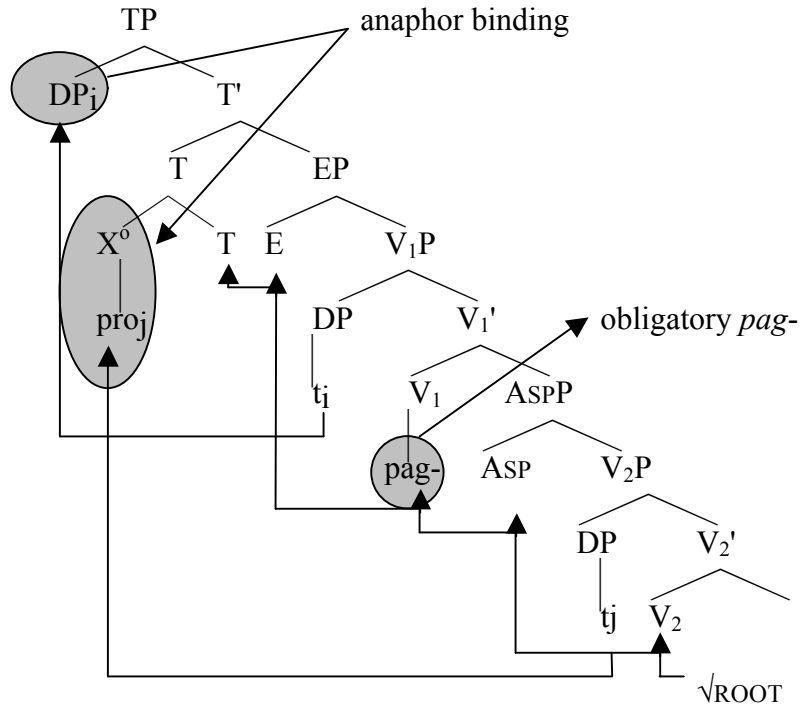
---

[26] An alternative would be the one presented in Reinhart and Reuland (1993). What I have been calling anaphoric pro would be an SE (Simplex Expression) in their terms. They would specify the L-syntax cases as being reflexive roots but I am not sure how they would ensure the right binding relation.

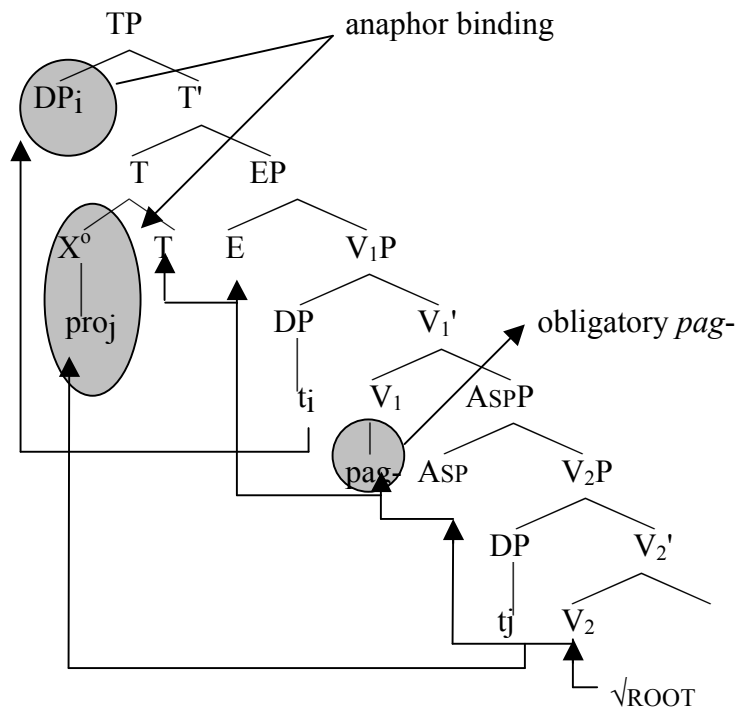(36) a.   PRODUCTIVE CAUSATIVES (del Pilar)

---
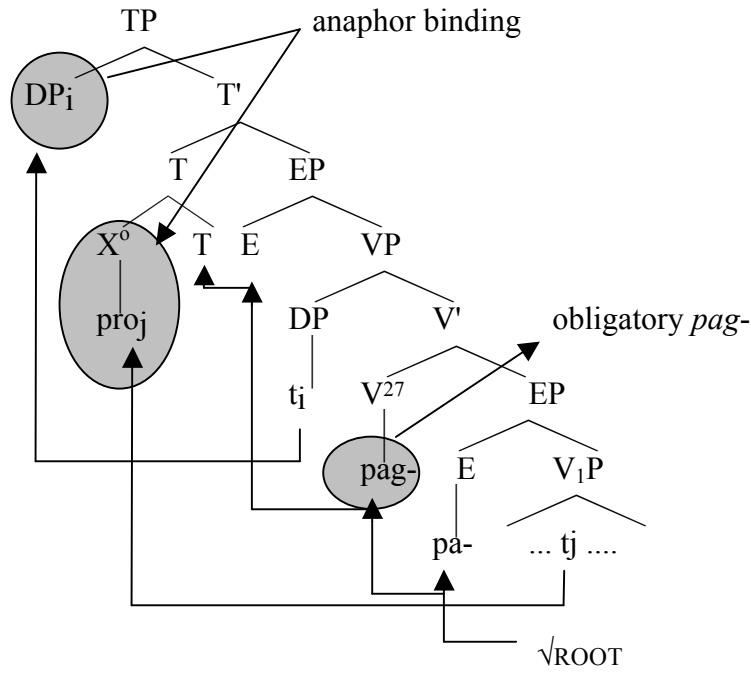
[27] I have not indicated whether the productive causative *pag-* is a V_1 or a V_2. We will see shortly that it acts like a V_1 in terms of morpheme deletion, and it has the same form as the lexical causative V_1. Then the question arises as to whether there is a V_2 that selects for EP. I'm assuming that there is but have no firm grounds at this point and therefore shall not include it. I will leave this V unspecified throughout.
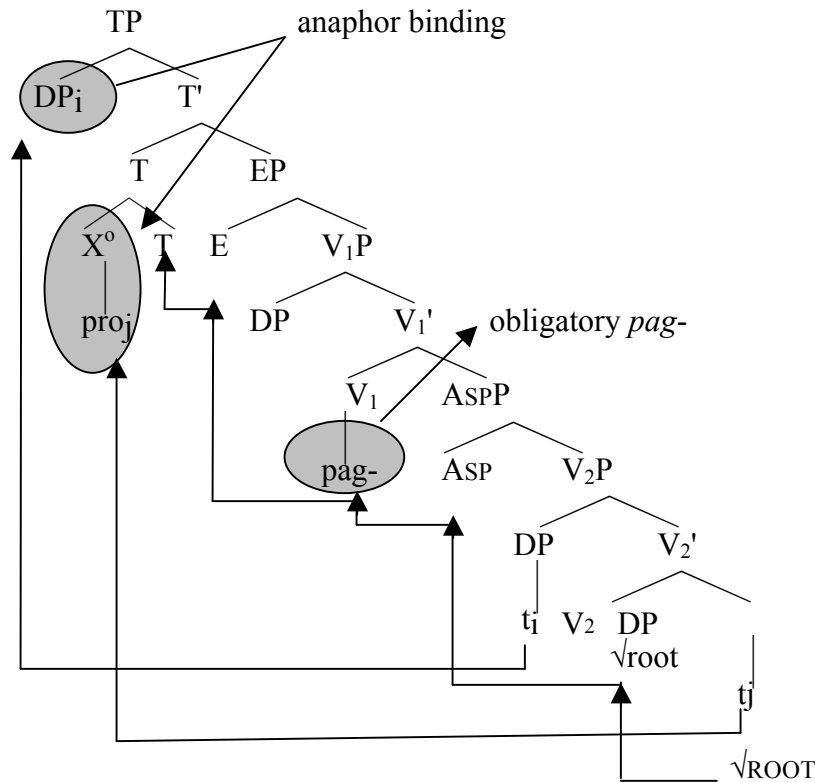
b. LEXICAL REFLEXIVES (del Pilar)

TP anaphor binding

DPᵢ

T'

T EP

T E V₁P

X⁰

projⱼ

DP V₁'

tᵢ

V₁ AspP

obligatory *pag-*

pag- Asp V₂P

DP V₂'

tj V₂

√ROOT

c. LEXICAL RECIPROCAL VERBS (Rule 1: Carrier-Duncan)

TP anaphor binding

DPᵢ

T'

T EP

T E V₁P

X⁰

projⱼ

DP V₁'

tᵢ

V₁ AspP

obligatory *pag-*

pag- Asp V₂P

DP V₂'

tj V₂

√ROOT

d.   LEXICAL RECIPROCAL VERBS (Rule 2: Carrier-Duncan)

This analysis is an attempt to account for what these phenomena have in common. There are ways in which they differ, however. In the spirit of this chapter, I feel that the most appropriate way to categorize the binding cases we have seen is to put the productive causative on one side (36a) and the lexical type binding on the other side (36b, c, d). This means putting Carrier-Duncan's Rule 1 and Rule 2 cases together with the lexical reflexive examples given by del Pilar. These would all be cases of the L-syntax use of the anaphoric *pag-*. The productive causative cases would be S-syntactic uses of the anaphoric *pag-*.

It is easy to see that the L-syntax examples show L-syntax characteristics. Not all verbs can undergo this process. In other words, only certain verbs may add a *pag-* to their stems and thereby bind one argument with another, and that list of verbs varies from speaker to speaker. Further, which argument is the bindee and which the binder must be determined verb by verb. In some cases, the Agent binds the Theme, while in other cases,

the Theme binds the Source, as in (31), or the Theme binds the Goal, as in (33).[28] Finally, the verb must determine whether the anaphoric pro will be a reciprocal (as in Carrier-Duncan's examples) or a reflexive (as in del Pilar's examples).

The productive causative form of anaphoric *pag-* shows none of these idiosyncrasies. All productive causatives can license the empty anaphor, and in every case the anaphor will be interpreted as a reflexive.

Once again, as with the causative, we have the same morpheme creating essentially the same effect. The differences are determined solely by the position that the morpheme is placed in. If the morpheme is above E (as in (36a)), it acts like a lexical item on its own which has consistent properties. If it is below E (as in (36b, c, d)), its behavior may be determined by the lexical item of which it is a part, accounting for its idiosyncratic nature. What is important to note, however, particularly with respect to the licensing of the empty anaphor, is the close connection with syntax. Causative formation creates complex words with complex argument structure—both processes that can arguably be kept within the lexicon. The setting up of anaphoric relations has much more of a syntactic flavor to it, however, as it relates to XPs and is sensitive to the grammatical relation (subjecthood) of the antecedent. This provides further support for the syntactic side of L-syntax. In the next section, I will look more closely at the nature of L-syntax.

6.4   WHERE AND WHAT IS L-SYNTAX?

L-syntax is assumed to have some characteristics of the lexicon (category changing, idiosyncrasies, etc.) and some characteristics of syntax (head movement), but the question remains as to where it is located in the grammar.[29]

---

[28] There seem to be some restrictions on this since the binder is always higher in the theta-hierarchy. While one might argue that this makes this binding look like a lexical process and not a syntactic process, the fact that the binder must also be the syntactic subject must be explained. I am assuming that syntax is the obvious place to find such an explanation.

[29] Butt and Ramchand (2005) use the term first-phase syntax. This is similar but not identical to L-syntax. I leave it to the reader to make a comparison.
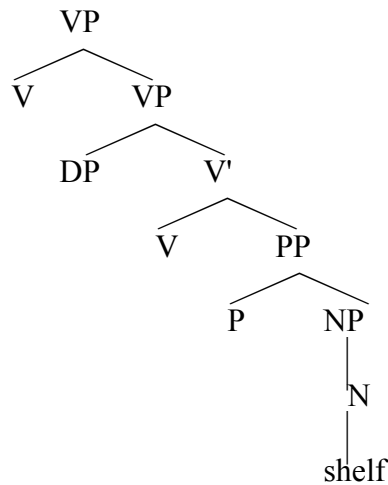
6.4.1 Syntax in the Lexicon

Hale and Keyser (1993) appear to want at least a bit of the syntax to appear in the lexicon. This would mean that, for denominal verbs such as *saddle* and *shelve*, the lexical entry would include a phrase structure tree. They put it as follows (H&K 1993: 95).

> [i]n thinking about this [the idiosyncrasies of denominal verb formation], we have taken the conservative view and assumed that this array of facts compels us to suppose that the lexical entry for *shelve* includes at least the full syntactic structure depicted in [(37)].

In being conservative, they keep the idiosyncratic information within the lexicon. But, given that there are syntactic components within their account, this forces them to put a bit of syntax in the lexicon as well. The lexical entry for the verb *to shelve* would then be as in (37) (Hale and Keyser 1993: 74).

(37) = (H&K: 74)

```
                        VP
                       /  \
                      V    VP
                          /  \
                        DP    V'
                             /  \
                            V    PP
                                /  \
                               P    NP
                                    |
                                    N
                                    |
                                  shelf
```

No distinction is made, however, between the syntax that occurs in the lexicon and the syntax that occurs in the computational component.

> The "structures" implicated in that usage [Lexical Relational Structure] are simply syntactic structures expressing such normal syntactic structural relations as "head," "specifier," and "complement." And they are present in the syntactic representations over which normal syntactic processes and principles are defined. The qualification "lexical" refers to the property that the argument structures of verbs are "listed" in the lexicon, perhaps in

the manner suggested by the conservative view of lexical entries. ((H&K 1993: 97)

Here I choose to follow a different approach.[30] Rather than assuming that a bit of syntax has slipped into the lexicon, I would like to explore the possibility that a bit of the lexicon has slipped into the syntax. This approach will be outlined below. Before doing that, however, I would like to begin with a problem that H&K raise. This problem arises with the ungrammatical sentences in (38). I also give H&K's characterization of the problem.

(38)   a.   *   The clown laughed the child. (i.e., got the child to laugh)
       b.   *   The alfalfa sneezed the colt.   (i.e., made the colt sneeze)

These sentences represent an extremely large and coherent class of impossible structures in English. In particular, unergative VPs cannot appear as complements of V in LRS representations—that is, an unergative may not appear in the lexical syntactic "causative" construction. (H&K 1993: 74–75)

In other words, if a zero causative morpheme can be added to (unaccusative) intransitives such as *melt* and *break* to form causative counterparts, why can this not be done with unergative verbs like *laugh* and *sneeze*? Since both of these verbs may undergo productive causativization, as the intended meanings show, this question can be reworded as: what is the boundary of L-syntax?

H&K's answer to this question depends on their conception of external argument. They assume that external arguments are truly external and can only be added in the syntax (through either predication or the introduction of functional categories and their requirements). External arguments, then, are not generated in the Spec, VP position through the argument requirements of the verb.

---

[30] As mentioned earlier, Hale and Keyser (2002) present a slightly different picture. English denominal verbs are derived through conflation rather than syntactic movement, while English deadjectival verbs are derived through head movement, and in the syntax. In both cases, however, there is complex structure in the syntax.

This solves the problem raised in (38). Since the external arguments of *laugh* and *sneeze* are added in the S-syntax, they cannot be made into internal arguments by additional L-syntax morphology. In other words, at the point where L-syntax applies, these verbs have no arguments. The addition of the causative, then, cannot create a two-argument verb.

For independent reasons (see the discussion of the Malagasy *maha*- forms in Chapter 7), I assume that external arguments are part of the verb's lexical entry, so I must look for a different solution. My proposed solution solves the problems raised by the data in (38) as well as providing an account of causative morphology in Tagalog and Malagasy productive causatives.

6.4.2 Lexical Entries in Syntax

It would be very nice if we could find evidence that L-syntax has to be part of the computational component. Hale and Keyser's strongest argument was that denominal and deadjectival verb formation appear to be restricted by the Head Movement Constraint, arguably a restriction on syntactic movement. However, if L-syntax is truly syntax, we expect to see other types of syntactic effects. In this section, I argue that we have evidence of Spec, Head relations at the level of L-syntax. It is difficult to argue that Spec, Head relations *cannot* be captured by information added in the lexicon.[31] I will suggest, however, that this is most easily done in the computational component.

The data relevant to this argument involve the *pag*- drop that we have already seen in the discussion of Tagalog causatives. We have seen two different cases of this in the productive causative. First we saw that if the productive causative was added to a lexical causative, the lexical causative morpheme *pag*- dropped. This is shown again in (39) and (40) below;[32] (39) shows this schematically while (40) gives a relevant example.

---

[31] This can be done by having a feature introduced on morphology added in the lexicon and then having a condition on the syntactic configuration in which this feature must appear.

[32] Data were provided by Raph Mercado.

(39)   Productive Causative   (Causer = Topic)

   m + **pag** + pa + **??**   + √bukas   ' to cause to open_{TRANS}'

   M + PC   + E + LC   + ROOT

(40) a. *magbukas* 'open_{TRANS}'

   Nagbukas   si   Pedro ng   kahon

   PST.*PAG*.open NOM Pedro ACC box

   'Pedro opened a box/boxes.'

  b. *magpabukas* 'permit/cause to open_{TRANS}''

   Magpabukas   ako kay Pedro ng   kahon

   PST.*PAG.PA*.open 1S *KAY* Pedro ACC apple

   'I had Pedro open a box/boxes.'

  c. pag - pa - 0_{pag} - √

   If, however, the Theme Topic form of the productive causative is used (meaning that the causee is the Subject/Topic), then the lexical causative morpheme reappears, but the productive causative *pag-* is dropped.

(41) Productive Causative (Causee = Topic)

   papagbuksan 'Y is made to open X by W'

   ??   + pa + **pag** + bukas + an

   PC   + E + LC   + root   + ThemeTopic

(42) a. Pinapagbukas   ko   si Pedro ng   kahon

   PST.*PA.PAG*.be.with GEN.1S *SI* Pedro ACC   box

   'I had Pedro open a box/boxes.'

  b. 0_{pag} - pa - pag - √

As we have seen, a similar phenomenon occurs with the lexical causative alone. In the Actor Topic form of the verb, the lexical causative is overt as in (43a). In the Theme Topic form, however, the lexical causative morpheme drops.

(43)   LEXICAL CAUSATIVE

    a.   ACTOR TOPIC

       pagbukas   'X opens Y'

       pag +   bukas

       LC   +   ROOT

    b.   THEME TOPIC

       buksan   'Y is opened by X'

       ??   +   bukas +   an

       LC   +   ROOT   +   Theme Topic

The chart in (44) summarizes these facts and correlates *pag-* drop with the overt realization of arguments. *Pag1* is the lexical causative while *pag2* is the productive causative. Agt1 is the Agent of the lower (or sole) verb, Agt2 is the Agent of the productive causative. Note that when Agt1 is external, *pag1* is overtly realized. When Agt2 is external, *pag2* is realized. Ross (1993) captured this fact by saying that the Agent that is promoted to the subject position must be related to an overt cause morpheme.

(44)   a. AT: lexical   pag1 - √   (Agt1 external) (Th in place)

     b. TT: lexical 0_{pag1} - √   (Th external)   (Agt1 in place)

     c. AT: productive **pag2** - pa - 0_{pag1} - √   (Agt2 external) (Agt1 in place)

     d. TT: productive 0_{pag2} - pa - **pag1** - √   (Agt1 external) (Agt2 in place)

Example (45a) is the most telling case. With this form of the verb, the Theme of the lower predicate moves to the matrix subject position. Since neither Agent has become the subject, neither *pag-* is realized.

(45) a. Pinabuksan ko   kay Pedro ang kahon (Schachter and Otanes 1972: 328)

      PST.*PA*.open GEN.1S *KAY* Pedro NOM   box

      'I had Pedro open the box.'

    b. 0_{pag} - pa - 0_{pag} - √

The generalization, then, that we want to be able to capture is the relation of syntactic movement of an argument to the subject position in Tagalog and the appearance of the related *pag-* morpheme.

Ross's observation is that, when the relevant Agent moves, then the related *pag-* morpheme is overt (46a). Looking at it a bit differently, when the relevant Agent has not moved, the morpheme must be covert (46b). To put this in terms of a filter, we could formulate the generalization as (46c).[33]

(46) a. [t_{AGENT} [pag-]]

    b. [Agent [0_{pag-}]]

    c.* [Agent [pag-]]

This is reminiscent of the Doubly Filled Comp Filter in English, which rules out a relative pronoun from appearing with the complementizer *that,* thereby accounting for the following pattern.

(47)   a. * the children [who [that [I know t]]]

     b.   the children [who [e [I know t]]]

     c.   the children [e [that [I know t]]]

     d.   the children [e [e [I know t]]]

Sportiche (1990, 1998) generalizes this restriction to other cases of Spec, Head realization and proposes a Doubly Filled Voice Filter.

---

[33] In fact, we would also have to rule out the possibility of having both the head and the Spec empty. I assume that this is due to a problem of recoverability of information.

(48) DOUBLY FILLED VOICE FILTER (Sportiche 1998: 273)

$$*[_{HP} \text{ XP } [H \ldots]]$$

where H is a functional head licensing some property P

and both XP and H overtly encode P.

In his paper, this filter is intended to account for language variation in clitic doubling. If a language does not allow clitic doubling, then in that language both the Spec and the head (clitic) encode some relevant property, perhaps Case. Regardless of exactly how this prohibition on double realization is achieved, it seems that the overt realization of *pag-* above should be part of the same phenomenon.[34] The overt realization of *pag-*, then, is sensitive to what is in its Spec position. If the Doubly Filled Voice Filter is part of syntax, it seems that *pag-* drop must also be part of syntax. Further, as I assume that externalization of arguments in Tagalog is a syntactic rather than a lexical rule (contrary to, e.g., Travis and Williams 1982), one could say that *pag-* drop is sensitive to a syntactic rule.
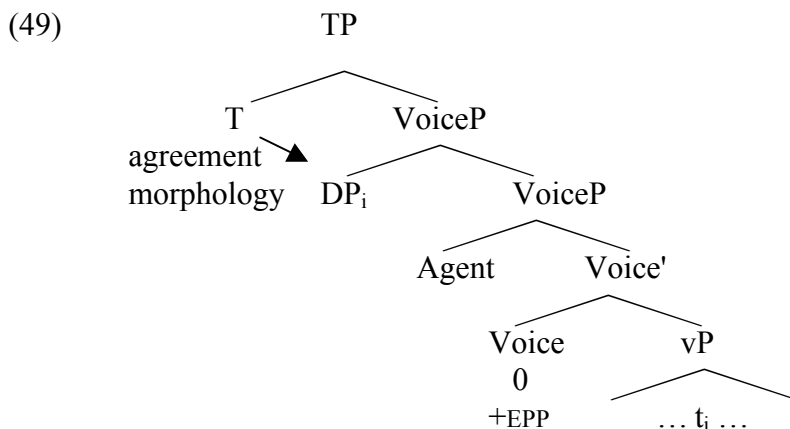
Of course there is always an alternative. One could always say that *pag-* is optionally added in the lexicon, creating all of the possible combinations. Once the form was introduced in syntax, however, and the features that *pag-* was generated with were checked in the relevant heads, then something similar to (48) could be applied, checking the contents of Specs and the feature content of heads, all with the same effect. In other words, what I am claiming happens in syntax could, with some technology, be applied in the lexicon. Further, Anderson (1974) discusses similar cases, which he calls "disagreement," where agreement morphemes in Abkhaz are sensitive to the position of the relevant arguments. If the argument is adjacent to the verb, the agreement is deleted. If the argument is not adjacent (for example, if it has scrambled or there is an intervening adverbial), then the agreement form must be realized. Presumably this too can be

---

[34] A concern I have is that this sort of doubling or lack thereof occurs with functional categories, while I have been arguing that *pag-* and what it stands for is a lexical category. Others, however, such as Bowers (1993), Chomsky (1995), Harley (1995), and Kratzer (1996) would base-generate the subject in the Spec of a functional category. These facts from Tagalog could be used as an argument in favor of their view of phrase structure and against mine. I nevertheless maintain that V_1 is a lexical category, as discussed in Chapter 1

captured in the morphological component. I stand by the claim, however, that this Spec, Head effect looks syntactic enough to at least lead one to suspect that L-syntax is part of the computational component. We will see other examples later of lexicon-like behavior of syntax, but now I shall discuss an alternative syntactic account for the appearance of *pag-*.

6.4.3 Pag- as an Anti-epp Morpheme

Rackowski (2002) presents a very different view of the function of *pag-* that is quite difficult to distinguish in its effects from the one presented here. As noted above, the distribution of *pag-* can indicate what acts as the highest syntactic argument (the highest argument of the event introduced by *pag-*) or what is *not* acting as the highest syntactic argument (any other, necessarily lower, argument). I have chosen to follow the first direction, whereas Rackowski follows the second. In Rackowski's account, *pag-* is in the head of Voice, which is just above v in her structure. It alternates with a zero morpheme that has an EPP feature which forces movement of the closest DP that it c-commands. This means that, when *pag-* is absent (i.e., the morpheme is zero), a DP other than the highest semantic argument has been moved above this highest argument. It is this other argument (*not* the Agent) that will behave as the highest syntactic argument. One of the behaviors of this highest syntactic argument, according to Rackowski, is that the verbal morphology agrees with its function, accounting for the voice morphology on the verb. The tree below gives the flavor of her account.

(49)

```
                        TP
                   ╱        ╲
                 T           VoiceP
            agreement ◤    ╱        ╲
            morphology   DP_i        VoiceP
                               ╱        ╲
                           Agent        Voice'
                                      ╱       ╲
                                  Voice         vP
                                    0          ╱  ╲
                                  +EPP      … t_i …
```

As mentioned earlier, it is very difficult to find empirical differences since one account focuses on what has moved, and the other focuses on what has not moved. I provide one set of data that may be used to support my account of *pag-* deletion. However, I concede that the EPP account is an interesting alternative.

In Chapter 2, section 2.5.3, we saw cases of NOMINATIVE-3RD (N3) languages, such as Kalagan and in Chapter 3, section 3.4, I suggested an account for these structures using partial A-movement. Rackowski's account of Tagalog depends on the highest syntactic argument moving to a position above the highest semantic argument when *pag-* is not present. The actual position of movement is difficult to determine in Tagalog, which has fairly free word among the elements that appear postverbally. Recall that N3 languages have the following word orders (e.g., Pangasinan, adapted from Mulder and Schwartz 1981: 244); the DP in bold is the subject.
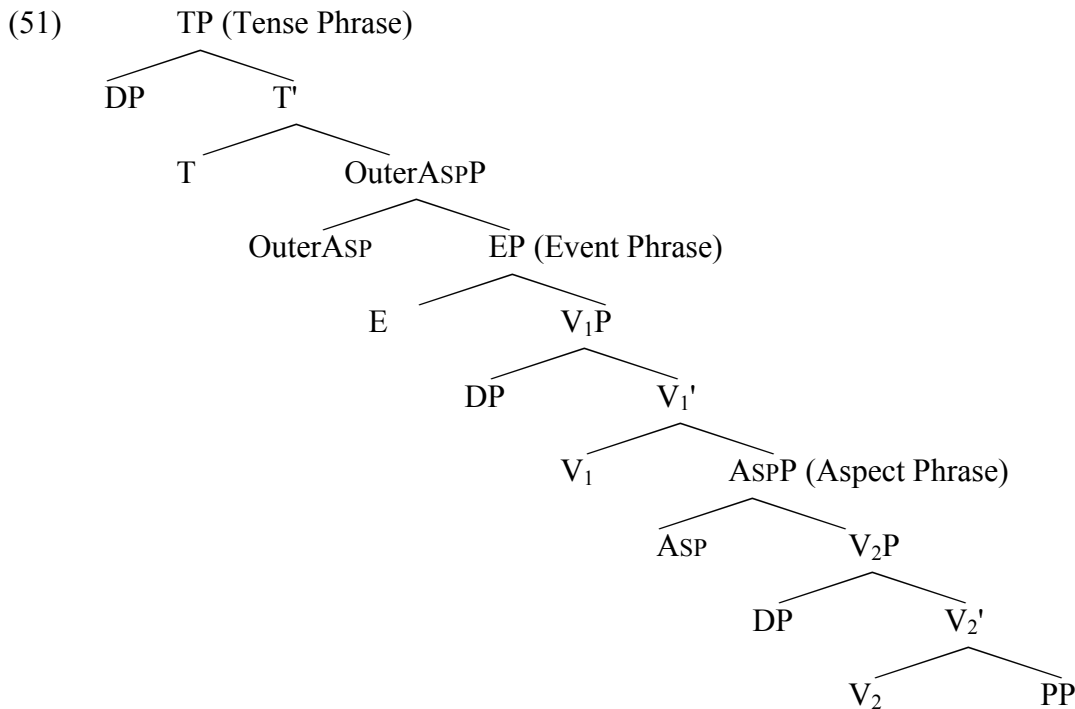
(50) Pangasinan: V – (Actor) – Subject

a.	V	**Act**		Pat	Rec	Ben	Instru	Loc
b.	V	Act	**Pat**	—	Rec	Ben	Instru	Loc
c.	V	Act	**Rec**	Pat	—	Ben	Instru	Loc
d.	V	Act	**Ben**	Pat	Rec	—	Instru	Loc
e.	V	Act	**Instru**	Pat	Rec	Ben	—	Loc
f.	V	Act	**Loc**	Pat	Rec	Ben	Instru	—

There are two reasons why it would be difficult to extend Rackowski's account to N3 languages: (i) the verb will not agree with the closest DP, and (ii) the DP will not have moved across the external argument, suggesting that it cannot be an EPP feature that is at work. Note that verbal morphology in this language agrees with the DP in bold. I refrain from extending Rackowski's account to these data, but some nontrivial changes would have to be made to account for the similarity of the distribution of *pag-* and the voice morphology on the verb.

Now I will turn to some questions concerning L-syntax and, more generally, the role of the lexicon.

6.5   L-SYNTAX AND THE LEXICON

The phrase structure that I have been arguing for is given in (51).

(51)

```
          TP (Tense Phrase)
         /        \
       DP          T'
                  /    \
                 T      OuterAspP
                       /      \
                 OuterAsp      EP (Event Phrase)
                              /     \
                             E       V₁P
                                    /    \
                                  DP      V₁'
                                         /    \
                                        V₁     AspP (Aspect Phrase)
                                              /      \
                                            Asp       V₂P
                                                     /    \
                                                   DP      V₂'
                                                          /    \
                                                        V₂      PP
```

In this section of the chapter, I have been arguing that what happens below E is both similar to and different from what happens above E. The same morpheme may be added both below and above E. Some of the effects of this morpheme addition are the same in both cases: the V_1 morpheme may add an extra Case and an extra external argument. Some of the effects of this morpheme addition are different: the productivity, phonology, and meaning of the morpheme may not be predictable below E but are expected to be predictable above E. I want to capture the similarities by saying (i) that it *is* the same morpheme, and (ii) these morphemes are added in the syntax. And I want to capture the differences by saying that below E we find a syntax that is very lexical in nature—L-syntax. Now I want to look more closely at why there should be any differences, and what the extent of L-syntax can be.

We have seen that productive causatives are constructed in S-syntax while lexical causatives are constructed in L-syntax. Further, the research on causatives has shown that

productive causatives often encode two events while lexical causatives encode only one (e.g., Fodor 1970, Shibatani 1972, 1976). As well, we can see in many languages that, at least on the surface, productive causatives are always morphologically complex while lexical causatives can be monomorphemic. Putting all of these facts together, I propose that the limit of L-syntax is the same as the limit for a lexical entry, which is the same as the limit for one event. Carter (1976) investigates what the limit on a "word" should be. If we worry about what information a word can contain, we must also worry about how "big" a word can be. For instance, one of the restrictions that Carter proposes is given in (52a) (Carter 1976: 31 (16)), while one of his observations is given in (52b) (Carter 1976: 39 (k)).

(52)   a. there exists a number n such that there is no verb in the lexicon to which we are
           led to assign a SR [semantic representation] with more than n occurrences of
            "CAUSE"

        b. there is no verb paraphraseable as 'to verb$_i$ to verb$_k$ ...' except where
           verb$_i$ is 'cause'

I will claim that the number n is 1 and therefore the largest number of verbs in a lexical representation of a verb is 2.[35] These two verbs will correspond to V_1 and V_2 in the trees that I have been presenting.

In English, the lexical causative clearly consists of one word and the productive causative consists of two words. In Malagasy and Tagalog, the demarcation between lexical and productive causatives is not so clear since both types of causative morphemes are affixal. There is something, however, that distinguishes the lexical causative from the productive causative and that is the head E. I claim, then, that the position of E demarcates the edge of an event and therefore the edge of a word in Carter's terms (in some sense to be determined later). E binds the event variable in V_1P, but this only makes sense if we understand what V_1 represents. For those who share the assumption that

---

[35] Carter allows for two CAUSEs and therefore three verbs. He needs to do this to allow for four-argument verbs such as *trade* (W trades X to Y for Z), though he acknowledges that this sort of verb is quite restricted (Carter 1976: 34). I do not have a proposal for how to handle these predicates but still want to retain a more restrictive system.

phrase structure and event structure are related, V_1 often introduces some causal element. For those who believe that subjects are internal to the VP, the Spec, V_1P introduces the Agent argument. Work that studies lexical entries in terms of lexical decomposition (e.g., Carter 1976, Dowty 1979) recognizes CAUSE as the highest possible predicate.[36] Work that studies lexical entries in terms of theta-grids recognizes Agent as the highest possible theta-role in any theta-role hierarchy (Baker 1988, Larson 1988, Grimshaw 1990). Further, not only are CAUSE and Agent the highest predicate and theta-role, respectively, in a lexical entry, they are unique in any lexical entry. In other words, no lexical entry can have two CAUSEs nor can a single theta-grid contain more than one Agent. This has the result that, once a CAUSE predicate has been introduced in a lexical entry, or an Agent theta-role added (if we think of constructing a lexical entry from the bottom up), the lexical entry must be complete. In terms of the tree being discussed, once V_1 has been added, no more lexical categories may be added (since no more predicates can be introduced). Therefore, E, by virtue of its position as the binder of the event variable in this top V, marks the edge of a lexical entry, that is, the edge of the domain of the lexicon. After this, as we move further up the tree, any additional lexical categories must contain an independent lexical entry. As such, E also marks the boundary between L-syntax and S-syntax.

We now have an explanation for why the examples in (38) are ungrammatical. The Agents of *laugh* and *sneeze* must have been introduced by V_1. The event variable *e* of this lexical head must be theta-bound by E (as discussed in Chapter 3, section 3.3.2.2). If an additional argument is to be introduced, then, it must be done via an additional lexical item added above E. In English, such a lexical item would be the productive causative *make*. While we have seen that lexical items that appear to be monomorphemic (such as *melt*TRANS) are in fact morphologically complex with zero morphology, no productive causative morpheme is consistently represented by a zero morpheme.[37] This would explain Carter's claim concerning the limitations on what can be encoded in one "word."

---

[36] Or DO if an Agent may be introduced by a DO predicate. It may be that, when DO selects a BECOME predicate, it is CAUSE.

[37] We have seen that the Tagalog productive causative *pag-* is, in certain configurations, realized as zero, but it does have an overt form.

Now we can see how lexical causatives and productive causatives are distinguished in syntax. This is very clear in Tagalog and Malagasy, where the morphology is much more transparent. While only one causative morpheme exists in each of these languages, it can serve as either the lexical causative or the syntactic causative depending on where it occurs in the phrase structure. If it occurs below E, it is part of L-syntax and is the lexical causative. This is because it is part of a lexical entry and as such shows the idiosyncrasies of lexical entries. If it is above E, then it must be attached to the stem via S-syntax and it represents a lexical item on its own. This explains its productivity and predictability. The position of the morpheme is easy to determine in these languages due to the fact that E is lexically realized. A causative morpheme appearing closer to the root than the E morpheme will be a lexical causative and a causative morpheme appearing further from the root than the E morpheme will be the productive syntactic causative.

(53)   V   -   E - V   - √

    Malagasy: an   -   f - an - √

    Tagalog: pag   - pa - pag - √

             PC   **LC**

6.6   SUMMARY

The goals of this section were twofold. I want to contribute to the discussion of L-syntax as a definable submodule of the grammar, and more particularly a submodule of the syntactic component. I also want to show the importance of looking at a wide variety of languages when investigating these questions. In English, where many morphemes are arguably zero, it is often hard to find evidence for abstract heads (like E) or operations (like lexical causativization). Other languages often provide the needed evidence for these heads or processes. After looking carefully at causativization in Tagalog and Malagasy, I have proposed that the differences between lexical causatives and productive causatives are not determined by the choice of morphemes, since the same morpheme is used for both processes in each of these languages. Rather, the difference stems from the position of these morphemes in the tree. Further, I argue that the difference in these

positions is easily determined in these two languages because of an intervening morpheme, which I assume indicates the existence of an event-related head marking the boundary between lexical processes and syntactic processes. I present a picture of syntax in general and the interaction of L-syntax and S-syntax in particular in (54).

(54)
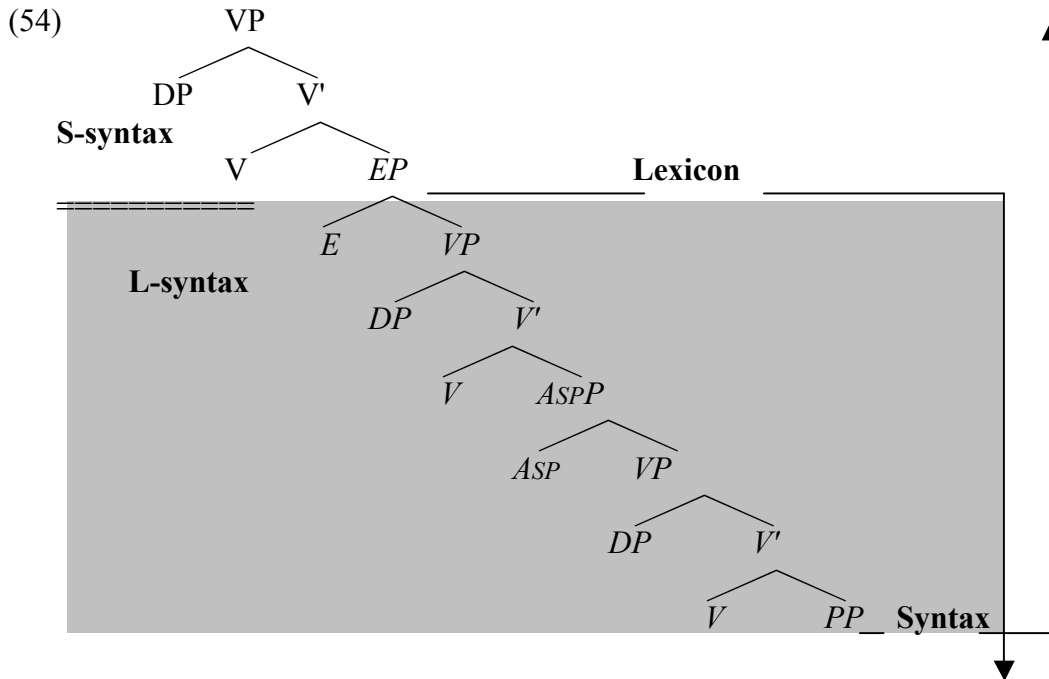
I claim that the lexicon and the computational component are allowed to overlap up to a structurally defined point. In terms of phrase structure, that point is the event-related head that I have labeled E. In terms of semantics, the lexicon can encompass, at most, one event. In other words, a lexical entry may refer to any of the lexical head positions that occur below E since those head positions encode subparts of a single event. It is harder to argue that this must be a case of the lexicon exerting an influence on the syntax, rather than the syntax exerting an influence on the lexicon. One of my main reasons for taking the direction that I have chosen has to do with the productivity and predictability of the event-related categories that appear within the domain of L-syntax. Hale and Keyser (1993) make it very clear that functional categories cannot be part of L-syntax. They write "no functional categories are involved in the verb formation processes at issue here … no functional projections are present at points internal to the domains defined by lexical entries" (H&K 1993: 98). But here we encounter a problem with forms such as the

Navajo ones we saw in Chapter 3 (section 3.2.2). In the template given for the order of morphemes in Navajo, functional material is interspersed with the lexical material. Furthermore, the lexical material has the idiosyncratic earmark of L-syntax. Repeating an example from Chapter 2, I give the morphological make-up of the verb meaning 'to pray' below. It consists of three parts: two prefixes, which, according to Speas (1990: 208), are not productive, and a stem that cannot occur on its own.

(55)   *so ... di ... zin*   'to pray'   1 ...   6 ...   stem

These subparts of the lexical entry occur in particular places in the template, as indicated by the numbers given to the right of the entry above. In between these parts of the lexical entry appear such inflectional-type elements as aspectual markers, tense, and object and subject agreement. If the inflectional-like material cannot appear in the lexicon, the solution is to allow the lexical entry to be formed in the syntax.

This view of syntax has drawbacks, mainly having to do with semantic and lexical idiosyncrasies. For example, the semantics within this component is often not compositional. The whole does not entail the subparts, so, for example, the (a) utterances below do not entail the (b) utterances in English or Tagalog.[38]

(56)   a. Nagsabog   ng   bato   ang magsasaka
           PERF-*PAG*-sabog ACC stone   NOM farmer
           'The farmer scattered the stones.'

       b. Sumabog   ang bato
           AT-PERF-sabog   NOM stone
           'The stone exploded.'

---

[38] The view of modularity internal to syntax that I have sketched has much in common with Marantz's work (e.g., Marantz 1997, 2001). Marantz also develops a view of syntax that includes an idiomatic/idiosyncratic component. I leave it to the reader to compare the two views.

(57)   a.   The make-up artist reddened the movie star's cheeks.

       b.   The movie star's cheeks reddened.

In order to account for those idiosyncrasies, I am proposing that syntax has recourse to the lexicon once the structure of an event is complete. While head movement may continue to form longer words beyond this domain, they are not the "words" whose limits Carter investigated. To distinguish between the two types of words, we can label one set E-words (event words) and the other M-words (morphological words). Clearly the two are not necessarily represented through a one-to-one mapping. The table below shows that the boundaries of M-words and E-word may vary (as we have already seen in Chapter 1).

(58) M-words vs. E-words

	1 M-word	2 M-words
1 E-word	English: *wash*	Edo: *naki kiri* 'kill' Fongbe: *kú drɔ* 'dream'
2 E-words	Malagasy: *m-an-f-an-sasa* 'make wash' Tagalog: *m-pag-pa-0-bukas* 'make open'	English: *make wash*

The category E limits the domain of an E-word and one event. We can see why English is not the best language to study when investigating these boundaries, since English generally has a one-to-one mapping. English does not have M-words that go beyond the E-domain, whereas Malagasy and Tagalog do.[39] Moreover, English does not have multiple M-words within one E-word, while Edo and Fongbe do, as we will see below.

---

[39] A different question arises with words that represent features on a root like tense, such as *go/went*. This sort of syncretism would be dealt with differently. Importantly, the semantics of these forms is always compositional.

Chomsky (2000: 99-101) dismisses as uneconomical the possibility that the lexicon might be accessed more than once. He uses a metaphor to clarify the notion of operational complexity.

> Suppose automobiles lacked fuel storage, so that each one had to carry along a petroleum processing plant. That would add only bounded "complexity," but would be considered rather poor design. Something similar might well be true for language.

In applying this to the question of access to the lexicon, he writes,

> The obvious proposal is that derivations make a one-time selection of a *lexical array* LA from Lex[icon], then map LA to expressions, dispensing with further access to Lex. … If the derivation accesses the lexicon at every point, it must carry along this huge beast, rather like cars that constantly have to replenish fuel supply.

Of course, Chomsky also points out in his discussion that ultimately "[t]he questions are empirical. Investigating them, we can hope to discover whether (and if so how) what might reasonably be considered complexity/economy enter into language design." Given the idiosyncratic nature of L-syntax, it is clear that the lexicon has to be involved with the output of the lexical item that encodes the final argument (e.g., Agent) or the final predicate (e.g., DO or CAUSE). If the lexicon can be accessed only once, then the process of L-syntax in its entirety has to occur within the lexicon. We lose on several counts, however, if this is the case. We lose the generalizations that would now appear in two different grammatical components—in the computational system and in the lexicon. The processes that we have seen are restrictions on head movement, subject sensitivity of anaphors, and restrictions on Spec and head positions that are filled simultaneously. We also lose generalizations provided by a theory of multifunctionality that allows lexical items (such as *an-* in Malagasy and *pag-* in Tagalog) to appear at different positions on a syntactic tree, with differences in function being derived from these differences in position. Finally, we lose the flexibility of allowing inflectional-type material to appear internal to lexical entries, as we have seen in Tagalog (aspectual reduplication) and Navajo. As is often the case, we have found the computational system to be less than

optimal. However, we can contain the domain within which this less than perfect design must function.[40]

6.7   DISCONTINUOUS LEXICAL ITEMS

The cases we have seen for L-syntax above all involve predicates that are encoded in one M-word, created through head movement. It is fairly easy to argue that M-words can contain bits of syntax, as implied by Baker (1985) and argued for explicitly in Baker (1988). The clearest cases of this are words that are created in the S-syntax, as they are morphologically productive and semantically compositional. Let us take the example of future tense in English versus French. In English, the string *will eat* is represented by two syntactic heads. In French, it is less clear that the morphological word *mangerai* 'will eat (1SG)' represents two (or more) separate syntactic heads, but one can make the conceptual argument that, languages being more similar than different, the French affixes act similarly to the separate words in English. The French morphological word *mangerai*, then, is also represented by (at least) two heads, T and V.[41] We have used similar argumentation to claim that the Malagasy morphological word *mampanasa* 'make wash' should have the same syntactic representation as its English translation, which is represented by (at least) two syntactic heads. In both the French future and the Malagasy productive causative, the morphology is productive and the meaning is compositional. This, combined with the language variation, makes a syntactic analysis appealing.

It is harder to argue for a syntactic account of phenomena that are less productive and whose meaning is not compositional, such as *magsabog* 'to scatter' in Tagalog. It becomes harder still to argue for syntactic complexity for a form that appears to be morphologically simple, such as *kill* in English. However, as in the cases of S-syntax, we can find cross-linguistic variation that supports a syntactic analysis. For this reason, I shall turn to other languages where one E-word can be represented by two M-words, in other words, languages that appear in the top right-hand corner of the table in (58).

---

[40] Much work being done within Distributed Morphology (Halle and Marantz 1993) is ignored here. There is also the issue of Multiple Spell-Out, where bits of syntax are sent to the morphological component and lexical insertion is done at that point. I am optimistic that the observations above could be made to fit into this view of the computational component, but I leave it for future work.

[41] I am representing the minimum number of heads. In my phrase structure, *mangerai* contains many more heads, as discussed in Chapter 3, section 3.3.1.1.

I have been arguing for an articulated VP structure. While one argument for this structure comes from the position of derived elements within the VP, many of the other arguments come from verbal morphology such as reduplication in Tagalog and morpheme order in Navajo. In this view of phrase structure, the VP contains more than one lexical head and we have seen these heads filled with different morphemes in different languages. In Tagalog, V_1 is filled with *pag-* and V_2 with the verb root while a reduplicative morpheme can be attached between the two. In Navajo, a verb like *so… di … zin* 'to pray' has parts that can be separated by aspectual-type material. If all of these heads do exist, however, we might expect to see them filled with freestanding words as well. In this section, I present some plausible examples of languages that do fill these heads with separate words. As pointed out by Hale and Keyser (1993), given various views of articulated VPs and especially their own view of the projection of arguments, such languages are expected to exist (Hale and Keyser 1993: 96).[42]

> In reality, all verbs are to some extent phrasal idioms, that is, syntactic structures that must be learned as the conventional "names" for various dynamic events. That is our view of the matter, in any event, and it seems to be forced on us by the very framework we are considering. Moreover, it is not without empirical support, at least at the observational level. In many languages a large percentage of verbal lexical items are *overtly* phrasal (e.g. Igbo, Nwachukwu 1987); in others a healthy inventory of "light verb" constructions represent the class of overtly phrasal lexical entries (e.g. Japanese, Grimshaw and Mester 1988; English, Kearns 1988); and in still others (e.g. the Tanoan languages, including Jemes, Tewa, and the Tiwa languages), the verbal lexicon contains an extraordinary number of entries whose morphological make-up is overtly the result of incorporation. To be sure, many languages boast a large inventory of simple monomorphemic verbs. But our guess is that most, probably all, superficially monomorphemic verbs are lexically phrasal, possessing a structure that is syntactic…

In the next two sections, I present two language types with phrasal lexical items. First I discuss serial verbs, then inherent complement verbs.

---

[42] Marantz (1997, 2001) also discusses idiosyncratic phrases.

6.7.1 Serial Verb Constructions

In Navajo, we have seen an extreme case where a lexical item seems to be split up over several nonadjacent morphemes in a *morphologically* complex structure. Serial verb constructions (SVCs) are cases where a lexical item can be seen to be split up over several nonadjacent words in a *syntactically* complex structure. Here I present the possibility that SVCs exemplify a case where we can see the articulated VP in the syntax. In particular, I suggest that SVCs are the most obvious place to find V_2Ps being realized independently. This view of SVCs follows on the analyses proposed by Baker (1989, 1991) and Larson (1991).[43]

To start with the theory rather than with the data, we can ask what properties a V_2P standing alone would have. As we have seen in Chapter 4, a single VP generally characterizes an (end)state. Therefore, one property that a V_2P would have is stativity. Further, given that no higher VP will be projected, the external theta-role in the sense of Williams (1981), generally the Agent, will have to be satisfied through an alternative means to regular theta-role assignment. Finally, since the traditional external theta-role cannot be assigned, some other theta-role will appear to be the highest. These properties are summarized below.

(59) Properties of V_2P

   (a)   Stative

   (b)   External theta-role (Agent) satisfied by different means

   (c)   Internal theta-role (Theme) appears external

Turning to the relevant data, we see that all of these properties can be found in a certain set of SVCs. Further, by assuming that the second (and in these cases) last V in an SVC is, in fact, an instance of V_2, we are able to use an analysis of SVCs proposed by Larson (1991) while avoiding the problems that this analysis raises, which were pointed out by Baker (1989).

---

[43] There is a vast literature on serial verb constructions and many different accounts (see Déchaine (1993), and, for an overview, Muysken and Tonjes (2006)). Baker and Stewart (1999, 2002), and Collins (1994) present two current views of serial verb constructions. In fact, many analyses of SVCs have to have some notion of a split VP with an independently occurring V_2P.

Larson (1991) suggests that SVCs of the type given in (60a, b) below are like resultative predicates in English (60c).

(60) a. SRANAN (English-based Creole of Surinam)

Kofi naki Amba kiri[44]   (Larson 1991: 10a)

Kofi hit   Amba kill

'Kofi struck Amba dead.'

b. FON (West African Kwa language)

Kòkú só   àsɔ̃́ ɖó   távò-jí   (Larson 1991: 7b)

Koku take crab   put   table-on

'Koku put the crab on the table.'

c. Black Flag kills bugs dead.   (Larson 1991: 20b)

The analysis that Baker (1989) proposes for an SVC of the type in (60a) is given in (61) below.[45]

(61)

```
            VP
         ___|____
        |    |    \
        V    DP    V'
        |    |     |
      naki  Amba  kiri
```
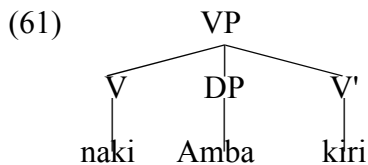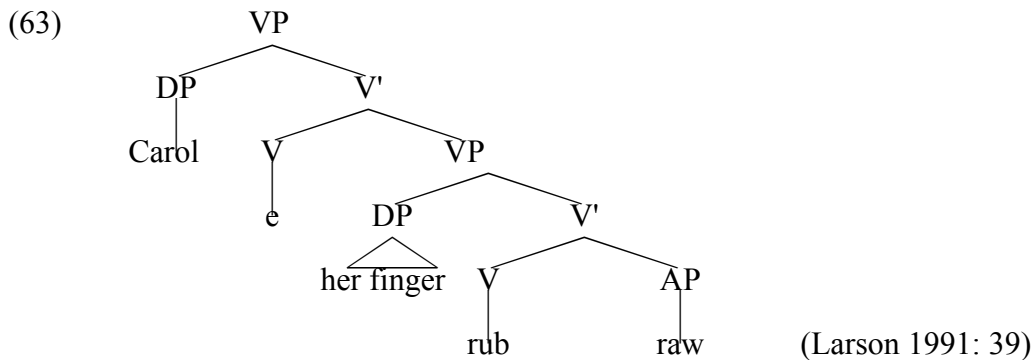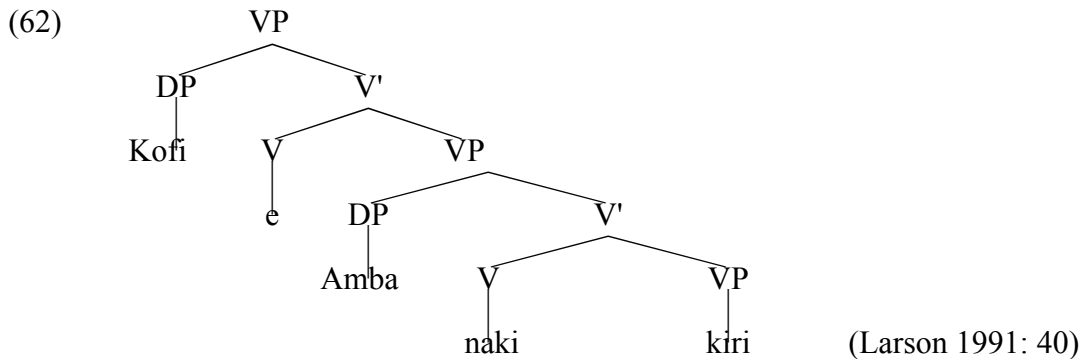
Baker tries to formally capture the following characteristics of SVCs. If the first V has an object, this object is shared by the second V. Further, the second V must assign an internal theta-role to this object. Baker's phrase structure captures this observation since the DP between the two Vs is structurally internal to the projection of both of the Vs. The Projection Principle, then, would force both Vs to assign a theta-role to the DP. UTAH will ensure that both of these theta-roles are internal (under the assumption that external arguments must be external to the VP).

---

[44] The use of the verb 'kill' here rather than 'die' is an interesting cross-linguistic distinction, which I shall set aside for now.

[45] In the discussion of older accounts, I update the terminology using DP instead of NP.

Larson (1991) views this differently. It is clear that Baker must make some innovative assumptions concerning X'-theory to allow structures such as the one in (62) since the VP will contain two head Vs. Larson suggests that these innovations are unnecessary. Instead, he proposes the following structure for the same string, relating it to resultative predicates, which he gives the structure in (62).

(62)

```
                    VP
              /            \
           DP               V'
           |            /        \
          Kofi        V           VP
                      |        /        \
                      e      DP          V'
                             |        /       \
                           Amba      V         VP
                                     |          |
                                   naki        kiri        (Larson 1991: 40)
```

(63)

```
                    VP
              /            \
           DP               V'
           |            /        \
         Carol        V           VP
                      |        /        \
                      e      DP          V'
                            /\        /       \
                      her finger     V         AP
                                     |          |
                                    rub        raw        (Larson 1991: 39)
```

Just as the internal NP *her finger* in the resultative structure is "shared" by both the main V *rub* and the secondary predicate *raw* (i.e., both assign theta-roles to it) in (63), so is the internal NP *Amba* in the SVC shared by both Vs in (62). In both constructions, the main V assigns the primary theta-role, and the resultative predicate, be it a VP or an AP, assigns a further theta-role.

Baker (1989) presents an interesting argument against Larson's analysis of SVCs. As he points out, secondary predicates in English, for example, are APs and PPs, and while they assign an additional theta-role to the object of the transitive main verb, they assign an external theta-role to this position, not an internal theta-role. Taking our original SVC example in (60a), we see that the second verb *kiri* 'kill', the one we are

trying to relate to a secondary predicate, assigns its internal theta-role, Theme, to the shared object. Its external theta-role, Agent, is co-assigned with the main verb to the subject position. This is shown schematically below.

(64)   *Koffi*   *hit*   *Amba*   *kill*
         DP   V$_1$ DP   V$_2$

            Ext, Int   Ext, Int
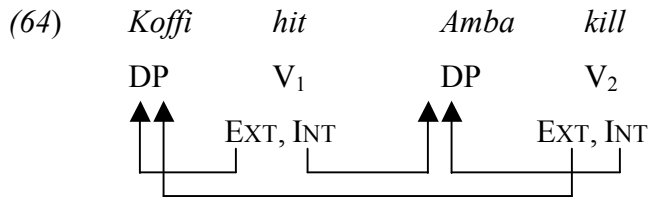
Baker points out that a true parallel between an SVC and a secondary predicate would appear be an example such as the following, which are clearly ungrammatical.

(65)   a.   * I locked the house in.   (Baker 1989: 22)

                = I locked the house such that I was in the house.

         b.   * John tested his son proud.

                = John tested his son, and, as a result, John was proud of his son.

In each case, the external argument of the secondary predicate is co-assigned with the main verb to the subject of the sentence, and the internal argument of the secondary predicate is co-assigned with the main verb to the shared object. In other words, in (65a), the shared subject *I* is the external argument of both *lock* and *in*, and the shared object *the house* is the internal argument of both *lock* and *in*, giving the intended reading that I locked the house and I was in the house.

(66)   *I*   *lock*   *the house* *in*
         DP   V$_1$ DP   P

            Ext, Int   Ext, Int
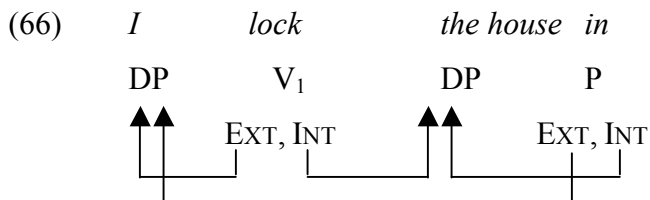
Obviously, this sort of construction is not possible. Given the proposal that V_2P can act independently, however, we can explain this difference, not by changing how we look at secondary predication, but by changing how we look at SVCs.

I will assume Larson's structure in (62) with the additional claim that the VP of the secondary predicate is crucially a V_2P. Why must it be a V_2P? This is explained by the first property of V_2Ps given above. The resultative must be a state. This is clear in the English examples where the resultative is encoded by an AP or a PP, archetypal states.[46] The requirement that the result be a state, then, forces a verbal projection to be restricted to V_2Ps.[47] Once this structure is set up, the rest follows since the theta-assignment properties of V_2P more closely follow the theta-assignment properties of PP and AP. The "external" argument (i.e., the highest argument) of the V_2 will be an *internal* argument within its theta-grid. In other words, as we saw for Larson's tree, the Theme is like the inner subject, an external argument of V_2.

How exactly this shared theta-role is assigned is debatable. I see two possibilities. One is that PPs and APs, when acting as predicates, do not assign their external arguments to their Spec positions, but rather, as maximal projections with an unsaturated theta-role, they assign this theta-role through predication, as in Williams (1980). Another possibility is that there is an empty category in the Spec position. Collins (1994) argued for the existence of an empty category in SVCs using agreement facts to support his claim.

The topic of SVCs is enormous and deserves a book of its own. The conclusion to be drawn now for the purposes of the present chapter is that the separate parts of the articulated VP can occur as independent lexical items.

6.7.2 Inherent Complement Verbs

Another case where the articulation of the VP can be seen in its syntactic configuration is in VPs that contain inherent complement verbs (ICVs). Some examples of this

---

[46] Note that a change of state predicate cannot be used, as the following contrast shows (see Embick 2004).
   (i)   I cracked the egg open/*opened.
Prepositions, however, seem to have to show motion in these structures, resulting in the difference between *I put the book onto the table* and **The book is onto the table*; *I pushed the table to/*at the wall* and *The table is *to/at the wall*. I have no explanation for this.

[47] This raises the question of why stative verbs like 'know' are not acceptable in such constructions. Transitive stative verbs arguably have a more complex structure (see, e.g., Noonan 1992aa).

construction from Fongbe (Avolonto 1995: 72ff) are presented below. In (67a), we can see that the verb *kú*, used on its own, means 'to die'. However, this same verb, when in construction with the N *drɔ̀* 'dream', means 'to dream'. In (68) and (69), depending on what the direct object of the verb *dó* or *xà* is, the sense of the VP changes completely. In (68a), the verb takes a normal DP complement, while in (68b), it is merged with an inherent object.[48]

(67) a. gbɔ̌   ɔ́   kú
        sheep DET die
        'The sheep died.'

     b. Kɔ̌kú kú drɔ̀
        Kokou KU dream
        'Kokou dreamed.'

(68) a. Àsibá dó   gbàdé
        Assiba sow   corn
        'Assiba sowed some corn'

     b. Àsibá dó wèzùn
        Assiba DO race
        'Assiba ran.'

(69) a. Kɔ̌kú xà   àkwɔ́é
        Kokou count money
        'Kokou counted money.'

---

[48] All examples are taken from Avolonto (1995) but the English glosses and translations are my versions of his French glosses and translations.

b. Kɔ̌kú xà   yèwhè

Kokou *XA*   prayer

'Kokou prayed.'

Other examples of ICV constructions are given in (70). Here the same verb can take a variety of the inherent objects with a concomitant change of meaning.

(70) a. Àrǐnɔ̀lá   ɖì zɔ̀nlìn

Arinhola *DI* step

'Arinhola walked.'

b. Kɔ̌kú ɖì xèsǐ (nú àvǔn ɔ́)

Kokou *DI* fear (for dog the)

'Kokou was afraid (of the dog).'

(71) a. Kɔ̌kú dó xèsǐ *(àvǔn ɔ́)

Kokou *DO* fear (dog the)

'Kokou frightened the dog.'

b. Àrǐnɔ̀lá   dó àwù

Arinhola *DO* shirt

'Arinhola got dressed.'

In these constructions, while the constituent parts—the verb and in particular the inherent object—lend some meaning to the whole, the specific meaning of the expression is noncompositional. In comparing (70b) and (71a), it appears that *dó* is causative while *ɖì* is stative. This contrast, however, is not found in the comparison of (68b) and (70a). As suggested in the passage below describing the same construction in Igbo, cited by Avolonto (1995: 71) and credited to Nwachukwu (1987: 22 and 1985: 61), these seem to be fixed expressions that must be learned and stored as such.

An inherent-complement verb is one whose citation form is obligatorily followed by a meaning-specifying noun complement … Because it is lexically specified as part of the verb, the inherent complement is by definition strictly obligatory … and any dictionary entry which excludes the complement is so ambiguous as to be meaningless (1987: page 40).

Avolonto clearly shows that these nominals do not behave syntactically like objects. They cannot undergo WH-movement, cliticization, relativization, or clefting. Examples from the discussion on WH-movement are given below. The construction in (72a) can only be a question formed from the construction in (68a), and could not be used to ask for the content of an ICV construction using the verb *dó*, such as those given in (68b), and (71a, b). Likewise, the question in (72b) can be used to form a question about (69a) but not (69b).

(72) a. été   Àsíbá dó   (cf. (68))
          what Assiba sow
          'What did Assiba sow?'

      b. été   Kɔ̌kú xà
          what Kokou count
          'What did Kokou count?'

Cliticization and relativization work similarly, which is not surprising given that the N has no referential content. Clefting, however, has presents an interesting twist. Avolonto first shows that there is clefting of objects and of verbs, and that when the object is clefted, there are three possible interpretations. In (73) below, we see a case where an object is clefted. The three interpretations are given. In essence, the focus can be on the object alone (i), the verb and perhaps the object (ii), or the whole VP (iii) (Avolonto 1995: 83).

(73) àsɔ́n wɛ̀   Zuléma xɔ̀

    crab FOC Zulema buy

    i.   It is crab that Zulema bought (and not bread)

    ii. It is buy crab that Zulema did (and not prepare crab/rice)

    iii. It is buy crab that Zulema did (and not prepare rice)

When the verb undergoes predicate clefting, there is only one reading that involves the verb meaning alone. This is shown in (74) (Avolonto 1995: 83).

(74) xɔ̀   wɛ̀   Zulemà xɔ̀   àsɔ́n   ɔ́

    buy FOC Zulema buy   crab   deictic

    It is buy crab that Zulema did (and not prepare crab/*rice)

Avolonto stresses the difference in meaning between (73) and (74). This has some interesting implications when applied to clefting in ICV constructions. To begin with, note that only the "object" and not the "verb" can cleft. This is shown in (76), where a cleft construction is formed from the example given in (75).

(75)   Kòfi ɖì sà

    Koffi DI walk

    'Koffi went for a walk.'

(76) a.   sà   wɛ̀   Kòfi   ɖì

         walk FOC Koffi   DI

         (i)   It is walk that Koffi did and not work.

         (ii) * It is a walk that Koffi did.

    b. * ɖì wɛ̀ Kòfi ɖì sà

These facts are particularly interesting given that this is the object that resists movement in WH-constructions, cliticization and relativization. Further, the element that we have

been led to believe is a lexical entry is now a discontinuous element. Finally, what appears to be the verb cannot cleft. This shows clearly that the object has to be visible to the syntax as a separate element in spite of its semantic dependency on the verb. As well, Avolonto reports that the cleft construction's meaning is closer to the interpretation of predicate clefting than it is to object clefting. One could imagine that a contrast could be set up between *ɖì sà* 'walk' and *ɖì xèsi* 'fear' by clefting the inherent object, but this does not seem to be possible.

In sum, inherent objects are syntactically independent, as the formation of the cleft construction shows. However, they have no independent semantics. Like serial verb constructions, bits of lexical entries can appear as independent words.

6.8   THE LEXICON AND LEXICAL CATEGORIES

There are two more questions that I would like to explore having to do with L-syntax and S-syntax. In the end, I will have only suggestions for answers. One question is what information exactly is contained in a lexical entry, and the other is whether there are limits on M-words.

6.8.1 Lexical Entries

Recent work has suggested that the lexicon is quite impoverished (e.g., Marantz 1997, Borer 2005). This trend started with Hale and Keyser (1993), in which much of the lexicon was argued to be, in fact, part of syntax. If argument structure can be derived from the syntactic structure, one can ask what is left in the lexicon. In fact, the picture that I am developing here is quite conservative. It also contains a certain amount of redundancy. I assume that roots have categorial signatures. This conclusion comes from work by Demirdache and Matthewson (1995) on Salish and work I have done on Malagasy (Travis 2005). I also assume that full theta-grids have to be specified for roots. I argue in Chapter 7 that certain theta-roles are assigned by structural configuration and some by the lexical specifications of the root. Clearly, because there is a distinction, not all theta-roles can be created by syntax. We have also seen that the addition of the external argument through lexical causation can change the meaning substantially. For example, Agent + √EXPLODE does not mean *X explodes Y* in Tagalog. Therefore, there

has to be some return to the lexicon for the details of the semantics of these forms. While I do not have the whole view of the lexicon fleshed out, it still houses a fair amount of information, some of which is redundant with the computational component, not unlike older views. In fact, since most lexical information, in my view, is scattered over syntactic heads, the overlap is substantial.

6.8.2 M-Words

In the discussion above, I have suggested that there is a limit on the domain of an E-word. One could ask whether there is also a limit on the domain of an M-word. In a way, this is the question that Li (1990) addresses in his research on the constraints on head movement. Li claims that improper movement includes not only XP movement from an A position to an A' position back to an A position, but also X^0 movement from a lexical head to a functional head and back to a lexical head. If Li's generalization is derivable from this extensions of improper movement, as he suggests, the phrase structure I propose in this book would run into serious problems.[49] In Chapter 3, I argued that there is movement from V (a lexical category) to ASP (a functional category) and back to V.

(77)   Tagalog Aspect: V $\Rightarrow$ ASP $\Rightarrow$ V

      nagtutumba: n- m-   pag- RED- √tumba
                    V_1 ASP V_2 IMPERFECTIVE 'is taking out'

      In this chapter, I propose that causatives in Malagasy involve head movement from V to E to V.

(78) Malagasy causatives: V $\Rightarrow$ E $\Rightarrow$ V
    0 + m + an + f + an + √ala = *mampanala*   'to make X take Y out'
    T   E V_1 E V_1 V_2

---

[49] Li extends Binding Theory to include heads so that improper movement of heads, like improper movement of XPs, can be subsumed under Binding Theory.

While, on one hand, the presence of an intermediate functional category looks problematic, on the other hand, the presence of such a category may solve other problems. In Baker (1985: 374), an example of a causative in Chamorro shows that agreement may occur between the causative morpheme and the verb stem.[50]

(79)   Hu#na'-fan-s-in-aolak   i   famagu'un gi as tata-n-niha
        1sS-CAUS-PL-PASS-spank the children   OBL   father-their
        'I had the children spanked by their father.'

In (79), we see the plural agreement marker *fan-* occurring between the causative marker *na'* and the lower verb, which has been passivized.[51] If agreement is to be encoded through Spec-Head agreement or an AGREE relation with a functional category, as assumed above, then the existence of agreement here indicates the existence of a nonlexical category between the causative verb and the lower verb. While this may appear to be counter-evidence against Li (1990), his otherwise robust general observation that inflectional-type material does not occur within causatives demands an explanation. We have seen that the type of phonology in Malagasy changes at E. Further, Li observes that there are no cases of head movement from V through T and C to another V. In my terms, there is no M-word that crosses C. Following ideas presented by Morita (in press) and Newell (2008), I suggest that these two observations are due to phases. E would represent the edge of one phase. If the material below E is sent to PF, any further morphological process must be similar to compounding. C would represent the edge of the next phase,[52] at which point there would be no morphological process to combine elements further. With this much inflectional structure, the construction would have to be periphrastic.

---

[50] Transcription and glosses are from Baker (1985).

[51] I assume that, in some languages, passive morphology may appear in V_1, thereby allowing a different representation of the external argument that is introduced by the V. In Chamorro, then, the passive morpheme would be in V_1 just below E.

[52] More exactly, any inflectional material above E would be part of the next phase so that even a TP that is selected by a V would constitute a phase. This is similar to Li's observation that any move back to a lexical category after T or C has been added would violate proper head movement.

6.9   CONCLUSION

While most syntax has the blind productivity that one would want in a computational system, I have argued that one corner of syntax, L-syntax, has to be allowed one "pit stop" before continuing in the derivation. An event-related category, E, selects V_1P and represents the point at which the syntax may return to the idiosyncratic part of the lexicon. This head E delimits the edge of an event and therefore the edge of an E-word. By granting the syntax this possibility, we allow it to keep control over Spec, Head relations, binding possibilities, adjunction structures, and head movement—all phenomena that arguably hold in L-syntax.

Abinal, r.p., and Malzac, s.j. 1988. Dictionnaire Malgache-Français. Fianarantsoa.

Anderson, Stephen R. 1974. On dis-agreement rules. Linguistic Inquiry 5:445-451.

Avolonto, Aimé Bienvenu. 1995. Pour une approche Minimaliste des verbes à objets inhérents en fongbe, Université du Québec à Montréal: Doctoral dissertation.

Baker, Mark C. 1985. The Mirror Principle and morphosyntactic explanation. Linguistic Inquiry 16:373-415.

Baker, Mark C. 1988. Incorporation, A Theory of Grammatical Function Changing. Chicago and London: The University of Chicago Press.

Baker, Mark C. 1989. Object sharing and projection in serial verb constructions. Linguistic Inquiry 20:513-553.

Baker, Mark C. 1991. On the relation of serialization to verb extensions. In Serial Verbs: Grammatical, Comparative, and Cognitive Approaches, ed. Claire Lefebvre, 79-102. Amsterdam: John Benjamins.

Baker, Mark C., and Stewart, Osamuyimen T. 1999. On double-headedness and the anatomy of the clauseRutgers University.

Baker, Mark C., and Stewart, Osamuyimen T. 2002. A serial verb construction without constructionsRutgers University.

Borer, Hagit. 2005. In Name Only. Structuring Sense, Volume I. Oxford: Oxford University Press.

Bowers, John. 1993. The syntax of predication. Linguistic Inquiry 24:591-656.

Butt, Miriam, and Ramchand, Gillian. 2005. Complex aspectual structure in Hindi/Urdu. In The Syntax of Aspect: Deriving Thematic and Aspectual Interpretation, eds. Nomi Erteschik-Shir and Tova Rapoport, 117-153. New York: Oxford University Press.

Carrier-Duncan, Jill. 1985. Linking of thematic roles in derivational word formation. Linguistic Inquiry 16:1-34.

Carter, Richard. 1976. Some constraints on possible words. Semantikos 1:27-66.

Chomsky, Noam. 1995. The Minimalist Program. Cambridge, MA: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Step by Step: Essays on
        Minimalist Syntax in Honor of Howard Lasnik, eds. Roger Martin, David
        Michaels and Juan Uriagereka, 89-155. Cambridge, MA: MIT Press.
Clark, Eve, and Clark, Herb. 1979. When the nouns surface as verbs. Language 55:767-
        811.
Cole, Peter, Hermon, Gabriella, and Huang, C.-T. James eds. 2001. Long Distance
        Reflexives. New York: Academic Press.
Collins, Chris. 1994. Argument Sharing in Serial Verb Constructions, Cornell University:
        Doctoral dissertation.
Déchaine, Rose-Marie. 1993. Predicates across Categories: Towards Category-Neutral
        Syntax, University of Massachusetts: Doctoral dissertation.
del Pilar, Natividad. 1993. Pro in Tagalog causative sentences. unpublished ms., McGill
        University.
Demirdache, Hamida, and Matthewson, Lisa. 1995. On the universality of syntactic
        categories. Proceedings of the 25th meeting of the North East Linguistics
        Association (NELS 25), ed. J. N. Beckman, 79-94.
Dowty, David. 1979. Word Meaning and Montague Grammar. Dordrecht: Reidel
        Publishers.
Embick, David. 2004. On the structure of resultative participles in English. Linguistic
        Inquiry 35:355-392.
Fodor, Jerry. 1970. Three reasons for not deriving 'kill' from 'cause to die'. Linguistic
        Inquiry 1:429-438.
Grimshaw, Jane, and Mester, Arnim. 1988. Light verbs and theta-marking. Linguistic
        Inquiry 19:205-232.
Grimshaw, Jane. 1990. Argument Structure. Cambridge, MA: MIT Press.
Hale, Kenneth, and Keyser, S. Jay. 1993. On argument structure and the lexical
        expression of syntactic relations. In The View from Building 20, eds. Kenneth
        Hale and S. Jay Keyser, 51-109. Cambridge, MA: MIT Press.
Hale, Kenneth, and Keyser, S. Jay. 2002. Prolegomenon to a Theory of Argument
        Structure. Cambridge, MA: MIT Press.
Halle, Morris, and Marantz, Alec. 1993. Distributed Morphology and the Pieces of
        Inflection. In The View from Building 20, eds. Kenneth Hale and S. Jay Keyser.
        Cambridge, MA: MIT Press.
Harley, Heidi. 1995. Subjects and Clause Structure, Massachusetts Institute of
        Technology: Doctoral dissertation.
Kearns, Katherine Susan. 1988. Light verbs in EnglishMIT.
Kiparsky, Paul. 1997. Remarks on denominal verbs. In Complex Predicates, eds. Alex
        Alsina, Joan Bresnan and Peter Sells, 473-499. Stanford, CA: CSLI.
Kratzer, Angelika. 1996. Severing the external argument from its verb. In Phrase
        Structure and the Lexicon, eds. Johan Rooryck and Laurie Zaring, 109-138.
        Dordrecht: Kluwer Academic Publishers.
Larson, Richard. 1988. On the double object construction. Linguistic Inquiry 19:335-392.
Larson, Richard. 1991. Some issues in verb serialization. In Serial Verbs: Grammatical,
        Comparative, and Cognitive Approaches, ed. Claire Lefebvre, 185-211.
        Amsterdam: John Benjamins.
Li, Yafei. 1990. X^o-binding and verb incorporation. Linguistic Inquiry 21:399-426.

Maclachlan, Anna. 1989. The morphosyntax of Tagalog verbs: The inflectional system and its Interaction with derivational morphology. McGill Working Papers in Linguistics 6:65-84.

Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. Proceedings of the 21st Annual Penn Linguistics Colloquium, eds. A. Dimitriadis and L. Siegel, 201-225. University of Pennsylvania Working Papers in Linguistics.

Marantz, Alec. 2001. Words: WCCFL handout. MIT.

Morita, Chigusa. in press. Negative Predicates in Japanese. The Proceedings of the Canadian Linguistics Association 2005, ed. Claire Gurski: University of Western Ontario.

Mulder, J., and Schwartz, A. 1981. On the subject of advancements in the Philippine languages. Studies in Language 5:227-268.

Muysken, Pieter, and Veenstra, Tonjes. 2006. Serial verbs. In The Blackwell Companion to Syntax: Volume IV, eds. Martin Everaert, Henk van Riemsdijk, Rob Goedemans and Bart Hollebrandse, 234-270. Oxford, UK: Blackwell Publishing.

Newell, Heather. 2008. Aspects of the Phonology and Morphology of Phases, McGill University: Doctoral dissertation.

Noonan, Máire B. 1992a. Statives, perfectives and accusativity: The importance of being HAVE. Proceedings of the 11th West Coast Conference of Formal Linguistics (WCCFL XI), ed. M. Kural, Stanford, CA: CSLI.

Nwachukwu, P. Akujuoobi. 1987. The Argument Structure of Igbo Verbs. MIT Center for Cognitive Science, Lexicon Working Papers 18.

Nwachukwu, P.A. 1985. Inherent complement verbs in Igbo. Journal of the Linguistic Association of Nigeria 3:61-74.

Perlmutter, David. 1978. Impersonal passives and the unaccusative hypothesis. Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society (BLS 4)157-189.

Phillips, Vivianne. 2000. The interactions between prefix and root: The case of maha- in Malagasy. In Formal Issues in Austronesian Linguistics, eds. Ileana Paul, Vivianne Phillips and Lisa Travis, 85-104. Dordrecht: Kluwer Academic Publishers.

Pica, Pierre. 1987. On the nature of the reflexivization cycle. Proceedings of the 17th Annual Meeting of the North East Linguistics Society (NELS 17), eds. J. McDonough and B. Plunkett, 483-500. Amherst, MA: GLSA.

Pylkkänen, Liina. 2002. Introducing Arguments, Massachusetts Institute of Technology: Doctoral dissertation.

Rackowski, Andrea. 2002. The Structure of Tagalog: Specificity, Voice, and the Distribution of Arguments, Massachusetts Institute of Technology: Doctoral dissertation.

Reinhart, Tanya, and Reuland, Eric. 1993. Reflexivity. Linguistic Inquiry 24:657-720.

Ross, Kie. 1993. Causatives in TagalogMcGill University.

Shibatani, Masayoshi. 1972. Three reasons for not deriving 'kill' from 'cause to die' in Japanese. In Syntax and Semantics, vol 1, ed. John P. Kimball, 125-137. New York and London: Academic Press.

Shibatani, Masayoshi. 1976. The Grammar of Causative Constructions. New York: Academic Press.

Speas, Margaret. 1990. Phrase Structure and Natural Language. Dordrecht: Kluwer Academic Publishers.

Sportiche, Dominique. 1990. Movement, agreement, and case. unpublished ms.

Sportiche, Dominique. 1998. Partitions and Atoms of Clause Structure. London: Routledge.

Travis, Lisa, and Williams, Edwin. 1982. Externalization of Arguments in Malayo-Polynesian Languages. The Linguistic Review 2:57-78.

Travis, Lisa deMena. 2000b. The l-syntax/s-syntax boundary: Evidence from Austronesian. In Formal Issues in Austronesian Linguistics, eds. Ileana Paul, Vivianne Phillips and Lisa Travis, 167-194. Dordrecht: Kluwer Academic Publishers.

Travis, Lisa deMena. 2001. Derived objects in Malagasy. In Objects and other Subjects: Grammatical Functions, Functional Categories and Configurationality, eds. William D. Davies and Stanley Dubinsky, 123-155. Dordrecht: Kluwer Academic Publishers.

Travis, Lisa deMena. 2005. Syntactic categories: lexical, functional, cross-over, and multifunctional. In Handbook of Categorization in Cognitive Science, eds. Henri Cohen and Claire Lefebvre, 319-346. Amsterdam: Elsevier.

Williams, Edwin. 1980. Predication. Linguistic Inquiry 11:203-238.

Williams, Edwin S. 1981. Argument structure and morphology. The Linguistic Review 1:81-114.