

# chapter 13

## Split VPs

### 0. INTRODUCTION

In chapters 1–12, we sketched out the major theoretical tools assumed by the majority of syntacticians operating in the principles and parameters framework. The next few chapters take us away from these agreed-upon areas, and focus on important material that is both more controversial and more advanced. The discussion in these chapters is going to be more open-ended. Do not expect a perfect answer or even an answer that can be considered “right.” Instead our discussion will consider some major lines of thought about these more difficult topics.

### 1. THE PROBLEM OF DITRANSITIVE VERBS<sup>1</sup>

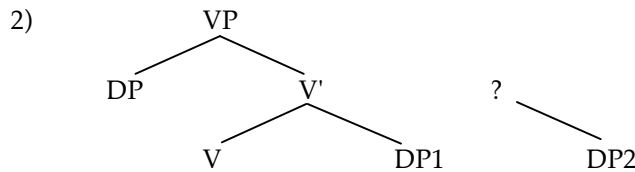
In chapters 2 and 8, we discussed a number of ditransitive verbs, such as *put* of subcategory  $V_{[DP\_DP\ PP]}$ , *give* of subcategory  $V_{[DP\_DP\ [DP/PP]]}$  and *tell* of subcategory  $V_{[DP\_DP\ [CP/DP]]}$ . In many cases the third argument of these verbs seems to function like a complement, aside from the fact that it is not immediately adjacent to the verb. For example, no adjunct may intervene between the two post-verbal DP arguments of the verb *give*:

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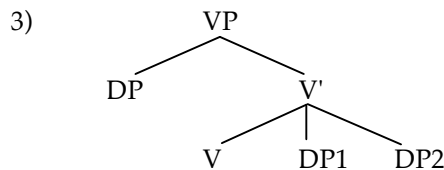
<sup>1</sup> Many thanks to Heidi Harley for allowing me access to her teaching materials for the preparation of this chapter.

- 1) a) \*Josh gave Clay carefully a book.  
 b) Josh gave Clay a book carefully.

However, we know from our study of X-bar theory in chapters 6 and 7, that (i) we are only ever allowed one complement and (ii) complements of verbs must be adjacent to that verb. This follows from the fact that X-bar theory requires trees to be strictly binary branching. So the place to attach these “second” complements is a mystery (2):



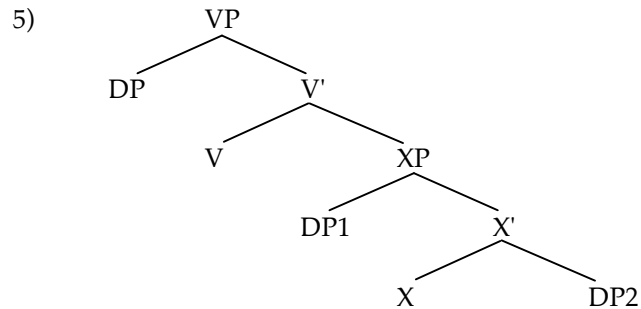
Even if we were to allow ternary branching as in (3), a different problem emerges. In (3) the two DPs c-command one another, thus we might expect a symmetry between them in terms of binding relationships.



Barss and Lasnik (1986) showed that there is actually a clear asymmetry between these two DPs, as if the first one c-commanded the second, but not vice versa. This can be seen in examples (4 a and b) where we have a typical anaphor–antecedent relationship (Condition A). As you can see the indirect object *Justin* can bind a direct object anaphor; but the reverse is not possible. If the structure of the sentence were (3), then the anaphor should be able to appear in either position because the two DPs symmetrically c-command one another.

- 4) a) Briana showed Justin<sub>i</sub> himself<sub>i</sub> in the mirror.  
 b) \*Briana showed himself<sub>i</sub> Justin<sub>i</sub> in the mirror.

These facts show that in terms of c-command relationships the two DPs must be in a configuration like that in (5):



It's only in a configuration like (5) where DP1 c-commands DP2, but DP2 does not c-command DP1. Of course the obvious question that arises then lies in the nature of the category labeled X in (5). We address this question in the next section.

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*You now have enough information to try General Problem Set 1*

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## 2. LIGHT VERBS

There is reason to think that what appear to be morphologically simple verbs in English may in fact be morphologically complex. In particular, we're going to claim that verbs that assign an agentive theta role consist of two parts; a verbal root and what we call a *light verb*. Light verbs are essentially auxiliaries (in that they head their own VP) and they are part of the complex that surfaces as a simple verb in English. To see this at work, we need to turn to other languages where the morphological complexity of verbs is more obvious on the surface.

In Japanese (6a), Hiaki (6b), Malagasy (6c), we see that certain simple verbs in English correspond to morphologically complex structures in these languages. These each consist of (at least) a verb root and some other morpheme that speakers report as either marking agentivity, or making the root into a full verb. I have abbreviated this light verb element, following Chomsky (1995) as "v". This is usually called *little v* to contrast it to lexical verb roots which are of category *big V*.

- 6) a) Keiko-wa      pizza-o      ag-e-ta.  
       Keiko-TOP    pizza-ACC    rise-v-PAST  
       "Keiko raised the pizza."
- b) Huan    u'usit-ta      ee-tua-k.  
       Juan    child-ACC    feel-v-PAST  
       "Juan teased the child."

- c) M-**an**-sasa      ny lamba      amin ny savony      Rasoa.  
 PAST-**v**-wash      the clothes      with the soap      Rasoa  
 "Rasoa washes the clothes with the soap."

A number of scholars have suggested that even in English, agentive verbs are bimorphemic. There is a verb root that indicates the lexical meaning of the word and a light verb that roughly means "cause." So a verb like *clean* really means something like "to cause to be clean." Kratzer (1996) suggests that agentive theta roles are not assigned by the verb, but by the light verb<sup>2</sup> contained within it. So if we take a verb like *clean*, this is really composed of the little verb *v* meaning "cause" (CAUSE) which assigns the agent role, and takes a VP as a complement (we will refer to the theta role assigned to this VP as "predicate") and the lexical root  $\sqrt{\text{CLEAN}}$ , which takes the theme as a complement:

|              |           |                       |  |
|--------------|-----------|-----------------------|--|
| 7) CAUSE     |           | $\sqrt{\text{CLEAN}}$ |  |
| <u>Agent</u> | Predicate | Theme                 |  |
| DP           | VP        | DP                    |  |
| i            | j         | K                     |  |

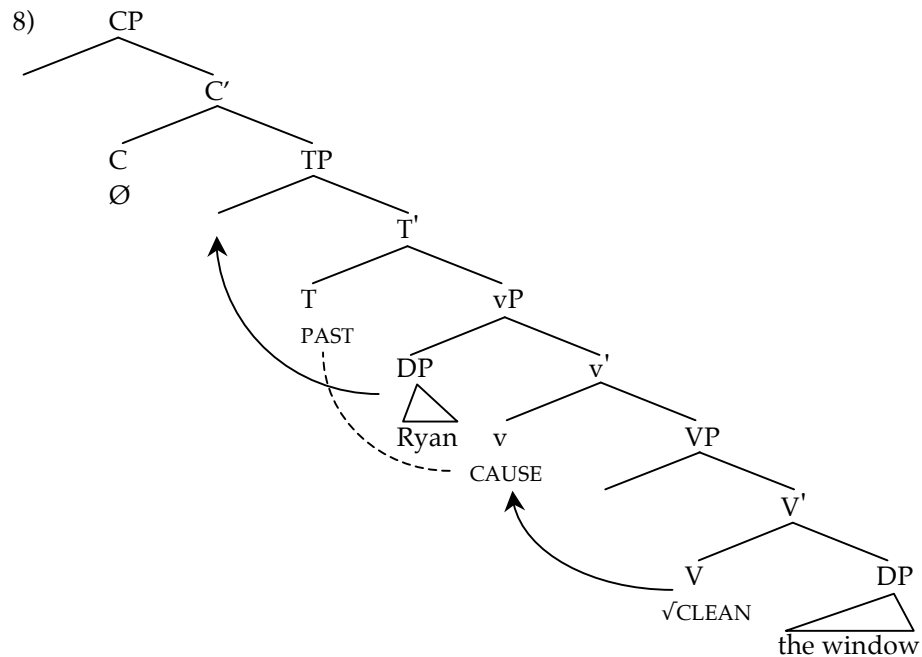
So the tree for the sentence *Ryan cleaned the window* contains a *vP* dominating a VP. The subject DP moves for the usual case and EPP reasons. In order to create the verb *clean* out of CAUSE and  $\sqrt{\text{CLEAN}}$  there is head movement of the V into the *v* category. The affix *-ed* either lowers on to the *v+V* head (as we did in chapter 9) or is attached to the V to start with, and there is covert movement of the *v+V* to T (as we did in chapter 12) – we'll indicate these options with a dotted curved line.

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*You now have enough information to try General Problem Set 2*

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<sup>2</sup> Kratzer actually calls the category *voice*, and suggests that it is of the same category as the auxiliary verb that introduces the passive discussed in chapter 10.



The evidence for this separation of agents from their roots comes from the behavior of phrasal idioms. Marantz noticed that while there are sentential idioms (the verb plus all the arguments as in *The pot called the kettle black*<sup>3</sup>) and verb+object idioms (such as *kick the bucket*<sup>4</sup>), there are no subject+verb idioms. Similarly, we find that while the meaning of the object can change the interpretation of the verb, as in (9), the subject never does so (10).

- 9) a) kill a bug                      = end the life of the bug  
     b) kill a conversation        = cause the conversation to end  
     c) kill an evening            = while away the time span of the evening  
     d) kill a bottle                = empty the bottle  
     e) kill an audience          = entertain the audience
- 10) a) John laughed  
      b) The audience laughed  
      c) The manager laughed  
      d) The bug laughed

<sup>3</sup> For the information of non-native English speakers: this means “to speak hypocritically.”

<sup>4</sup> For the information of non-native English speakers: this means “to die.”

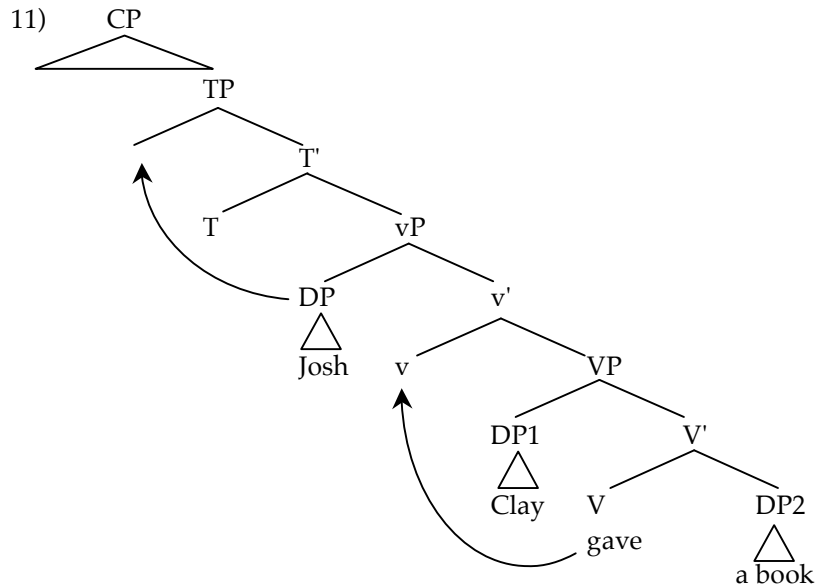
This suggests that there is a tight link between the verb and its object that it doesn't share with its subject. If we adopt the little *v* approach, these facts follow directly: the verb root has the object in its theta grid but the agent is never in the theta grid of the verb root, so an idiomatic meaning cannot form around it.

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*You now have enough information to try Challenge Problem Sets 1 & 2*

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With this light verb approach for simple transitives, let's consider how this might extend to datives. It is a relatively simple matter to substitute little *v* and big *V* in for the verb and *X* in the tree in (5) giving (11):



Head movement of the *V* to *v* gives the correct spellout order (*Josh gave Clay a book*). It also accounts for the asymmetric c-command effects between the two post-verbal DPs. There are however, a number of problems with this analysis still. One thing that is a bit of a mystery is how case gets assigned to the two NPs, especially the one that is labeled DP1 in (11). To find an explanation for this, we turn now to a different, yet equally puzzling phenomenon involving object positioning.

### 3. OBJECT SHIFT

The following pair of sentences with embedded infinitive clauses from two dialects of Irish show an interesting alternation in the position of the object

and in the case marking of the object. Sentence (12a) represents the order of elements in the northern dialects of Irish (mainly Ulster). You will note that the object appears before the verb (and the particle *a<sup>L</sup>*) and bears accusative case – the case we normally associate with being the complement to the verb. In sentence (12b), which is found in literary Irish and in southern (Munster) Irish, by contrast, the object appears after the verb, but it takes a genitive case marking.<sup>5</sup>

- 12) a) Ba mhaith liom [CP Seán *an abairt* a<sup>L</sup> scríobh].  
 C good with.1.S John the sentence.ACC TRAN write  
 “I want John to write the sentence.”
- b) Ba mhaith liom [CP Seán a<sup>L</sup> scríobh *na habairte*].  
 C good with.1.S John TRAN write the sentence.GEN  
 “I want John to write the sentence.”

Both these sentences are surprising. As we’ve seen in earlier chapters, Irish seems to typically put its heads before its complements (determiners precede Ns, prepositions precede DPs, etc.). With this in mind, (12b) displays the expected word order; but we get the unexpected genitive case marking on the object. (12a) has the opposite problem, the order of the verb and its complement DP are reversed from what we’d expect in a head-initial language, but the object at least bears the correct case.<sup>6</sup>

We find a similar variation in literary Irish when we look at main clauses in different aspects.<sup>7</sup> In the progressive aspect (13b), objects follow the main verb and take the genitive case. In the recent perfective (13a), objects precede the main verb (and the particle *a<sup>L</sup>*), and take the accusative case:

- 13) a) Tá Seán tar eis *an abairt* a<sup>L</sup> scríobh.  
 be.PRES John PERF the sentence TRAN write  
 “John has just written the sentence.”
- b) Tá Seán ag scríobh *na habairte*.  
 be.PRES John PROG write the sentence  
 “John is writing the sentence.”

<sup>5</sup> In traditional grammars, this is typically taken to be a result of the fact that the infinitival verb in Irish is “nominal” in nature. This account doesn’t explain the accusative case in the Northern dialects, so we will leave it aside here.

<sup>6</sup> This order and case marking are also available in the Southern dialects if there is no overt subject for the embedded clause. (See McCloskey 1980 for a survey of the phenomenon).

<sup>7</sup> Aspect refers to the duration of an event and whether it is completed or not.

This kind of alternation, known as *object shift*, is not an esoteric property of Irish; it is found in a wide variety of languages. Take the embedded clauses below taken from German (data from Diesing 1992); in particular focus on the order of negation and the DP referring to “the cat”:

- 14) a) ... weil ich *nicht* [<sub>DP</sub> eine einzige Katze] gestreichelt habe  
           since I   not       a   single cat   petted       have  
           “... since I have not petted a single cat”
- b) ... weil ich [<sub>DP</sub> die Katze] *nicht* streichle  
           since I       the cat   not   pet  
           “... since I did not pet the cat”

The conditions for object shift here are different from the Irish example (the alternation is around negation instead of around the verb; and the alternation seems to be linked to definiteness/specificity rather than case), but this also appears to be a case of object alternation.

We can even find a related alternation in English. Consider complex verbs like *blow up* in English. With full NPs, the direct object can either precede or follow the particle *up* (15a and b), but with pronouns the particle must appear in the middle of the complex verb (15c and d):

- 15) a) I blew up the building.  
       b) I blew the building up.  
       c) \*I blew up it.  
       d) I blew it up.

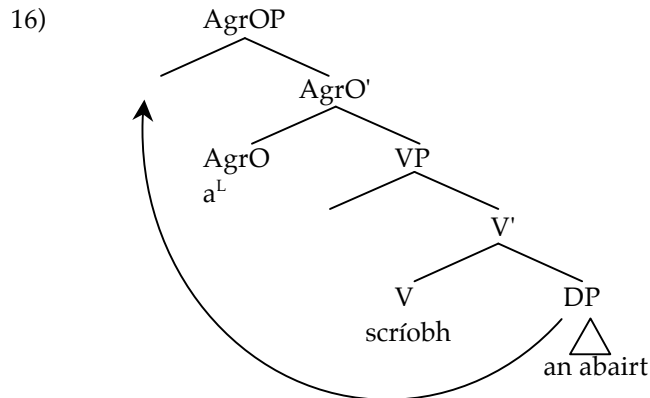
These alternations in object position all differ in their specifics, but clearly we have some kind of movement operation that affects the position of objects.

The Irish case is particularly illustrative, as it shows an alternation in case marking. Accusative case is only available in the shifted position. Building upon a proposal of Pollock (1989) and Chomsky (1991) we can propose that there is a special functional category whose sole purpose is accusative case assignment. The name of this category is *AgrO* (standing for Object Agreement); (the basic idea behind this name being that the case assigner is usually the constituent that agrees with the object). The head of *AgrO* in Irish is the particle *a<sup>L</sup>*,<sup>8</sup> which follows the shifted object. For Irish object shift then, we have a structure where the object moves from the position where it gets its theta role to this shifted position where it gets accusative case:

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<sup>8</sup> This is a different *a<sup>L</sup>* from the one seen in the exercises in chapter 11. It is simply homophonous in the same way that the English infinitive marker *to* is homophonous to the preposition *to*.





AgrOP seems to be located between VP and vP.<sup>9</sup> This can be seen in the following sentence from Scots Gaelic (a language closely related to Irish), where the shifted object appears before the  $a^L$  AgrO morpheme but after the light verb *bhith*:

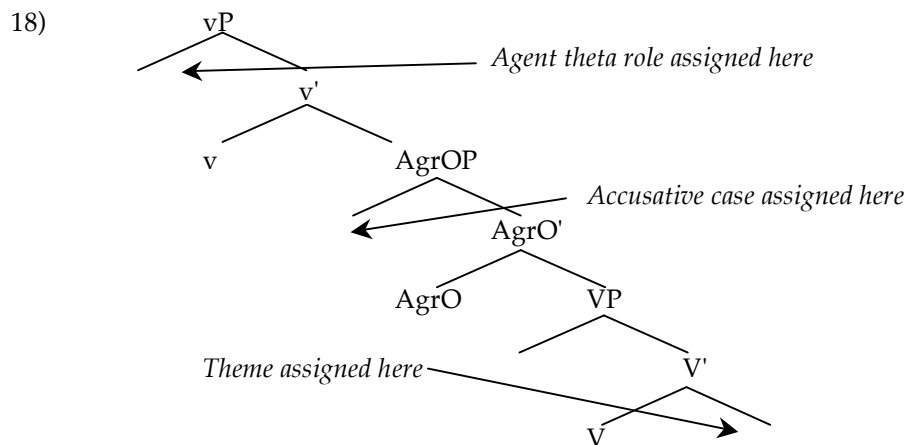
- 17) Bu toigh leam [CP sibh  $a^L$  bhith air **an dorus**  $a^L$  dhùnadh].  
 be like with me you AGR v PERF the door AGR close  
 "I'd like you to have shut the door."<sup>10</sup>

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*You now have enough information to try General Problem Sets 3 & 4 and Challenge Problem Set 3*

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Leaving aside the upper portion of the tree, the structure of the expanded VP then is at least as follows



<sup>9</sup> As first observed by Koizumi (1993).

<sup>10</sup> Data from Adger (1996).

This is quite a radical shift in structure from the simple VP we've had up to now. So it is worth considering if this proposal makes any predictions. One elegant argument for this expanded structure comes from the work of Lasnik (1999a). In many languages there are phenomena where a string that has already been uttered is omitted in subsequent structures where it would otherwise have to be repeated word for word. For example, we get sentences like (19):

19) Darin will eat a squid sandwich but Raiza won't.

The second CP here [*Raiza won't*] is obviously missing the VP [*eat a squid sandwich*] as that is what Raiza won't do. One typical explanation for this phenomenon is that there is a special rule of *ellipsis* that allows the deletion of VPs under identity with an antecedent VP:

20) Darin will [eat a squid sandwich]<sub>i</sub> but Raiza won't ~~[eat a squid sandwich]<sub>i</sub>~~.

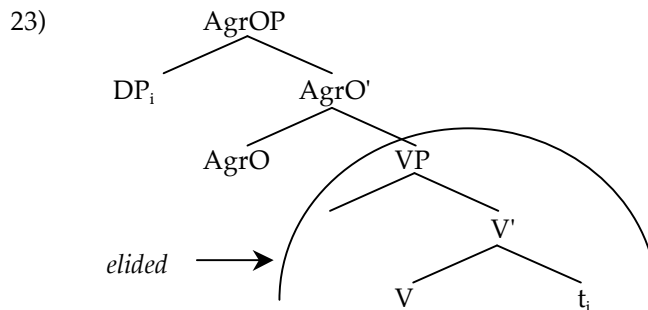
There is one variant of the ellipsis phenomenon that puzzlingly doesn't delete the entire VP. This is called, for reasons that need not worry us here, *pseudogapping*. In pseudogapping constructions the accusative DP is left behind:

21) Darin will eat a squid sandwich, and Raiza will *a peanut butter one*.

This isn't simply deleting a verb: everything but the accusative-marked DP is deleted from the second VP (example from Lasnik 1999a).

22) The DA proved Jones guilty and the assistant DA will ~~prove~~ *Smith guilty*.

The split vP-AgrOP-VP architecture provides a straightforward analysis of this. Pseudogapping is indeed VP ellipsis – but the object has moved out of the VP into AgrOP, but the verb and all other material remains inside the VP, and gets deleted. The object survives ellipsis because it has shifted outside of the VP.



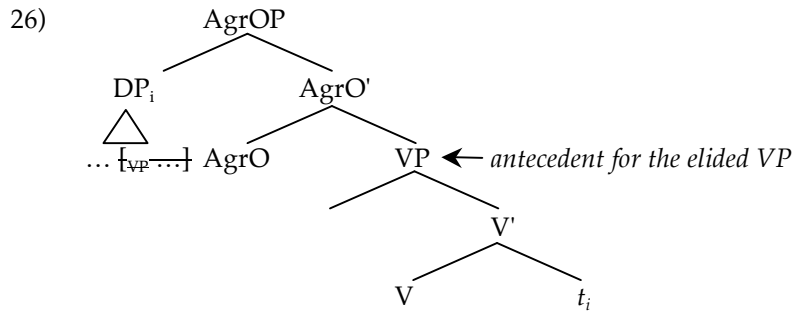
Regular VP ellipsis is really vP ellipsis, which is why the object disappears in those contexts.

Object shift to a VP-external AgrOP also explains a puzzling fact in a phenomenon called *Antecedent Contained Deletion* (ACD). ACD is a special case of ellipsis, where an elided VP is contained within a DP that is itself contained within the VP that serves as the antecedent for the ellipsis, as schematized in (24). An example of ACD is given in (25):

24)  $[_{VP} \dots [_{DP} \dots [_{CP} \dots [_{VP} \dots]_i \dots] ] ]_i$

25) Brandon  $[_{VP}$  read every book that Megan did  $[_{VP} \dots]$ .

ACD has the property of infinite regress. The antecedent of the ellipsis contains the ellipsis, so how can the content of the elided VP ever be recovered? The antecedent of the gap also contains that gap. Object shift provides an elegant solution to this problem.<sup>11</sup> The DP containing the gap is always an object, so it shifts out of the antecedent VP into the specifier of AgrOP. After this happens the elided VP is no longer contained within its own antecedent so the problem of infinite regress vanishes, as the actual gap is no longer contained within the VP antecedent.



#### 4. DITRANSITIVES: REPRISE

Let's now return to ditransitive verbs. For verbs where the final argument is a PP and CP we have a straightforward account of where all the arguments get theta roles and case. First let's look at a verb like *tell* which can take both a DP and a CP complement. First we have the theta grids for the little *v* and the root  $\sqrt{\text{TELL}}$ .

<sup>11</sup> See Hornstein (1994).

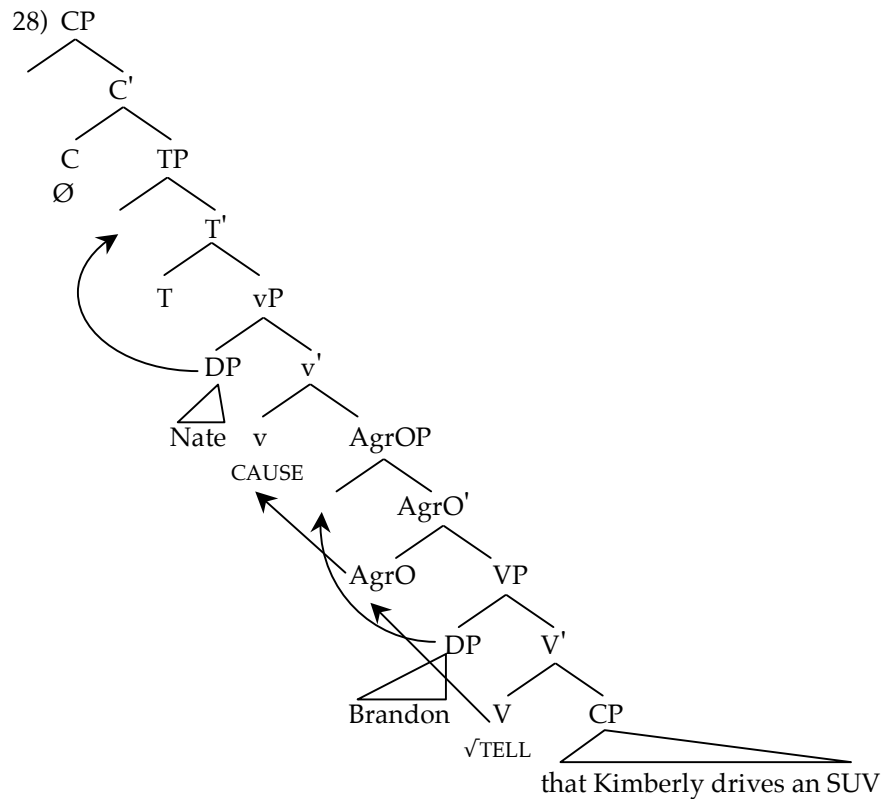
27) CAUSE

| Agent<br>DP | Predicate<br>AgrOP |
|-------------|--------------------|
| i           | J                  |

 $\sqrt{\text{TELL}}$ 

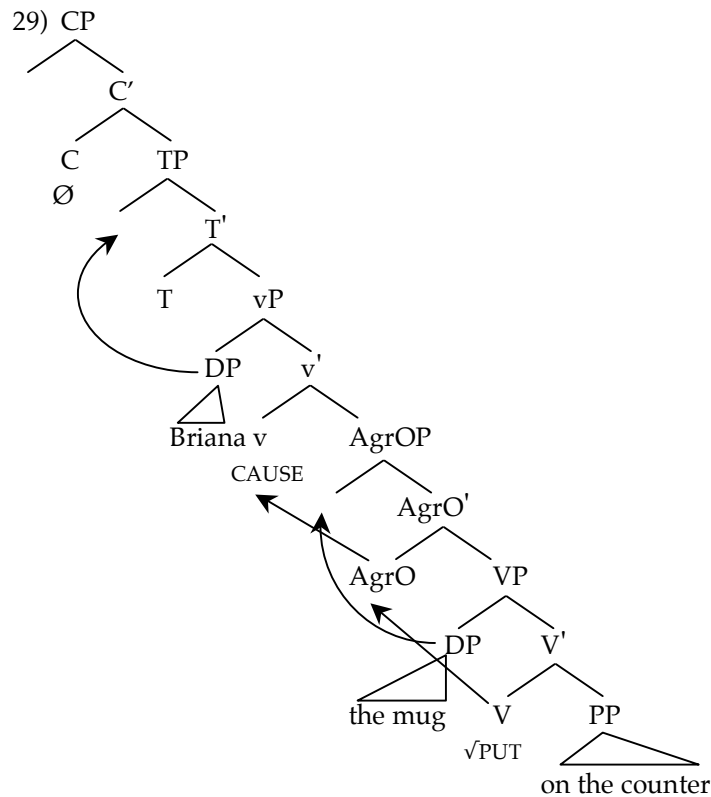
| Theme<br>DP | Proposition<br>CP |
|-------------|-------------------|
| k           | l                 |

Given a sentence like *Nate told Brandon that Kimberly drove an SUV*, we have a D-structure tree as in (28) (leaving aside the details of tense inflection).



The root moves through AgrO and into CAUSE; it must stop in AgrO on its way up to the little v in order to meet the MLC. The DP *Brandon* shifts to the specifier of AgrOP to get case.

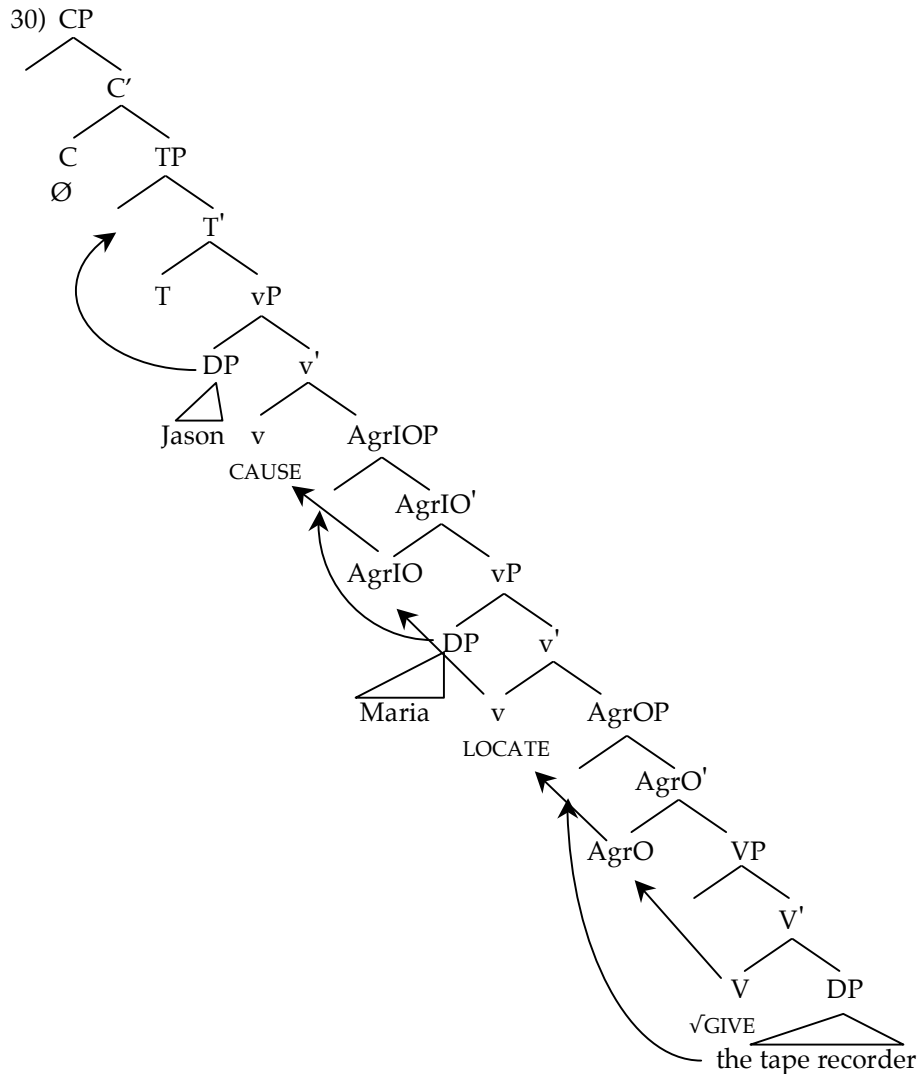
A similar analysis can be applied to verbs like *put* that take a PP second complement, as in the sentence *Briana put the mug on the counter*:



The last kind of ditransitive is more difficult. This is the case of *give*. *Give* allows two possible argument structures one with a DP theme and PP goal (as in *Jason gave the tape recorder to Maria*). This version of *give* presumably has a structure like that in (28). The other version of *give* takes two DP complements (*Jason gave Maria the tape recorder*). There are two puzzles with this kind of construction. First we have the obvious question of the source of accusative case for the goal DP. Second, more curious, is the fact that the indirect object goal precedes the direct object theme. If the theme moves to the specifier of AgrOP for case, then the goal must be moving to a higher position than that. One possibility that has been proposed is that goals can be introduced by two distinct mechanisms. One is via a preposition like *to*. The other is using another light verb, this one meaning LOCATE or POSSESS instead of CAUSE. This second mechanism could be paired with another case assigning functional category, this time for indirect objects (AgrIOP).<sup>12</sup> Under

<sup>12</sup> Collins and Thráinsson (1996).

such a story the architecture of the complex VP for a verb like *give* looks like (30).



Each DP moves to its case position, and the root  $\sqrt{\text{GIVE}}$  moves through AgrO, Locate, AgrIO, into CAUSE. This gives the correct surface order.

There are, of course, a number of open issues here, not the least of which is the relationship between the two structures for the verb *give*. However, these complex split VP structures seem to provide a mechanism for explaining the hierarchical properties of ditransitive verbs, the case marking of their arguments and provide an explanation for such diverse facts as pseudogap-

ping, Antecedent Contained Deletion, and object shift. In the next chapter, we see that the AgrO category also helps us in providing a landing site for a new kind of DP movement (subject to object raising).

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*You now have enough information to try General Problem Sets 5 & 6*

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#### IDEAS, RULES, AND CONSTRAINTS INTRODUCED IN THIS CHAPTER

- i) **Light verbs (little v):** the higher part of a complex verb, usually meaning CAUSE (or LOCATE in the case of ditransitive double object verbs).
  - ii) **Object Shift:** the phenomenon where accusatively marked objects shift leftwards.
  - iii) **AgrO:** the head that checks accusative case in the split VP system.
  - iv) **(VP) Ellipsis:** A process that deletes a VP (or vP) under identity with a previously uttered identical VP.
  - v) **Pseudogapping:** A variety of ellipsis where the accusative object is not deleted.
  - vi) **Antecedent Contained Deletion (ACD):** A kind of ellipsis where the antecedent of the ellipsis contains the ellipsis site.
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#### FURTHER READING

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## GENERAL PROBLEM SETS

### 1. NPIS AND DOUBLE OBJECT VERBS

[Data Analysis and Critical Thinking; Intermediate]

The words *anything* and *anyone* are negative polarity items, and must be licensed by a negative word like *no one* or *nothing*. Explain how the following data supports the structure given above in the main text in (5). (Hint: think structural relations). (Data from Barss and Lasnik 1986.)

- a) Amanda gave no one anything.
- b) \*Amanda gave anyone nothing.



## 2. COMPLEX VERBS

[Data Analysis and Critical Thinking; Intermediate]

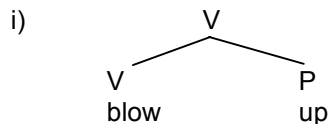
Sentence (a) is from Persian and sentence (b) is from Chicheŵa. Explain how these data support the idea that verbs are really composed of a *v* and a *V*.

- a) Kimea az ra'ise edâre da'vat **kard**  
 Kimea of boss office invitation **v**  
 "Kimea invited the office boss."
- b) Mtsikana anagw-**ets**-a kuti mtsuko  
 Girl fall-**v** that waterpot  
 "The girl knocked over that waterpot."

## 3. PARTICLES

[Data Analysis & Critical Thinking; Advanced]

Using the split vP-AgrOP-VP system, explain the verb-particle facts of English given in example (15). Assume that a verb like *blow up* is structured as in (i) and that the *blow* portion of this complex verb can move independently of the preposition/particle *up*. You do not have to explain why the shifted order is obligatory with pronouns and not with DPs.



## 4. THETA GRIDS

[Application of Skills; Intermediate]

The theory involving AgrOP requires that we modify the lexical entries given in the text above in (7). Provide new theta grids for little *v* meaning CAUSE and the root  $\sqrt{\text{CLEAN}}$  that take into account AgrOP.

## 5. TREES

[Application of Skills; Intermediate to Advanced]

Using split VP structures and AgrOP draw the trees for the following sentences:

- Susan sent the package to Heidi.
- Carolyn sent Heidi a package.
- Peter placed the letter in the envelope.
- I asked Mike if he had seen the Yeti.
- I bought some flowers for Manuel.
- I bought Manuel some flowers.

## 6. APPLICATIVES IN BAHASA INDONESIA

[Data Analysis; Advanced]

Consider the following data from Bahasa Indonesia (Chung 1976). This language has two orders that are similar to the prepositional order and the double object orders of English *give* type verbs. What is interesting is the presence in the construction with two DPs of a morpheme in the verb that is typically called the applicative (APPL), explain how this data is evidence for the split VP approach proposed in (30).

- a) Saja mem-bawa surat itu kepada Ali.  
    I     CAUSE-bring letter the to     Ali  
    "I brought the letter to Ali."
- b) Saja mem bawa-kan     Ali surat itu.  
    I     CAUSE-bring-APPL     Ali letter the  
    "I brought Ali the letter."

## CHALLENGE PROBLEM SETS

### CHALLENGE PROBLEM SET 1: THAT DOG DOESN'T HUNT

[Critical Thinking; Challenge]

Consider the idiom: *That dog doesn't hunt* (meaning "that solution doesn't work"). Is this a counter-example to the claim that there are no subject-verb idioms in English? (As a matter of contrast: notice that in verb + object idioms the subject can be any possible DP: John kicked the bucket, The man kicked the bucket.

### CHALLENGE PROBLEM SET 2: AGAIN

[Critical Thinking; Challenge]

As discussed in von Stechow (1996) and Beck and Johnson (2004) the following sentence is ambiguous:

John opened the door again

It can have either of the following meanings:

- i) The door was open before (perhaps opened by Susan) and now it's open again due to John's action
- ii) John opened the door before, and he did it again.

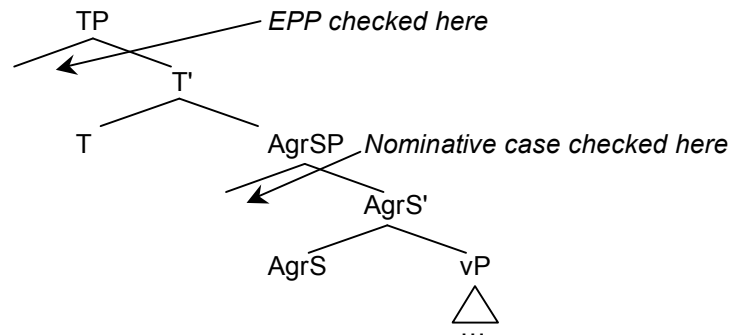
Keeping in mind the principle of modification, explain how this data is evidence for a little *v* meaning CAUSE and the split VP hypothesis.

### CHALLENGE PROBLEM SET 3: AGRS

[Creative Thinking; Challenge]

In the chapter above we proposed AgrO and AgrIO, there may well be evidence that case is not assigned by TP, but by an AgrSP. In particular it has

been proposed that the EPP is a property of TP, but case is assigned lower in the structure, in an AgrSP:



*Part 1:* Using the following data from English argue for an AgrS in the position suggested above. Assume *there* is an expletive (without a theta role.)

- There was a man arriving at the station when I pulled up.
- There were four men arriving at the station when I pulled up.

*Part 2:* The following data from Scots Gaelic was given above as evidence for the position of AgrO between v and V. This data also contains evidence for AgrS. Explain what it is. (Scots Gaelic data from Adger 1996.)

- Bu toigh leam [CP sibh a<sup>L</sup> bhith air an doras a<sup>L</sup> dhúnadh.]  
 be like with me you AGR V PERF the door AGR close  
 "I'd like you to have shut the door."

