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The Dissertation Committee for Ralph Charles Blight  
Certifies that this is the approved version of the following  
dissertation:

Head Movement, Passive, and Antipassive in English

Committee:

---

Lisa Green, Supervisor

---

Stephen Wechsler

---

Carlota Smith

---

Marta Lujan

---

Rajesh Bhatt

# Head Movement, Passive, and Antipassive in English

by

Ralph Charles Blight, B.A.

## Dissertation

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# Head Movement, Passive, and Antipassive in English

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Ralph Charles Blight, Ph.D

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Supervisor: Lisa Green

This thesis develops a theory of 'short' head movement, defined as movement of a head  $X^0$  (e.g., verb, preposition, morpheme) from a lexical position (e.g., V, P) to a position no higher than the highest extended projection  $v$  of V, and investigates the manner in which it interacts with (and is constrained by) the valency reducing operations Passive and Antipassive in English. Passive and Antipassive are taken to be purely syntactic operations which manipulate the feature matrices of the verbs to which they apply, essentially by adding and/or deleting features. Two types of head movement are proposed: (i) movement of the substitution type, which does not result in overt morphology (e.g., V to  $v$  movement; V to V movement), and (ii) movement of the adjunction type, which does produce overt morphology (e.g., Preposition Incorporation). Among the major proposals made in this thesis are (1) Active verbs occupy a position in overt syntax higher than that

of passive verbs in English, (2) English has a non-morphological active-antipassive alternation, and (3) dative shift/applicativization involves VP internal passivization.

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## Chapter 1: Introduction

### 1.1 Overview

This thesis investigates the interaction between 'short' head movement, which I define as movement of a verb (or preposition) from V (or P) to a position no higher than the highest extended projection  $v$  of V, and the valency reducing operations Passive and Antipassive in English. While there has been some attention given in the literature to movement of this type (e.g., Pollock 1989), the majority of research has focused on 'long' movement, specifically V to T (or Infl) and V (or Infl) to C (Vikner 1991, 1995, Chomsky 1989, Koopman 1984). Work on 'short' movement did not begin until the advent of the VP internal subject hypothesis (Koopman and Sportiche 1988, 1991), which proposes that external arguments are generated in a specifier position either inside the main VP or in an extended projection of VP. This extended projection has been referred to by many names, including Voi (Kratzer 1994), Pr (Bowers 1993), Tr (Collins 1997),  $v$  (Chomsky 1995), and  $\mu$  (Pesetsky 1989, Johnson 1991). Central to this proposal has been the idea that the verb moves out of the V position, either overtly or at LF, and raises to the head position of the extended projection. One of the primary goals of subsequent research has been to determine what triggers this movement. This will also be a central goal for the present thesis, where I will argue that movement of the

verb to the extended projection of V is triggered by a strong voice feature, which I will refer to as  $[\pi]$ , and interacts crucially with the operation Passive.<sup>1</sup>

A second type of 'short' movement discussed in the literature is based on the theory that the component parts (i.e., meanings) of a verb are built up via operations which take place either in the syntax (e.g., Collins and Thráinsson 1996) or at a (post-lexical) pre-syntactic level which is governed by the same principles (e.g., the ECP/Head Movement Constraint) as the syntactic level (e.g., Hale and Keyser 1993). This approach to syntax is often referred to as Lexical Decomposition (LD) and dates back to the days of generative semantics, when researchers attempted to derive the meaning of verbs like *kill* from logically related component meanings such as CAUSE and DIE (e.g., Lakoff 1970). As has been pointed out over the years, there are a number of significant problems inherent in the LD approach to syntax (e.g., Chomsky 1970). However, I believe that many of these can be overcome under a feature based theory of verb movement. Consequently, I will adopt a version of LD, with appropriate modifications, in my analysis of dative and *as* verbs in chapter 4.

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<sup>1</sup>I claim that main verbs move to v to check an active voice feature. Passive, a lexical operation, deletes this feature from the feature matrix of the verb when it applies.

The major goal of this work will be to develop a concise feature based account of 'short' head movement within the minimalist framework of Chomsky (1993, 1994, 1995, 1998), one which incorporates the constraints imposed by valency reducing operations like Passive and Antipassive. Chapter 2 will provide evidence for a distinction in the surface syntactic position of active and passive verbs in English, the major claim being that active verbs overtly occupy the head position of the extended functional projection of V, which, following Chomsky (1995), I will refer to as *v*, while passive verbs occupy V. This evidence will provide motivation that the trigger for movement to *v* is the active voice feature [ $\pi$ ], which must be checked in the syntax (before Spell-Out).

Chapter 3 examines three (non-passive) transitivity alternations in English, the unspecified object alternation, the conative alternation, and the preposition drop alternation, and concludes that they should all be treated as active-antipassive.<sup>2</sup> The lack of overt antipassive morphology in English is addressed and a comparative study of the properties of the active-antipassive alternation in ergative-absolutive languages is undertaken. It is shown that active-antipassive alternations in morphologically ergative languages have the same syntactic and semantic properties

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<sup>2</sup>By 'alternation', I mean a set of two distinct syntactic constructions with the same verb and roughly the same meaning. In this thesis, I am concerned primarily with transitivity alternations. These are alternations which affect the Valency of verbs. A verb participates in a transitivity alternation when it has more than one possible valence.

as non-passive transitivity alternations (like the conative alternation) in English. In each case, (i) a transitive verb becomes an intransitive verb, (ii) a transitive subject becomes an intransitive subject, and (iii) a direct DP argument becomes oblique and is de-focused semantically. It is concluded that English (and perhaps other morphologically accusative languages as well) employs a non-morphological active-antipassive alternation. I argue that the antipassive variant of this alternation is derived via preposition incorporation (PI), which may apply either overtly or covertly. If the preposition incorporates into the verb stem in the syntax, the verb will have overt antipassive morphology. On the other hand, if PI occurs at LF, as I suggest it does in English, the verb will have no overt antipassive morphology. PI is triggered, I will claim, by an abstract semantic feature which I will refer to as OBL (oblique). At the end of this chapter, I re-examine the active-passive alternation and argue that the derivation of a passive construction, like the derivation of an antipassive construction, involves the semantic feature OBL.

Chapter 4 will investigate the syntax of verbs with multiple internal arguments and the syntactic alternations in which they participate (specifically, dative verbs like *give*, which participate in the dative alternation, and *as* verbs like *appoint*, which participate in the *as* alternation). Following Larson (1988) and others, I will argue that the syntax of such verbs involves two projections of VP

and that movement to the highest V or lexical insertion in the lowest V involves the checking of semantically conditioned features like CAUSE, POSS (possession), and PRED (predication). One of the main goals of this chapter will be to provide a unified account of the dative and *as* alternations in English, alternations which have received significantly different treatments in the literature over the years. To this end, I will argue that the only major difference between these two alternations is that the dative alternation involves the application of Passive in the lowest VP whereas the *as* alternation involves the application of Antipassive.

In the remainder of this chapter, I will spell out my theoretical assumptions in greater detail. Section 1.2 offers a theoretical overview of Chomsky's (1995) Minimalist Program and discusses some relevant extensions. Section 1.3 provides more detailed information regarding my assumptions about phrase structure, verb movement, and the valency reducing operations Passive and Antipassive.

## **1.2 Theoretical Background**

The theoretical aspects of this thesis rely heavily on recent developments within the minimalist framework of Chomsky (1993, 1994, 1995) and some important extensions made by Collins (1995,

1997). In this section, I introduce the relevant portions of this framework which will be adopted in the subsequent analysis.

### *1.2.1 Local Economy*

Following Chomsky (1995), I assume three distinct levels of linguistic representation: (i) a lexicon, (ii) a level of phonetic form (PF) which interfaces with the performance mechanisms of speech and perception, and (iii) a level of logical form (LF) which interfaces with the systems of semantic interpretation. These levels are related by derivations which are constructed by the computational component of the grammar. The lexicon specifies which lexical items may enter into a given computation by constructing a numeration  $N$ , which consists of a set of pairs  $(L_i, i)$ , where  $L_i$  represents the lexical item and  $i$  represents the index which specifies the number of times the lexical item is to be selected from the numeration for computation.

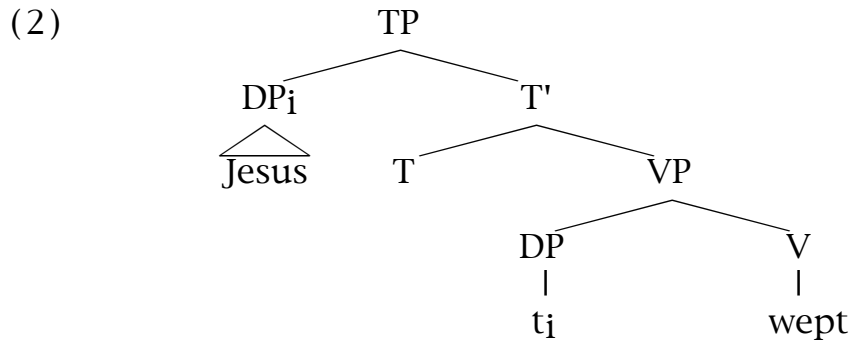
A syntactic derivation is a uniform computation from the numeration  $N$  to LF. In constructing derivations, the computational component of the grammar employs three distinct operations: (i) the operation *Select*, which takes lexical items out of the numeration and makes them available for subsequent computation, (ii) the operation *Merge*, which takes two linguistic objects and constructs a new linguistic object out of them, and (iii) the

operation Copy, which duplicates an existing linguistic object and makes it available for further computation. (1) shows a simple derivation for the sentence *Jesus wept*. For illustrative purposes only, I will assume that the subject in this example is generated in the Spec of VP and that TP is the only functional projection dominating VP. Note that the numeration is also represented in (1), something which will not be done when showing subsequent derivations.

- (1)
- a.  $N = \{(\text{Jesus}, 1), (\text{wept}, 1), (T, 1)\}$
  - b. Select Jesus -  $N = \{(\text{Jesus}, 0), (\text{wept}, 1), (T, 1)\}$
  - c. Select wept -  $N = \{(\text{Jesus}, 0), (\text{wept}, 0), (T, 1)\}$
  - d. Merge (Jesus, wept) = {Jesus, wept}
  - e. Select T -  $N = \{(\text{Jesus}, 0), (\text{wept}, 0), (T, 0)\}$
  - f. Merge (T, {Jesus, wept}) = {T, {Jesus, wept}}
  - g. Copy Jesus
  - h. Merge (Jesus, {T, {Jesus, wept}}) = {Jesus, {T, {Jesus, wept}}}

The numeration in (1a) contains three lexical items, *Jesus*, *wept*, and T, each having an index of 1. Select first takes *Jesus* out of the numeration, reducing its index by 1 (1b). Select then reapplies, taking *wept* out of the numeration and reducing its index by 1 (1c). Next, Merge takes *Jesus* and *wept* and replaces them with a new linguistic object, {Jesus, wept} (1d). T is then selected from the numeration, its index reduced by 1, and merged with the existing

linguistic object {Jesus, wept}, forming a new linguistic object, {T, {Jesus, wept}} (1f). Finally, Copy duplicates *Jesus* (1g) and Merge applies to *Jesus* and {T, {Jesus, wept}} to produce the root {Jesus, {T, {Jesus, wept}}}. The lowest occurrence of *Jesus* is deleted at PF. The final two steps, Copy + Merge, conspire to produce the effects of Move  $\alpha$ . The complete derivation in (1) corresponds roughly to the more familiar tree structure given in (2).



In order for a derivation to converge (i.e., satisfy the principle of Full Interpretation), it must converge at both of the interface levels, PF and LF, simultaneously. Lexical items selected from the numeration are assumed to be associated with syntactic features like the  $\phi$ -features of person and number and grammatical features like case. Features may in principle be either strong or weak. Weak features are invisible at PF but must be eliminated in order to ensure convergence at LF. At any given point along the computation from N to LF, the operation Spell-Out strips away those features relevant only to the articulatory-perceptual interface and presents them to PF. It is crucially assumed that all strong features must be eliminated



prior to the point at which this operation applies. If a strong feature remains after Spell-Out, the derivation crashes at PF. Within a derivation, features are eliminated by entering into checking relations or checking configurations with appropriate feature checkers. Spec-head and head-head relations are generally assumed to be the required configurations for such feature checking to take place. Following Collins (1997), I assume that checking relations may be either symmetric or asymmetric. In a symmetric feature checking relation the two elements check their features off against each another. In an asymmetric checking relation one of the elements is able to check the features of the other but its own features remain unchecked. The requirement that features must be checked is the driving force behind syntactic movement, taken here to be a reflex of Copy + Merge.

Syntactic derivations are constrained by the economy principles. In the framework of Chomsky (1991, 1993, 1994, 1995), it is assumed that derivations must be optimal with respect to economy conditions like Greed and Procrastinate. The most optimal derivation in a set  $\Sigma$  of all possible competing convergent derivations is assumed to be the one which violates the fewest of these conditions. In this system, the economy conditions are globally defined. That is, since convergence is a prerequisite for decisions about optimality, economy is unable to evaluate a particular set of derivations until all computations are complete.

Two converging derivations may only compete if they derive from the same numeration. As pointed out by Collins (1997), this implies that derivations like the ones in (3) below may not be compared with respect to economy since they do not arise from the same numeration.

- (3) a. There was a man in my bathtub.  
b. A man was in my bathtub.

(3a) is derived by selecting *there* from the numeration and merging it with the already existing linguistic object [T' was a man in my bathtub]. (3b) is derived by copying *the man* and merging it with [T' was a man in my bathtub].

In this thesis, I will adopt a local notion of economy, based on work by Collins (1995, 1997). In Collins' system, the economy conditions decide between the possible operations which may apply at each step of a given derivation. In (3), there is a point where both of the competing sentences share a common structure, [T' was a man in my bathtub]. At this point, economy decides between the operations Select (*there*) and Copy (*a man*). In this case, neither operation violates any of the economy conditions so both possibilities are acceptable.

Collins (1997) proposes two economy conditions: Minimality, which subsumes the Minimal Link Condition of Chomsky (1995), and Last Resort, which, among other things, subsumes Greed. Only the latter of these two conditions is relevant for the present thesis and is given in (4) below (from Collins 1997: 95).

(4) *Last Resort*

Move raises  $\alpha$  to the checking domain of a head H with a feature F only if the feature F of H enters into a checking relation with a feature F of  $\alpha$ .

where Move = Copy + Merge. Given (4), movement of an element  $\alpha$ , either an  $X^0$  or an XP, into the checking domain of a head H will violate Last Resort if  $\alpha$  does not have a feature which is able to enter into a checking relation with some feature F of the head H such that the feature F of H is not checked by the operation.

### 1.2.2 Head Movement

Before concluding this section, I will briefly outline my assumptions regarding the nature of head movement. Chomsky (1993) proposes that all derivations must be cyclic. A syntactic operation may only apply in a given derivation if it extends the structure by adding a sister to the root. This requirement is known as the Extension Condition. Overt XP movement satisfies the

Extension Condition. Head movement and LF movement, on the other hand, are always countercyclic. This is shown in (5), assuming that the derivation for a sentence like *The police will arrest John* has reached the point where the head *v* is to be selected from the numeration.

- (5) a. {John, {arrest, John}}  
       b. Select *v*  
       c. Merge (*v*, {John, {arrest, John}}) = {*v*, {John, {arrest, John}}}  
       d. Copy *arrest*  
       e. Merge (*arrest*, *v*) = {*arrest*, *v*}

In (5), *v* is selected from the numeration and merged with the already existing linguistic object {John, {arrest, John}}, forming a new object, {*v*, {John, {arrest, John}}}  
 (5c). At this point Copy duplicates *arrest* (5d). Merge then takes *arrest* and *v* and replaces them with the object {*arrest*, *v*} (5e). This step violates the Extension Condition since no sister is added to {*v*, {John, {arrest, John}}}. Instead, Merge takes the duplicate generated by Copy and combines it with an object internal to the root.

Various solutions to this technical problem have been proposed. In this thesis, I will follow Bobaljik (1995) and Bobaljik and Brown (1997), who argue that head movement involves an interarboreal operation, which is basically an operation which takes

place external to the root, or across phrase markers. On this account, the head adjunction structure is created first and is then merged with the root. This is the exact opposite of the situation in (5). (6) shows a revised derivation with interarboreal head merger.

- (6) a. {John, {arrest, John}}
- b. Select *v*
- c. Copy *arrest*
- d. Merge (*arrest*, *v*) = {*arrest*, *v*}
- e. Merge ({*arrest*, *v*}, {John, {*arrest*, John}}) = {{*arrest*, *v*}, {John, {*arrest*, John}}}

The derivation in (6) does not violate the Extension Condition. After selecting *v* and copying *arrest*, Merge forms a head adjunction structure {*arrest*, *v*} which is external to the root {John, {*arrest*, John}}. The newly formed adjunction structure is then added as a sister to the root by a subsequent application of Merge. In (5), on the other hand, Merge creates the adjunction structure internal to the root, an operation which does not extend the structure and consequently violates the Extension Requirement.

I assume that head movement is essentially an adjunction operation which, depending on whether a lexical category or a lexical item is involved, produces two distinct effects. I will refer to these types of head movement as (i) movement of the substitution

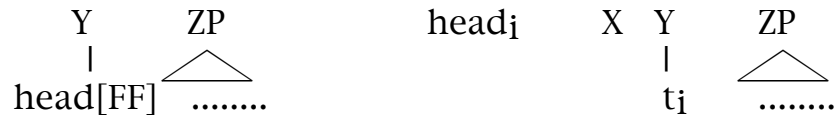
type, exemplified in (7), and (ii) movement of the adjunction type, exemplified in (8). (FF = unchecked formal feature; head = lexical item; X, Y = lexical category; XP, YP = projection of lexical category).

- (7) a. [XP ....X[FF] ... [YP .... head[FF] ... ]]  
 b. [XP ....head<sub>i</sub> ... [YP .... t<sub>i</sub> ... ]]

- (8) a. [XP ....head[FF] ... [YP .... head[FF] ... ]]  
 b. [XP ....head+head<sub>i</sub> ... [YP .... t<sub>i</sub> ... ]]

Lexical items like verbs and prepositions and lexical categories like V and P may enter a derivation with formal features. These features, like all formal features, must be checked in the course of the derivation in order to ensure convergence. In movement of the substitution type, a lexical item (represented as *head* in the above examples) raises from its base position and adjoins to a lexical category to check its formal feature (represented as FF) against the formal feature of the category to which it adjoins. Since lexical categories do not have phonetic content at PF, the operation produces no morphological effects on the heads involved. The effects produced will be those of substitution type movement. (9) shows the output of this type of operation.





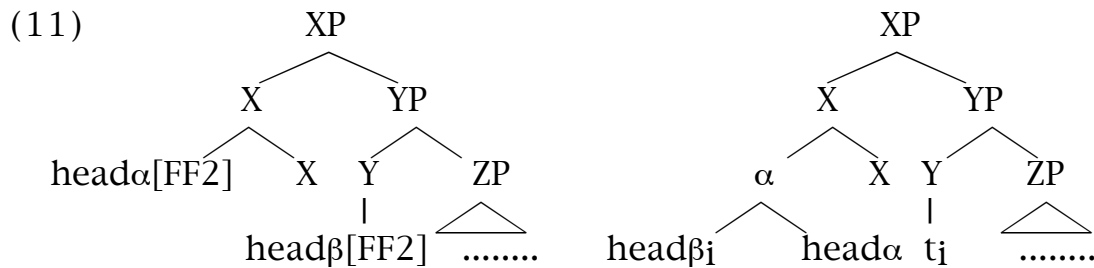
Lexical insertion generally involves movement of the substitution type. In order to be licensed in a derivation, a lexical item must check a feature assigned to it from the numeration against an appropriate feature of the lexical category to which it adjoins. For content class categories like V and P and the lexical items which adjoin to them, these features will be semantic in nature. Features of this type, which I will argue include the features CAUSE, POSS, PRED, OBL, and DIR, will be discussed extensively in chapters 3 and 4. In this thesis, semantic features will be represented in caps.

In movement of the adjunction type, a lexical item raises from its base position and adjoins to another lexical item to check a formal feature against a formal feature of the lexical item to which it adjoins. The lexical item serving as the target of movement in this case must also check a feature against the feature of the lexical category to which it adjoins in order to be licensed in the derivation. The steps required to build this derivation are given in (10), assuming that the derivation has already reached the point at which X is to be selected from the numeration (i.e., {YP ... head<sub>β</sub> ...} has already been built). (X = a lexical category, head<sub>α</sub> and head<sub>β</sub> = lexical items, FF1, FF2 = unchecked formal features).

- (10) a. Select  $X[FF1]$   
 b. Select  $head_{\alpha}[FF1], [FF\ 2]$   
 c. Merge  $(X[FF1], head_{\alpha}[FF1], [FF\ 2]) = \{X, head_{\alpha}[FF\ 2]\}$   
 d. Copy  $head_{\beta}[FF2]$   
 e. Copy  $head_{\alpha}[FF\ 2]$   
 f. Merge  $(head_{\alpha}[FF\ 2], head_{\beta}[FF\ 2]) = \{head_{\alpha}, head_{\beta}\}$   
 g. Merge  $(\{head_{\alpha}, head_{\beta}\}, \{X, head_{\alpha}\}) = \{\{head_{\alpha}, head_{\beta}\}, \{X, head_{\alpha}\}\}$

Select draws  $X$  and  $head_{\alpha}$  from the numeration (10a,b) and merges them together, an interarboreal operation (10c), producing  $\{X, head_{\alpha}[FF\ 2]\}$ . At merger,  $X$ , a lexical category, checks its FF1 feature against the FF1 feature of  $head_{\alpha}$ , a lexical item. This produces the effects of head substitution. Copy then duplicates  $head_{\beta}$  from the preexisting YP and  $head_{\alpha}$  from  $\{X, head_{\alpha}[FF\ 2]\}$  (10d,e) and merges them together, another interarboreal operation (10f), producing  $\{head_{\alpha}, head_{\beta}\}$ . At merger,  $head_{\alpha}$ , a lexical item, checks its FF2 feature against the FF2 feature of  $head_{\beta}$ , another lexical item, producing the effects of adjunction. Finally, Merge combines  $\{head_{\alpha}, head_{\beta}\}$  and  $\{X, head_{\alpha}\}$  to form the single head structure  $\{\{head_{\alpha}, head_{\beta}\}, \{X, head_{\alpha}\}\}$ , which is then merged with YP. The output of these steps is given in (11).





In this thesis, I will argue that movement of the verb to *v* in English is movement of the substitution type (chapter 2), whereas preposition incorporation, i.e., movement of a preposition into the verb stem (as in Baker, 1988) (chapter 3), is movement of the adjunction type. As mentioned above, lexical insertion generally produces the effects of substitution. This will always be the case for instances of lexical insertion which do not involve last resort (i.e., derivation saving) operations. The checking operation in such instances will always involve a lexical item, which has phonetic content, checking features against a lexical category, which does not have phonetic content. Lexical items generally check features against each other as a result of movement. In last resort operations, however, a lexical item with the necessary feature (e.g., an affix) may be selected from the numeration for this purpose. Insertion will produce the effects of adjunction if the lexical item selected from the numeration (i.e., the affix) checks the feature of another lexical item (i.e., the host). In chapter 3, I suggest that the antipassive affix in morphologically ergative languages is generated as a result of such an operation (see chapter 4 for a similar

treatment of passives). On the other hand, insertion will produce the effects of substitution if the lexical item selected from the numeration (e.g., a dummy auxiliary or pronoun) checks the feature of a lexical category, which has no phonetic content. In chapter 2, I argue that the periphrastic passive in English is generated this way, with the passive auxiliary *be* checking the strong voice [ $\pi$ ] feature of the lexical category *v*.

### 1.3 Verb Movement and Valency

In this section, I will outline my assumptions about phrase structure, verb movement, and the valency reducing operations Passive and Antipassive. I begin by discussing my assumptions about VP structure.

#### 1.3.1 VP Structure and Short Verb Movement

I assume the VP structure in (12) for monotransitive and intransitive verbs and the VP structure in (13) for canonically ditransitive verbs (e.g., dative verbs).<sup>3</sup>

(12) [ $\nu$ P [ $\nu$ P ]]

---

<sup>3</sup>Canonically ditransitive verbs' are defined as verbs which are assigned two case features from the numeration. These include dative verbs like *give* and *as* verbs like *appoint*. In chapter 3, I will argue that the oblique variants of the alternations in which these verbs participate are derived via the application of the operations Passive and Antipassive.

(13) [<sub>v</sub>P [<sub>v</sub>P [<sub>v</sub>P [<sub>v</sub>P ]]]]

I assume that *v*P, which, following Chomsky (1995), I take to be the extended (functional) projection of the VP, is obligatory in English main clauses and has two major functions: (i) to license the external argument of the main verb and (ii) to check the voice feature [ $\pi$ ] of the main verb (see chapter 2 for a discussion of this feature). The primary motivation for this assumption is the fact that English passives are periphrastic, with the passive verb always preceded by the auxiliary *be*, which I will argue occupies *v* in a passive derivation. The structure in (13) is essentially Chomsky's version of the split VP hypothesis, which assumes that the VP of ditransitive verbs is 'split' by intervening functional projections such as ArgPO or *v*P (e.g., Koizumi 1993, Chomsky 1995, Collins 1997, Collins and Thráinsson 1996), and is the version I will adopt in my analysis of dative and *as* verbs in chapter 4.

I will argue for two types of short verb movement in this thesis: (1) movement to functional positions like *v*, driven by the need to check functional features like [ $\pi$ ], and (2) movement to lexical positions like V, driven by the need to check semantically based features either (i) particular to the type of predicate involved, or (ii) assigned to the predicate as a result of undergoing a valency reducing operation like Passive or Antipassive.

Movement to functional positions will be discussed extensively in chapter 2, where it is claimed that only active verbs raise to *v* in English. Passive verbs, on the other hand, remain in situ. In a passive derivation, it is the passive auxiliary *be*, and not the main verb, which occupies *v* at PF. Overt movement of active verbs to *v* is triggered, I suggest, by the fact that all main verbs are canonically associated with a strong voice feature  $[\pi]$  which must be checked off before Spell-Out. The functional category *v* is also associated with this feature. The lexical operation Passive, in addition to its other properties, deletes  $[\pi]$  from the feature matrix of the main verb, thereby rendering it unable to act as an appropriate checker for the strong  $[\pi]$  feature associated with *v*. Consequently, the passive auxiliary *be*, which I will claim is also obligatorily assigned a  $[\pi]$  feature from the numeration, must be introduced into the derivation as a last resort to check the strong  $[\pi]$  feature of *v*.

Movement to lexical positions will be the topic of chapters 3 and 4. In chapter 3, I claim that overt antipassive morphology on the verb in morphologically ergative languages is generated by overt preposition incorporation (PI). The antipassive morpheme starts out as a preposition heading the PP which licenses the demoted DP argument. In morphologically ergative languages, the antipassive morpheme incorporates into the verb stem before Spell-Out and is phonetically realized as a verbal affix. In languages without overt

antipassive morphology (i.e., English), PI occurs at LF and the antipassive morpheme is phonetically realized as a preposition. In the case of languages which exhibit both verbal antipassive morphology and overt prepositions, a last resort operation is assumed whereby the antipassive morpheme is selected directly from the numeration to check verbal features.

In chapter 4, I focus on V to V movement, which I claim arises when multiple projections of VP are involved (i.e., when the VP is 'split'), as is the case, I will argue, with dative verbs like *give* and *as* verbs like *appoint*. This type of verb movement is always obligatory. Unlike movement to v, which involves the checking of grammatical features, movement to V is semantically conditioned. The claim will be that ditransitive verbs, i.e., verbs with three canonical arguments, are obligatorily assigned semantic features from the numeration like CAUSE, PRED, and POSS (dative verbs are associated with CAUSE and POSS; *appoint* verbs are associated with CAUSE and PRED). Like grammatical features, these features are strong and must be checked off before Spell-Out. For a dative verb like *give*, the POSS feature, which I will contend is associated with the lower V, is checked by the verb upon lexical insertion. After raising to the intermediate v to check  $[\pi]$ , assuming that this step is necessary, the verb then raises to the higher V and checks its strong CAUSE feature against the strong CAUSE feature of V.

### 1.3.2 *Passive and Antipassive*

The theory of short head movement to be defended in this thesis is crucially intertwined with the valency reducing operations Passive and Antipassive. One of the major claims of chapter 2 will be that movement to *v* is triggered by the strong voice feature  $[\pi]$ .  $[\pi]$ , I will argue, is a feature obligatorily assigned to all main verbs when they enter a syntactic derivation and is eliminated when the verb undergoes the operation Passive. I take Passive to be a post-lexical (or pre-syntactic) operation which applies after the assignment of features from the numeration and before a derivation is constructed via the computational component.<sup>4</sup> Passive alters the feature matrix of the verb by eliminating three major features: the external theta feature, a case feature, and  $[\pi]$ . If a particular verb does not have at least one feature of each type, Passive cannot apply. The fact that only transitive verbs are assigned a case feature effectively rules out the possibility of Passive applying to canonically intransitive verbs, which are never assigned a case feature. If a verb happens to possess the semantic feature DIR (direct), a feature which I will claim in chapter 4 is responsible for the presence of overt applicative morphology in morphologically ergative languages, it is also deleted.

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<sup>4</sup>As conceived, Passive and Antipassive are post-lexical rules which apply to the Numeration. The Numeration is a post-lexical construct in the theory, consisting of a set of lexical items drawn from the lexicon to be used in constructing a syntactic derivation. Since I am assuming a Numeration, it follows that Passive and Antipassive are post-lexical. However, under a theory which eliminates the Numeration, such as that of Collins (1995), Passive and Antipassive would be lexical operations.

Passive also adds an OBL (oblique) feature to the feature matrix of the verb. The operation Passive is summarized formally in (14) below (the elements inside () on the left side of the arrow should be understood as formal features assigned to the verb from the numeration). ( $\theta$  = a theta feature, C = a case feature,  $[\pi]$  = strong (functional) voice feature, OBL and DIR = semantic features, verb = lexical item).<sup>5</sup>

(14) Passive:  $\text{verb}(\theta, C, \pi, (\text{DIR})) \Rightarrow \text{verb}(\text{OBL})$

In chapter 4, I will argue that Passive may also apply in the lowest vP to derive the oblique variant of the dative alternation for verbs like *give* and *send*, which, I contend, require two projections of VP. The output of this operation, however, produces no overt morphology on the verb. Moreover, the preposition which licenses the demoted external argument in such cases (i.e., *to*) is different than the one (e.g., *by*) which licenses the external argument in regular passives. Both of these issues will be discussed extensively in chapter 4.

The operation Antipassive, like Passive, is taken to be a pre-syntactic operation which alters the feature matrix of a verb by

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<sup>5</sup>A given verb may have other formal features associated with it in addition to those represented in (9) (e.g., it may have multiple theta and/or case features). The features shown in (9) are meant to represent only the minimum necessary for the operation to apply.

deleting two major features: an internal theta feature and a case feature, and assigning an OBL feature. If a given verb does not have at least one feature of each type, Antipassive will not apply. This operation is given formally in (15).

(15) Antipassive:  $\text{verb}(\theta, C) \Rightarrow \text{verb}(\text{OBL})$

The Antipassive operation will be discussed at length in chapters 3 and 4. In chapter 3, I argue that movement of the antipassive morpheme from P to V is triggered by the OBL feature of the verb. If the OBL feature of the verb is strong, incorporation will occur before Spell-Out. If the OBL feature of the verb is weak, incorporation will occur at LF. In chapter 4, I will argue that Antipassive also applies in the lowest vP of verbs like *appoint* to derive the oblique variant of the *as* alternation. As is the case with Passive, the output of this operation produces no overt morphology on the verb when it applies in the lowest vP. The lack of morphology will be addressed in detail in chapter 3. I will also discuss the rationale for proposing the existence of an antipassive construction in English, especially given the lack of overt morphology and the fact that this construction is generally associated with ergative/absolutive languages like Greenlandic Eskimo and not with nominative/accusative languages like English (e.g., Dixon 1994).



Before concluding this section, I would like to briefly discuss the set of criteria which will be used in this thesis to classify derivations as to whether they are passive or antipassive. In his book, entitled *Ergativity*, R. M. W. Dixon sets forth a fairly strict set of criteria for this purpose. The relevant portions of his criteria are summarized in (16) for passives and in (17) for antipassives (Dixon 1994: 146).<sup>6</sup>

(16) *Passive*

- a. The underlying object becomes the subject of a passive.
- b. The underlying subject goes into a peripheral function, being marked by a non-core case or by a preposition; this NP can be omitted.
- c. There is some explicit formal marking of a passive construction (e.g., a verbal affix or a periphrastic element in the VP, or both).

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<sup>6</sup>The set of criteria in (16) and (17) have been modified for purposes of this thesis. Dixon (1994) is primarily concerned with the properties of ergative languages and how such properties differ from those found in nominative/accusative languages. To this end, he distinguishes between two types of subjects: (i) the subject of transitive verbs, which he classifies as A, and (ii) the subject of intransitive verbs, which he classifies as S. Transitive objects are classified as O. In Dixon's criteria, the underlying O becomes the S of a passive while the underlying A becomes the S of an antipassive. These distinctions are important for theories of ergativity since ergative languages appear to distinguish A and O from S while accusative languages distinguish A and S from O. Since these distinctions are irrelevant for the present thesis, I do not make them in (16) and (17).

(17) *Antipassive*

- a. The underlying object goes into a peripheral function, being marked by a non-core case or by a preposition; this NP can be omitted.
- b. The underlying subject remains the subject of an antipassive.
- c. There is some explicit formal marking of an antipassive construction (e.g., a verbal affix).

The criteria listed in (16) and (17) above can be partitioned into two distinct types: (i) syntactic or word order criteria (the (a) and (b) cases) and (ii) morphological criteria (the (c) cases). Many theories of passive and antipassive incorporate both sets of criteria. However, this is by no means the case across the board (e.g., Baker 1988, Heath 1976, Postal 1977). In this thesis, I will adopt only the syntactic or word order criteria (the (a) and (b) cases above). In chapter 3, I will cite examples from a number of different languages which appear to demonstrate the unreliability of morphology as a primary determinant for classifications of passive and antipassive. Passivization and antipassivization can and do produce overt verbal morphology. However, as will be shown, they frequently do not. Consequently, for purposes of this thesis, Passive and Antipassive should be understood as operations which produce specific syntactic or word order effects on a given derivation, regardless of whether or not they also produce overt verbal morphology.

## 1.4 Summary of goals

As stated in section 1.1, the overriding goal of this thesis is to develop a feature based theory of 'short' head movement which incorporates the restrictions imposed by the operations Passive and Antipassive. The major goals of chapter 2 are (i) to motivate the claim that active and passive verbs occupy distinct syntactic positions in English at PF, (ii) to motivate voice as the trigger for movement of the verb from V to v, and (iii) to provide a theory of passivization which accounts for the differences between languages like English which have periphrastic (or two word) passives and those which have synthetic (or one word) passives. The goals of chapter 3 are (i) to motivate the existence of an active-antipassive alternation for English, and (ii) to explain why languages like English exhibit no morphological effects when antipassivization occurs. The goals of chapter 4 are (i) to provide a uniform account of the dative and *as* alternations in English which derives the variants of each type of alternation via the application of valency reducing operations in the syntax, and (ii) to explain why vP-internal passivization never produces any overt passive morphology on dative verbs appearing in the oblique (i.e., the passivized) variant.

## Chapter 2: Verb Movement and Passive

### 2.1 Overview

While there is general agreement that English main verbs do not raise overtly to T(ense), it has often been suggested since Larson (1988) that they do undergo short movement, the target being either an extended lexical projection of the VP itself or some VP-like functional projection directly above it (e.g., Sportiche 1990, Bowers 1993, Collins 1997, Chomsky 1995). Implicit in much of this work is the assumption that all main verbs undergo short movement uniformly, regardless of morphological properties such as voice. Thus, if a verb X raises to a position Y when it is active, it will also raise to position Y when it is passive. In this chapter, I argue that this assumption is false. The major thesis will be that active verbs raise to the head position of a functional category directly above VP, which, following Chomsky (1995), I will refer to as vP.<sup>1</sup> Passive verbs, I will claim, do not undergo short movement. Instead, they remain in situ within the VP and the passive auxiliary *be* originates under v.

At first sight, this proposal may seem to be at odds with general minimalist assumptions regarding the motivation for overt

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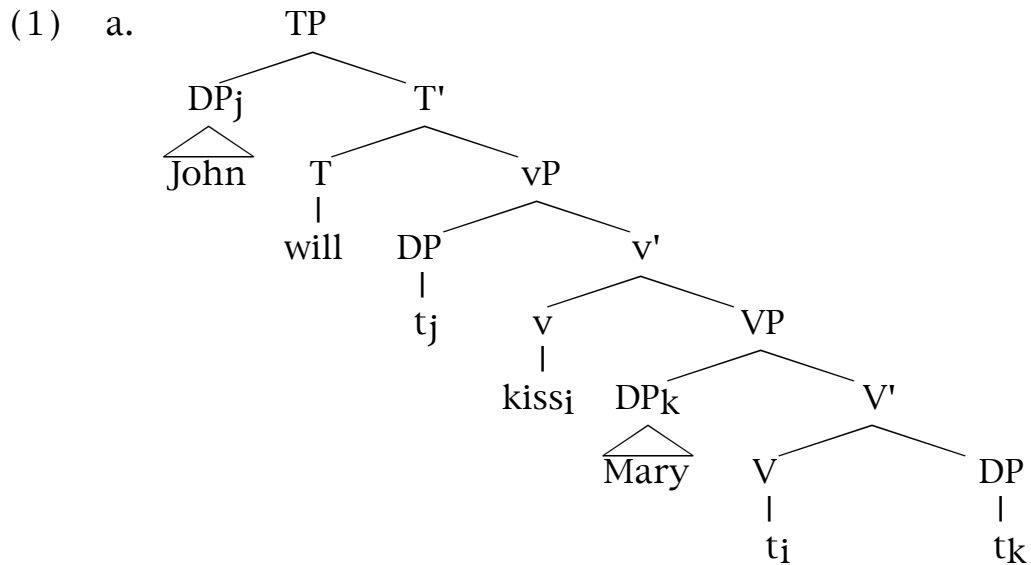
<sup>1</sup>What I refer to as v in this paper has been alternatively referred to as Voi (Kratzer 1994), Tr (Collins 1997), Pr (Bowers 1993, 1997), and  $\mu$  (Pesetsky 1989, Johnson 1991).

syntactic operations. Chomsky (1995) suggests that movement is driven by morphological factors. Verbs raise to license, or check, their morphology. Given that passive verbs are marked, one might expect that under such an approach it is passive verbs and not active verbs that raise overtly, the exact opposite of what I am claiming here. Proposals along this line have been made in the literature. For example, in Baker, Johnson, and Roberts (1989), the passive morpheme *-en* is generated in Infl as an argument. The main verb raises to Infl and assigns case to *-en*, triggering movement of the object to Spec,IP (see Jaeggli (1986) for a similar proposal).

In this thesis, the motivation for movement to *v* does not involve verbal morphology, but rather an abstract voice feature which I will refer to as  $[\pi]$  (see section 2.3). As noted in chapter 1, a principled distinction will be made between functional features like the voice feature  $[\pi]$ , which check grammatical/functional features, and semantic features, which check meaning-based features. The presence/absence of passive morphology on the verb is determined, I will argue, by the checking of a semantic feature and will be discussed in chapter 3.

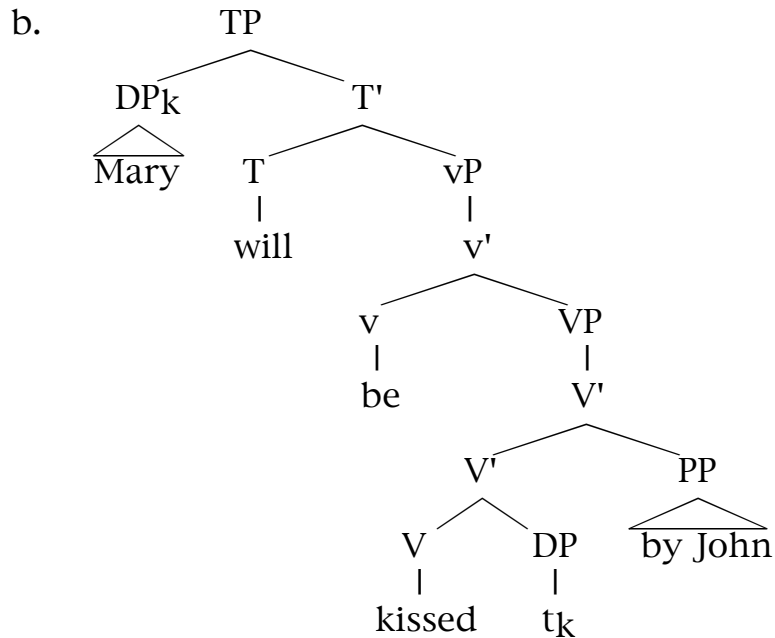
As mentioned in chapter 1, I assume a non-Agr-based theory of clause structure, with *vP* and *TP* (Tense Phrase) serving as the relevant functional projections. In addition, following Johnson (1991) and others, I assume that the direct objects of transitive

verbs move overtly to Spec,VP for case.<sup>2</sup> Given this, I will argue for structure (1a) in the case of active constructions, with the verb raising overtly to v, and for structure (1b) in the case of passive constructions, with the verb remaining in situ and passive *be* originating in v.<sup>3</sup>



<sup>2</sup>Whether this occurs before Spell-Out or at LF in languages like English has been the subject of much debate in the literature. Many believe that object raising is covert in English, citing contrasts between English and languages like German and Icelandic, which seem to provide stronger empirical support for such movement (Brannigan 1992, Bobaljik and Jonas 1996, Chomsky 1993). Others, however, argue that object raising is also overt in English (Johnson 1991, Koizumi 1993, Lasnik 1995, Pesetsky 1989). I believe that the evidence supports this latter line of analysis and will thus assume that objects in English raise to Spec,VP before spell-Out.

<sup>3</sup>In this chapter, *be* will be defined in purely structural terms. The *be* immediately preceding passive verbs and nonverbal predicates will be referred to as passive *be* or main verb *be*. The *be* immediately preceding active verbs will be referred to as progressive *be*. In a sequence of two *bes*, the first *be* (from left to right) will be referred to as progressive *be* and the second as passive *be*. Passive *be* will be assumed to originate in v, while progressive *be*, when present, will be assumed to originate in a higher functional head position, which I will refer to simply as F (see section 2.2.2.1). Since active verbs raise to v, they may not co-exist with passive *be*.



This chapter is organized as follows. In section 2.2, I present a number of empirical arguments for the structures proposed in (1), focusing primarily on evidence related to adverb placement, complement selection, VP ellipsis, and predicate fronting. In section 2.3, I offer a formal account of verb movement within the minimalist framework of Chomsky (1993, 1994, 1995), relying on a number of crucial extensions made by Collins (1995, 1997). The major claim of this section will be that the feature responsible for triggering movement of the verb to *v* is absorbed in the course of verbal passive formation and that movement of a passive verb to *v* constitutes a violation of Last Resort. Assuming that the relevant checking relation is symmetric (i.e., that both main verbs and *v* have features which are normally checked off against one another), I argue that since passive verbs lack the feature in question, adjoining

passive *be* to *v* is the only legitimate means by which Last Resort may be satisfied in a passive derivation projecting to this level. In section 2.4, I show how this proposal may be extended to include a wider array of constructions, including adjectival passives and copular sentences. Finally, in section 2.5, I summarize the major points of this chapter and provide concluding remarks.

## 2.2 Empirical Arguments

In this section, I examine a number of facts which I believe support the major claim of this chapter, namely, that active verbs and the passive auxiliary *be* share a syntactic position distinct from that of passive verbs. I begin with what I consider to be the most direct evidence bearing on this claim, the placement of adverbials. I then discuss a number of constituency arguments supporting the existence of *vP* as a functional category distinct from *VP*, drawing primarily on data involving complement selection, *VP* ellipsis, and predicate fronting. The evidence will show that there is a clear correspondence between the constituent headed by active verbs and the constituent headed by passive *be*, a correspondence which does not include the constituent headed by passive verbs. I suggest that these facts follow on the assumption that active verbs and passive *be* head *vP* while passive verbs head *VP*.



### 2.2.1 Adverb Placement

The placement of adverbs, relative to the verbal head, has long been regarded as a diagnostic for verb movement (e.g., Emonds 1978, Pollock 1989, Chomsky 1991). Assuming that adverbs occupy fixed positions in the syntax, it has been proposed that contrasts such as the one in (2) between English and French arise from the fact that French main verbs raise overtly to T, crossing the adverb, while English main verbs remain in situ within the VP.

- (2) a. \*John kisses often Mary.  
b. Jean embrasse souvent Marie.  
c. John often kisses Mary.  
d. \*Jean souvent embrasse Marie.

In this section, I will attempt to show how this diagnostic may be used to identify instances of short movement to v. The discussion will center primarily on (i) the distribution of a particular class of strictly VP/AP licensed manner adverbs, and (ii) the position of adverbs in the pseudo-passive construction.

#### 2.2.1.1 Degree of perfection Adverbs

Bowers (1993), attempting to motivate the existence of PrP, Predicate Phrase (i.e., vP), discusses a class of adverbs which I will

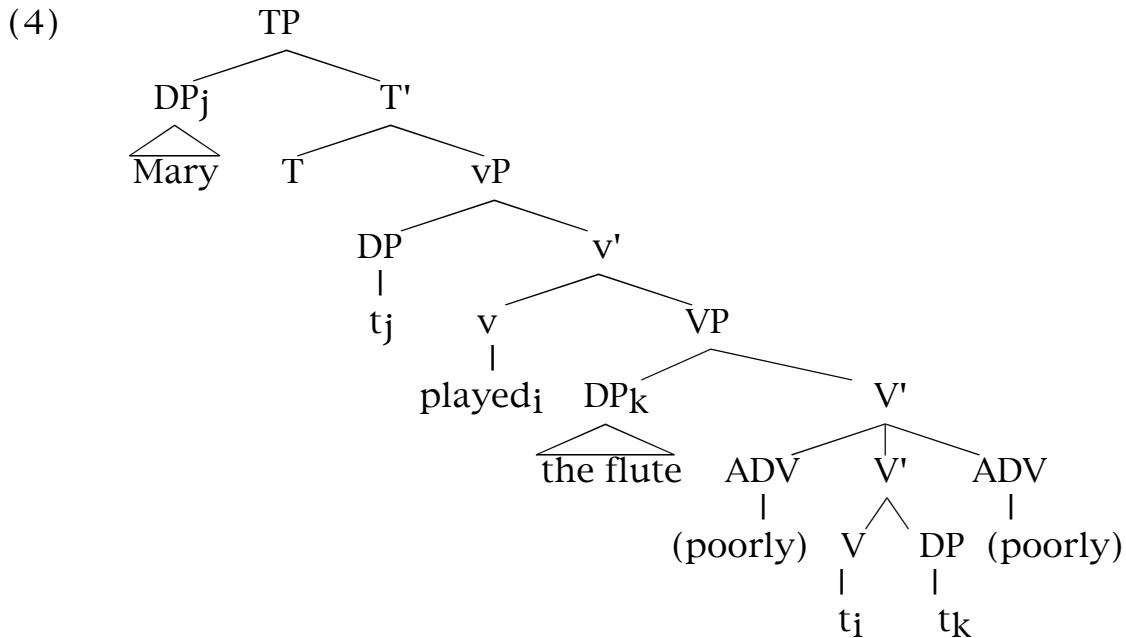
refer to here as the degree of perfection class (henceforth, DOP adverbs). Additional exemplars of this class include *poorly*, *beautifully*, *horribly*, and *terribly*. As the examples in (3) illustrate, these adverbs may appear only post-verbally in active constructions.

- (3) a. John (\*poorly) built the house (poorly).  
b. Mary (\*beautifully) played the flute (beautifully).  
c. Troy (\*poorly) handed the ball to Emmitt (poorly).

Assuming that adverbs like these are strictly VP licensed and may in principle appear either right-adjoined or left-adjoined to V', Bowers reasons that main verbs in English must obligatorily raise to Pr (v). Since DOP adverbs may appear only in positions internal to the VP, it follows that they will never be able to precede main verbs. Bowers assumes the structure in (4) for such cases (with Pr replaced by v in this example), with the direct object appearing in the spec of VP.<sup>4</sup>

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<sup>4</sup>Bowers assumes that objects are base-generated in Spec,VP, whereas I assume that they raise overtly to Spec,VP from complement position.



Bowers assumes no distinction between active and passive verbs in his theory. The implication is that passive verbs behave the same way that active verbs do. My claim, however, is that passive verbs do not undergo movement to *v*. Given this, it follows that the distribution of DOP adverbs in passive constructions should be quite different than in active constructions. As the examples in (5) illustrate, this prediction appears to be confirmed.

- (5) a. The house was (poorly) built (poorly) by John.  
 b. The flute was (beautifully) played (beautifully) by Mary.  
 c. The ball was (poorly) handed to Emitt (poorly) by Troy.

(5) shows that DOP adverbs may either immediately precede or immediately follow passive verbs. Interestingly, while adverbs of this

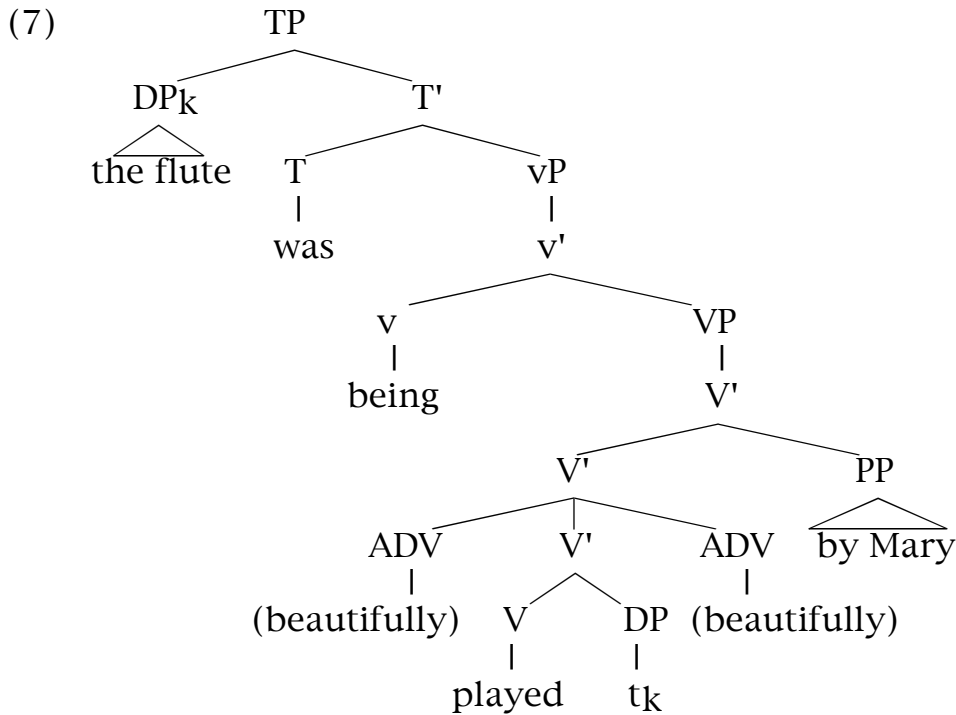
class may precede passive verbs, they cannot precede passive *be*, as demonstrated by the examples in (6).

- (6) a. The house was (\*poorly) being (poorly) built by John.  
b. The flute was (\*beautifully) being (beautifully) played by Mary.  
c. The ball was (\*poorly) being (poorly) handed to Emmitt by Troy.

The examples in (3) through (6) show that active verbs and passive *be* pattern in exactly the same way relative to the position of DOP adverbs, with both elements allowing adverbs of this class to follow them but not to precede them. Passive verbs, on the other hand, allow DOP adverbs to either precede or follow them. Thus, active verbs and passive *be* have identical distributions, distinct from that of passive verbs. These facts receive a natural explanation on the assumption that active verbs and passive *be* occupy *v* in the syntax while passive verbs occupy *V*. Since DOP adverbs may appear only in positions either right-adjoined or left-adjoined to *V'*, it follows that they may precede or follow any element which heads the VP overtly.<sup>5</sup> The structure in (7) shows this for passive constructions.

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<sup>5</sup>It also follows that adverbs of this class will never be able to intervene between active verbs, which are assumed to raise to *v* overtly, and direct objects, which are assumed to raise over the adverb to Spec,VP overtly. See example (4).



It should be noted at this point that for some speakers sentences like the ones in (5), with the adverbs preceding the passive participles, are slightly degraded when a *by*-phrase is present.<sup>6</sup> This raises the possibility that these speakers are analyzing the passive participle in (5) as adjectival.<sup>7</sup> Given this variation, I

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<sup>6</sup>Most of the informants I have consulted tend to judge these sentences acceptable with a *by*-phrase, however. Furthermore, all of the informants I have consulted see a clear difference between examples like (5), where the adverb is preceding a passive verb, and the corresponding examples in (3), where the adverb is preceding an active verb, with the consensus being that the active sentences are much worse.

<sup>7</sup>These speakers also find examples like the following to be degraded (with or without a *by*-phrase):

- (i) \*Emitt was poorly handed the ball.

Adjectives do not permit DP complements, presumably due to their inability to assign case. Consequently, by assuming that the passive participle

believe that a discussion of the categorical status of the passive participle in these examples is in order. All of my informants judged examples like those in (6) to be acceptable without a *by*-phrase:

- (8) a. The house was being poorly built.  
b. The flute was being beautifully played.  
c. The ball was being poorly handed to Emmitt.

Note that in each of the examples in (8), the passive participle is preceded by a form of *be* in the progressive. It is well-known that progressive *be* is only possible with predicates that have a non-stative reading (Dowty 1979). Adjectival predicates, on the other hand, are stative (e.g., Grimshaw 1992). As the examples in (9) illustrate, progressive *be* doesn't allow AP complements that have a stative reading.

- (9) a. \*Mary was being tired.  
b. \*John was being tall.

If it is the case that adjectival passives are stative, it follows that the passive participles in (8) must be verbal.

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is adjectival, an explanation is available for the ungrammaticality of (i): the DP [the ball] is not case-marked.

A second argument for treating the passive participles in these examples as verbal involves the verb *hand* in (8c). As noted by Levin and Rappaport (1986), *hand* does not permit adjectival passive formation either pre-nominally or predicatively. This is shown by the examples in (10) and (11).

- (10) a. \*a poorly handed ball to Emmitt  
b. \*a poorly handed Emmitt the ball

- (11) a. \*the ball remained handed to Emmitt; \*Emmitt remained handed the ball  
b. \*the ball was unhanded to Emmitt; \*Emmitt was unhanded the ball  
c. \*the ball was very handed to Emmitt; \*Emmitt was very handed the ball

The data in (10) and (11) illustrate some of the various diagnostics that have been used to determine whether or not a given lexical item is an adjective (Wasow 1977, 1980, Bresnan 1982). Only adjectives may appear as prenominal modifiers. As the examples in (10) show, this is not possible in the case of *hand*. Second, only XPs headed by adjectives may serve as the complements of linking verbs like *remain* and *seem*. As (11a) shows, *hand* may not head the complement of such verbs. Third, only adjectives may be prefixed with negative *un-*. As (11b) illustrates, *un-* prefixation is not

possible with *hand*. Finally, only adjectives may be modified by intensifiers like *very*. As (11c) shows *very* is incompatible with *hand*. Given the fact that *hand* fails each and every diagnostic for the category adjective, the conclusion must be that the passive participle in (8c) is a verbal.<sup>8</sup>

Before concluding this section, it should be noted that even if the passive participles in examples like (8a, b) are taken to be adjectives, the arguments made in this section still hold. Given that adjectival passives are derived from verbal passives, it follows that DOP adverbs should be permitted to precede them.<sup>9</sup> The only potential problem here is that in the case of adjectival passives the adverb must obligatorily precede the head, while in the case of verbal passives the adverb may either precede or follow the head. I will have more to say on this important issue in section 3. For the present, I simply assume that AP adverbs are licensed in a lower specifier position of AP, just below the position of the externalized argument, assuming a multiple specifier theory of phrase structure such as the one proposed in Chomsky (1995) or Ura (1996). Evidence that the external argument of APs is generated AP-internally

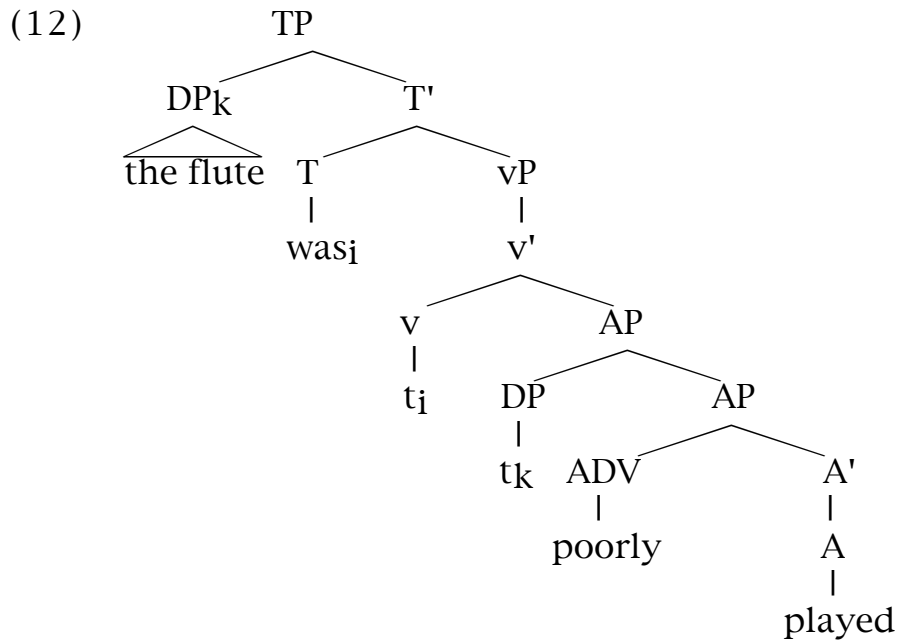
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<sup>8</sup>Note that some of the examples cited in (10) and (11) involve NP complementation. Since adjectives cannot take NP complements, the double object variant in each of these examples is ruled out independently. This does not extend to the oblique variants, however.

<sup>9</sup>That is, since verbal passives do not raise to *v*, it follows that adjectives derived from them will be unable to raise as well. As a result, one would expect that DOP adverbs, which in this case occupy an AP-internal position, should be able to precede them.



will be given in section 3. Since specifiers must precede heads, a consequence of Kayne's (1994) Linear Correspondence Axiom (LCA), the impossibility of post-adjectival modification follows. (12) shows the proposed structure for adjectival passives, assuming that the internal argument has been externalized.



As is the case with verbal passives, adjectival passives do not undergo movement to v. Instead, *be* is generated in v (before raising to T in this example) and the passive participle remains in situ within the AP.

### 2.2.1.2 *Pseudo-Passives*

The examples in (13) illustrate the well-known adjacency condition on verbs and prepositions in the English pseudo-passive construction.

- (13) a. John voted eagerly for the proposal.  
b. \*The proposal was voted eagerly for by John.  
c. John spoke calmly about the situation.  
d. \*The situation was spoken calmly about by John.

In (13b) and (13d), adjacency between the passive verb and preposition is blocked by the presence of an intervening adverb. This effect is not found in the corresponding active examples in (13a) and (13c), however. In these cases, adverbs may freely intervene between the verb and preposition. It has been suggested that contrasts like this constitute strong support for a reanalysis approach to pseudo-passivization (e.g., Van Riemsdijk 1988, Bresnan 1982, Baker 1988a, b). On this view, the passive verb and the preposition are assumed to undergo some sort of restructuring rule, resulting in a complex verbal head, a process which is generally assumed to be subject to a condition of adjacency (see Baltin and Postal 1996, however, for a number of arguments against reanalysis). In this section, I will suggest that an alternative account

of these facts is available on the assumption that active verbs raise to  $v$  while passive verbs do not.

The structure I am proposing for active constructions in (1a) above is essentially the same structure proposed in Johnson (1991), who uses the functional category  $\mu$  instead of  $v$  (see also Pesetsky 1989). Johnson appeals to the distribution of adverbs as a primary motivation for adopting this structure, citing contrasts like the ones in (14).

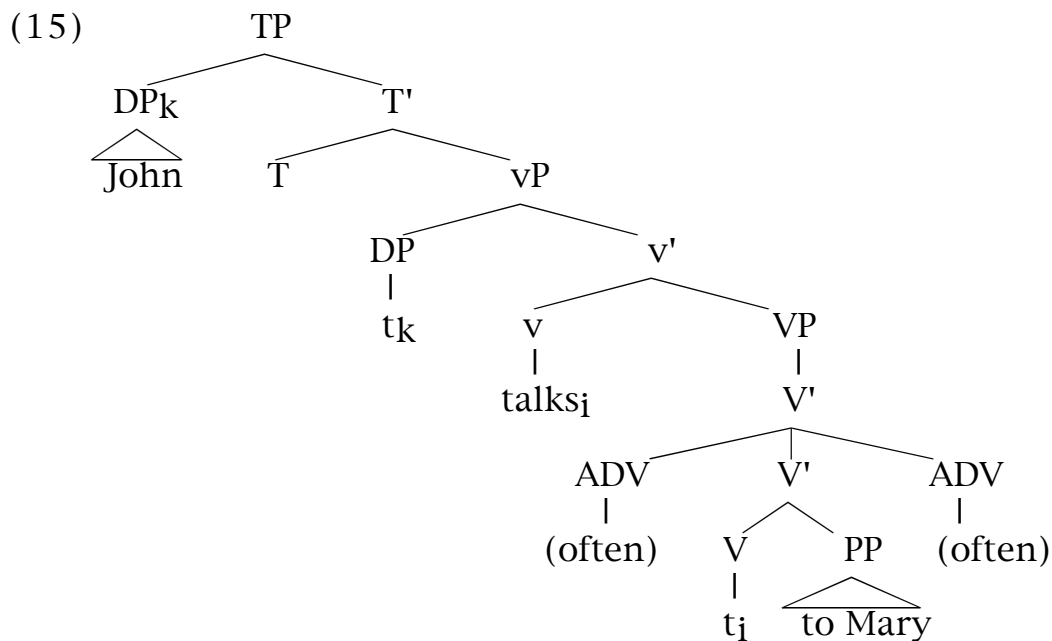
- (14) a. John kissed Mary often.  
      b. \*John kissed often Mary.  
      c. John talks to Mary often.  
      d. John talks often to Mary.

The examples in (14) show that while an adverb may intervene between a verb and a PP complement, it may not intervene between a verb and an NP complement.<sup>10</sup> Johnson argues that these facts follow on assumption that main verbs obligatorily raise to  $\mu$  and that object NPs obligatorily move to the spec of VP for case. Since PPs do not need case, they remain in their canonical positions, as

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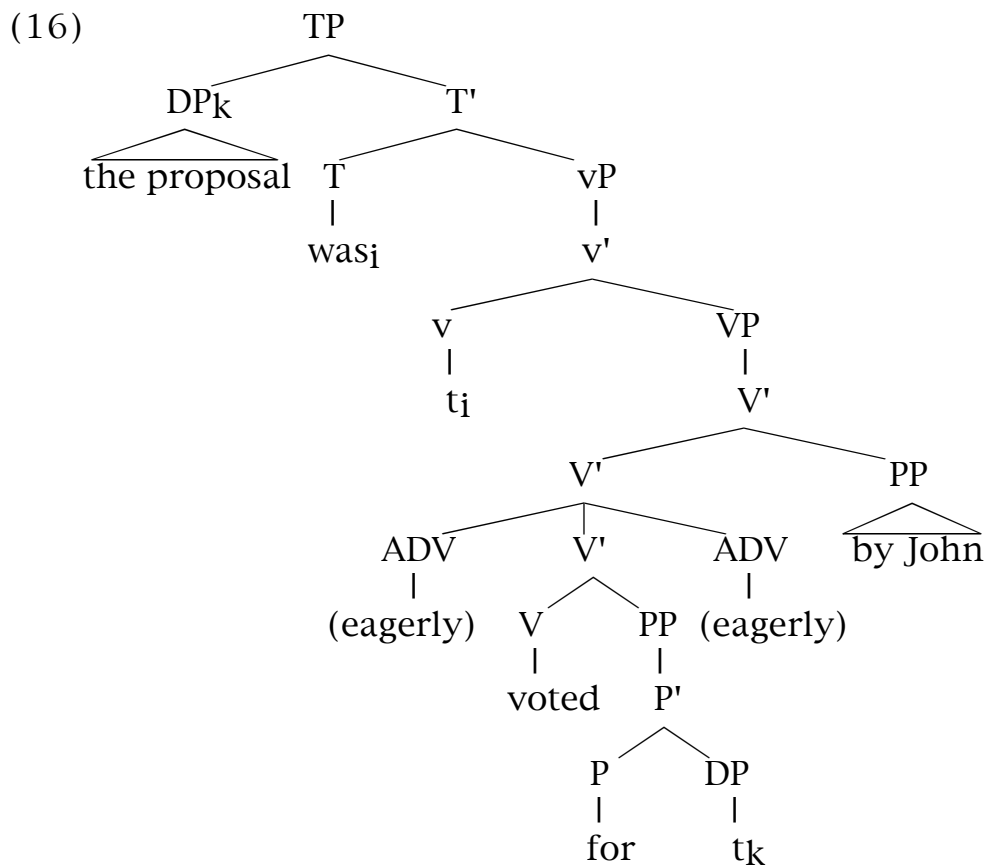
<sup>10</sup>The inability of an adverb to appear between a verb and direct object has been attributed to an adjacency condition on case assignment (Stowell 1981). From a conceptual point of view, this idea is problematic. By and large, theoretical approaches to adjacency phenomena converge on the claim that adverbs are irrelevant for adjacency (e.g. Bobaljik 1994, Lasnik 1994, Holmberg 1997).

complements of the trace of the raised verb. Assuming that adverbs may either left-adjoin or right-adjoin to V', Johnson is able to make the correct predictions. Given this account, the structure for the direct object cases would be identical to that given in (4) above, with  $v$  substituted for  $\mu$ . (15) shows the structure for the PP complement cases in (14c) and (14d).



As with Bowers, Johnson does not make a principled distinction between active and passive verbs in his theory. The implication is that passive verbs behave the same way that active verbs do. Note that if passive verbs undergo movement, the adjacency effects remain unexplained and a specific rule of reanalysis must be adopted in order to account for them. On the theory being proposed here, however, the set of facts in (13)

follows immediately. Each of the cases in (13) involves overt verb movement, with V raising over the adverb and into the head position of vP. Since this operation is licit only for active verbs, (13a) and (13c) are well-formed while (13b) and (13d) are not. If the passive verb remains in situ, the structures are well-formed, as illustrated in (16).<sup>11</sup>



<sup>11</sup>In the active variant of (16), I assume that the verb assigns case by transmitting it to the head of its complement PP. When passivization applies, case is absorbed and this ability is lost. Consequently, the object of the preposition must raise to Spec,TP for case.

Since adverbs cannot appear as sisters to V, they cannot intervene between an in situ verb and its complement, only between other V' adjuncts such as *by*-phrases.

Given the assumptions made here about the distribution of active and passive verbs, adjacency effects like those exemplified in (13), which have served as the basis of most reanalysis treatments of the pseudo-passive construction, may be alternatively explained. As a result, an independent rule of reanalysis is not needed. The effects of V-P adjacency in these environments follow naturally from the claim that passive verbs, unlike their active counterparts, do not raise out of the VP overtly.

### 2.2.2 *vP and VP Constituency*

The main claim of this chapter is that active verbs and passive *be* head vP in the syntax whereas passive verbs head the VP. If this claim is correct, it follows that syntactic operations which distinguish these two projections should treat active verbs and *be* + passive sequences as a class, distinct from passive verbs. In this section, I examine the evidence bearing on this claim. I begin by discussing a number of observations concerning the behavior of active/passive verbs and passive *be* with respect to VP ellipsis and predicate fronting, observations originally due to Akmajian and Wasow (1975). I then consider the phenomenon of complement selection in

English, drawing on data discussed in Akmajian, Steele, and Wasow (1979).

#### *2.2.2.1 VP Ellipsis and Predicate Fronting*

Akmajian and Wasow (1975) make a number of important observations about the behavior of main verbs and passive *be* with respect to VP ellipsis and predicate fronting (see also Akmajian, Steele, and Wasow 1979). Among other things, they observe that in cases where both progressive and passive *be* are present, passive *be* and the main verb behave as a unit with respect to deletion and fronting phenomena (see fn. 4). This is shown in (17) and (18).

- (17) a. Mary was drinking lemonade, and Sue was too.  
b. John was being examined by a doctor, and Fred was too.  
c. \*John was being examined by a doctor, and Fred was being too.
- (18) a. I wondered whether Mary was drinking lemonade, and drinking lemonade she was.  
b. I never imagined that John was being examined by a doctor, but being examined by a doctor he was.  
c. \*I never imagined that John was being examined by a doctor, but examined by a doctor he was being.

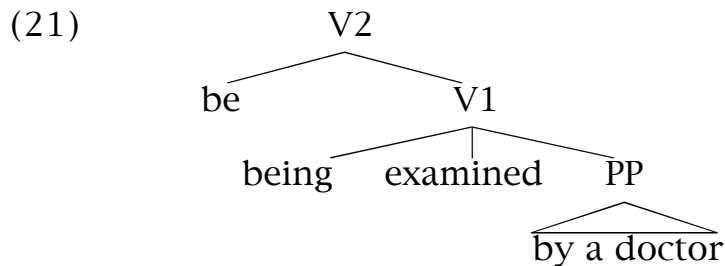
The examples in (17) show that passive verbs may not undergo ellipsis independently of the passive auxiliary when progressive *be* is present. As (18) shows, fronting of the passive verb independently of passive *be* is equally impossible in this environment. When progressive *be* is not present, these effects disappear:

- (19) a. Mary will drink lemonade, and Sue will too.  
b. John had been examined by a doctor, and Fred had too.  
c. John had been examined by a doctor, and Fred had been too.
- (20) a. I wondered whether Mary would drink lemonade, and drink lemonade she will.  
b. \*I never imagined that John had been examined by a doctor, but been examined by a doctor he had.  
c. I never imagined that John had been examined by a doctor, but examined by a doctor he had been.

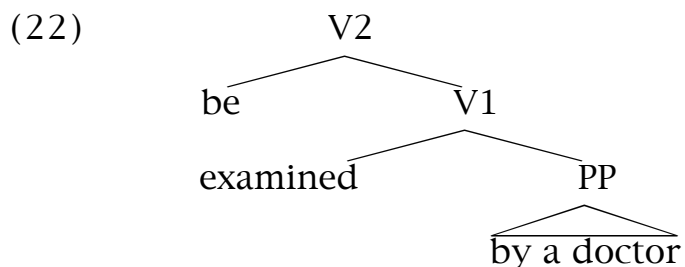
The examples in (19) show that in the absence of progressive *be*, a passive verb may undergo ellipsis independently of the passive auxiliary. In the case of predicate fronting, the examples in (20) show that passive verbs in this environment may only front independently of passive *be*. This situation is the exact opposite of the one found in (18).



To account for these facts, Akmajian and Wasow propose an obligatory rule of *Be* shift whereby passive *be* is shifted out of its canonical position if and only if progressive *be* is not present. Under the system of Akmajian, Steele, and Wasow (1979), henceforth ASW, auxiliary verbs are assumed to be generated as layered specifiers within the VP. Passive *be* originates in V1 and progressive *be*, if present, in V2. The structure for this is given in (21).



If progressive *be* is not present, passive *be* is restructured to V2. As noted above, this restructuring rule is assumed to be obligatory, resulting in the structure in (22).



ASW go on to state the rules for VP ellipsis and predicate fronting in terms of these levels. With respect to the relevant data in (17) through (20), the rule of VP ellipsis may delete either V1 or V2.

This correctly rules out (17c), in which passive *be* remains in V1 and cannot undergo deletion independently of the main verb. In (19c), *be* has restructured to V2, allowing it to survive deletion. The rule of predicate fronting, on the other hand, may operate only on V1, not V2. When progressive *be* is present, passive *be* must be fronted along with the verb since both elements are constituents of V1. Conversely, when progressive *be* is absent and restructuring applies, the verb and auxiliary are no longer constituents of this level and cannot be fronted together.

The strength of ASW's theory is that it allows the rules for VP ellipsis and predicate fronting to be stated in the simplest possible terms. The problem, however, is that it does not readily extend to a framework in which all verbal elements are assumed to originate as heads of their own independent projections. Since the cases which show this best are those exemplified in (17) and (18) above, I will restrict the immediate discussion to environments in which progressive *be* is present. Consider first the case of VP ellipsis in (17), repeated as (23) below.

- (23) a. Mary was drinking lemonade, and Sue was too.  
      b. John was being examined by a doctor, and Fred was too.  
      c. \*John was being examined by a doctor, and Fred was being too.

In these examples, the rule of VP ellipsis is able to operate on constituents headed by active verbs and on those headed by passive *be*, but not on constituents headed by passive verbs. Under a theory in which active and passive verbs are both assumed to raise to *v*, these data would be difficult to explain. Specifically, there would be no simple way to account for the fact that the active *v*P may delete but the passive *v*P may not (although see Zagana 1988a, b for an ambitious attempt within the Barriers framework of Chomsky 1986b). On the other hand, if active verbs raise to *v* and passive verbs remain in *V*, the data in (23) follow on the assumption that the rule of VP ellipsis operates on *v*P but not VP.<sup>12</sup> In (23a) *v*P is headed by an active verb while in (23b) it is headed by passive *be*. (23c) is ill-formed because the rule has improperly applied to VP. This is illustrated in (24).

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<sup>12</sup>As Norvin Richards points out (pc), one does not need to assume that active verbs raise to *v* in order to derive the facts in (25). One could alternatively assume that the verb remains in situ and VPE targets an empty VP. This being the case, one might argue that the VP ellipsis facts provide no real support for the present thesis (i.e., that active verbs and passive *be* occupy *v* in the syntax while passive verbs occupy *V*). This alternative, however, raises serious problems for the principle of economy of projection, which can be seen by considering the case of nonpassive unaccusative verbs:

- (i) a. John<sub>k</sub> will be [<sub>v</sub>P [<sub>VP</sub> arriving t<sub>k</sub> ] on Tuesday ] and Bill will be [<sub>v</sub>P e ] too.  
       b. John<sub>k</sub> will be [<sub>v</sub>P arriving<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> t<sub>k</sub> ] on Tuesday ] and Bill will be [<sub>v</sub>P e ] too.

It is commonly assumed that unaccusative verbs do not have external arguments. All of their arguments are generated internal to VP. If the verb does not raise to *v*, there is no reason for a *v*P projection to be included in the derivation. As a result, given the principle of economy of projection, no *v*P projection is possible. It thus follows that VP ellipsis should not be possible in (i), contrary to fact.

- (24) a. Mary was [<sub>VP</sub> drinking lemonade ], and Sue was [<sub>VP</sub> e ] too.  
b. John was [<sub>VP</sub> being examined by a doctor ], and Fred was [<sub>VP</sub>  
e ]  
too.  
c. \*John was being [<sub>VP</sub> examined by a doctor ], and Fred was  
being [<sub>VP</sub> e ] too.

Turning to the predicate fronting cases illustrated in (18), repeated as (25) below, an identical pattern emerges. That is, only constituents headed by active verbs and passive *be* may front, whereas constituents headed by passive verbs may not.

- (25) a. I wondered whether Mary was drinking lemonade, and  
drinking lemonade she was.  
b. I never imagined that John was being examined by a doctor,  
but being examined by a doctor he was.  
c. \*I never imagined that John was being examined by a  
doctor, but examined by a doctor he was being.

The facts in (25) may be accounted for in the same manner as the VP ellipsis facts discussed above by assuming that the rule of predicate fronting operates on *vP* but not *VP*. In (25a) *vP* is headed by an active verb, and in (25b) by the passive auxiliary. Like (23c),

(25c) is ruled out because the rule has improperly applied to the VP constituent. This is shown in (26).

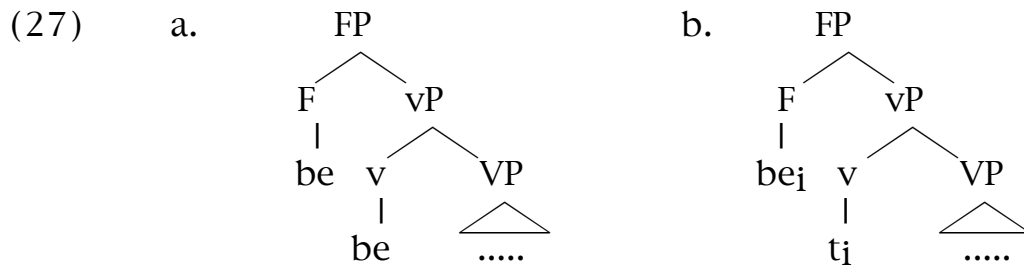
- (26) a. I wondered whether Mary was [<sub>VP</sub> drinking lemonade ], and  
          [<sub>VP</sub> drinking lemonade ]<sub>i</sub> she was t<sub>i</sub>  
      b. I never imagined that John was [<sub>VP</sub> being examined by a  
          doctor ], but [<sub>VP</sub> being examined by a doctor ]<sub>i</sub> he was t<sub>i</sub>  
      c. \*I never imagined that John was being [<sub>VP</sub> examined by a  
          doctor ], but [<sub>VP</sub> examined by a doctor ]<sub>i</sub> he was being t<sub>i</sub>

The cases in which progressive *be* is not present are also accounted for under the present theory, assuming that the rule of *Be Shift* applies. I take *Be Shift* to be a simple instantiation of head to head movement, whereby passive *be* raises to the head position of a higher functional category, call it FP, if and only if progressive *be* does not already occupy this position.<sup>13</sup> When progressive *be* is present, passive *be* remains in v:<sup>14</sup>

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<sup>13</sup>I assume that FP is an optional projection. If it is not present, passive *be* will remain in v. If it is present, either progressive *be* must be generated in F or passive *be* must raise. I further assume that only progressive *be* or passive *be* may occupy F. Consequently, if FP is present in an active sentence, progressive *be* must be generated in F.

<sup>14</sup>I assume F to be a functional category which enters a computation with aspectual features like PROG (progressive) and PERF (perfective) to check, or with non-aspectual features. If F has a strong PROG feature, progressive *be* must be selected from the numeration to check it. Passive *be* does not have this feature. However, it is able to check non-aspectual features, and moves to F when F has such a feature.



In (19c) passive *be* raises to F, allowing it to survive deletion when the rule of ellipsis applies to vP. In (20b) and (20c) passive *be* has also raised to F. Since the rule of predicate fronting operates solely on vP, it follows that *be* cannot front along with the passive verb, as is the case in (20c). (20b) is ruled out since the rule has improperly applied to FP. This is shown in (28).

- (28) a. \*I never imagined that John had [<sub>FP</sub> been examined by a doctor ], but [<sub>FP</sub> been examined by a doctor ] he had.  
 b. I never imagined that John had been<sub>i</sub> [<sub>vP</sub> t<sub>i</sub> [<sub>VP</sub> examined by a doctor ]], but [<sub>vP</sub> t<sub>i</sub> [<sub>VP</sub> examined by a doctor ]] he had been<sub>i</sub>

Given the claims made here about the distribution of active and passive verbs and passive *be*, the simplest possible formulation of the rules of VP ellipsis and predicate fronting is available within a framework which assumes that all verbal elements head their own independent maximal projections. Simply put, VP ellipsis operates on vP but not VP, while predicate fronting operates on vP

exclusively.<sup>15</sup> In the absence of these assumptions, a clear conception of these rules would be extremely difficult.

#### 2.2.2.2 Complement Selection

There are a number of English verbs which subcategorize for 'reduced' complements headed either by main verbs or by a limited set of auxiliaries. Among these are verbs of desiring like *want* and *need*, and the causative verbs *let* and *make*. If it is the case that active verbs and passive *be* occupy *v* in the syntax while passive verbs occupy *V*, one might expect to find verbs which strictly subcategorize for one of these two projections. If such cases exist, the present theory would predict that verbs which strictly subcategorize for VPs should only permit complements headed by passive verbs. On the other hand, verbs strictly subcategorizing for vPs should only allow complements headed by active verbs and passive *be*.

I begin by considering the case of verbs which appear to strictly subcategorize for bare VPs.<sup>16</sup> Verbs of desiring like *want* and

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<sup>15</sup>In addition to vP, VP ellipsis can operate on higher functional categories, such as FP. Predicate fronting can only operate on vP, as the following examples show:

- (i) a. John said he would be leaving the party early and we all know he will.  
b. \*John said he would be leaving the party early and be leaving the party early he will.

*need* are among the members of this class, as the examples in (29) and (30) illustrate.

- (29) a. \*I want [<sub>VP</sub> John put those books back on the shelf ]  
b. \*I want [<sub>VP</sub> those books be put back on the shelf ]  
c. I want [<sub>VP</sub> those books put back on the shelf ]

- (30) a. \*I need [<sub>VP</sub> John hand a note to my professor ]  
b. \*I need [<sub>VP</sub> a note be handed to my professor]  
c. I need [<sub>VP</sub> a note handed to my professor ]

These verbs do not allow complements headed by active verbs, as illustrated by (29a) and (30a), and only permit passive complements if they are not headed by passive *be*, as shown by the contrast between (29b, 30b) and (29c, 30c).<sup>17</sup> Note that the passive

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<sup>16</sup>The notion that small clauses may be bare lexical projections (e.g. Stowell 1983) has been challenged by numerous authors. The general consensus is that small clauses must contain functional categories like agreement. Ruyter (1988), Starke (1995), and Contreras (1995) are representative of this widely-held view, providing arguments based on facts similar to what I am considering here. However, despite the appeal of this approach, there are a number of problems with it. For instance, the functional category hypothesis provides no clear explanation for the fact that verbs appear to select for the category of the predicate inside the small clause, a fact which the theory of Stowell (1983) is able to capture. For purposes of this thesis then, I will assume that small clauses may in some instances be bare lexical projections.

<sup>17</sup> These verbs appear to permit complements headed by active present participle verbs, as the following examples demonstrate.

- (i) a. I don't want [that physician examining me ]  
b. I don't want [that girl sleeping in my bed ]



participles heading the complements in (29c) and (30c) are unquestionably verbal. Recall from section 1.1 that the dative verb *hand* in (30c) does not have a corresponding adjectival passive. Similarly, the verb *put* in (29c) does not permit adjectival passive formation, a fact also noted by Levin and Rappaport (1986). These facts fall out naturally from the theory being proposed here. Since *want* and *need* permit only bare VP complements, it follows that they may not take complements headed by active verbs or by passive *be*, both of which occupy *v* in the syntax.

Next, consider the causative verbs *let* and *make*. As the examples in (31) and (32) show, these verbs behave in a manner exactly opposite from *want* and *need* in (29) and (30).

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The sentences in (i) should not be acceptable under the present theory, since the active present participle verbs would have unchecked [ $\pi$ ] features. Note, however, that there appear to be restrictions on the type of lexical head which can head the complement phrase.

- (ii) a. \*I want [that man putting those books back on the shelf ]  
 b. \*I want [that man handing a note to my professor ]

As noted earlier, the verbs *put* and *hand* do not undergo adjectival passive formation. They also cannot be used as present participle adjectives, as the following examples show:

- (iii) a. The examining physician  
 b. The sleeping girl  
 c. \*The putting man  
 d. \*The handing man

Given these facts, I conclude that the present participle complements in (i) are headed by adjectives, and not by verbs. Since *want* and *need* also subcategorize for APs, these facts are to be expected.

- (31) a. I let [<sub>vP</sub> the reporter interview John ]  
b. I let [<sub>vP</sub> John be interviewed by the reporter ]  
c. \*I let [<sub>VP</sub> John interviewed by the reporter ]
- (32) a. I made [<sub>vP</sub> the reporter interview John ]  
b. I made [<sub>vP</sub> John be interviewed by the reporter ]  
c. \*I made [<sub>VP</sub> John interviewed by the reporter ]

Both *let* and *make* allow complements headed by active verbs, as in (31a) and (32a), but only permit passive complements if they are headed by passive *be*, as indicated by the contrast between (31b, 32b) and (31c, 32c). Again, these facts fall out from the present theory on the assumption that *let* and *make* subcategorize for vP but not VP. Since active verbs and passive *be* occupy v, the grammaticality of the (a) and (b) examples follows. Conversely, the (c) examples are ruled out because the complement is not of the category vP.

If the facts given in this section are correct, the two classes of verbs discussed here provide evidence for the existence of two distinct phrasal categories: (i) VP, selected by verbs of desiring like *want* and *need*, and (ii) vP, selected by causative verbs like *let* and *make*. Since passive verbs may only independently head the complements of verbs like *want* and *need*, it follows that they must occupy V in the syntax. On the other hand, since active verbs and

passive *be* may appear within the complements of verbs like *let* and *make*, it follows that they occupy a position higher than that of passive verbs, namely, vP.

### 2.2.3 Summary

In this section, a number of empirical arguments were offered in support of the claim that active verbs and passive *be* occupy a position in the syntax distinct from that of passive verbs. The most direct evidence for this involved the placement of adverbs like *perfectly* in active and passive constructions and the distribution of adverbs in pseudo-passives. Additional evidence supporting a distinction between VP and the functional projection vP was also introduced. This evidence, which involved VP ellipsis, predicate fronting, and complement selection facts, showed that the constituent headed by active verbs and passive *be* behaves differently than the constituent headed by passive verbs with respect to a number of grammatical operations. These facts were taken to follow from the claim that active verbs and passive *be* occupy v in the syntax while passive verbs occupy V. As the main goal of this section was to motivate the proposed structures in (2) for active and passive constructions, only limited theoretical concepts, such as 'movement', were introduced. In the following section, I will explicate my theoretical assumptions in greater detail, with the goal being to show how the empirical facts discussed in this

section may be explained within a minimalist, local economy framework like the one proposed in Collins (1995, 1997).

### 2.3. Verb Movement and the Feature $[\pi]$

In this section, I offer a formal account of the facts discussed in section 2.2. Recall that the data in 2.2 appeared to offer support for the claim that active verbs and the passive auxiliary *be* share a syntactic position distinct from that of passive verbs. It was suggested that active verbs and passive *be* occupy the head position of the functional category *vP*, with active verbs raising to this position from *V*. In the case of passive constructions, it was claimed that the main verb occupies *V* in the syntax and that for cases in which *v* projects, insertion of passive *be* is obligatory.

I suggest that the trigger for movement of the verb from *V* to *v* is a grammatical voice feature which I will refer to as  $[\pi]$ . I take  $[\pi]$  to be an obligatory 'strong' feature assigned to both main verbs and *v* from the numeration. The term 'voice' should be understood to mean 'nonpassive voice' since only passive verbs are affected by its absence. Active and middle verbs (and, as I will suggest in chapter 3, antipassive verbs) must raise to *v* to check this feature before Spell-Out. Whenever a main verb or the functional head *v* is drawn from the numeration and introduced into a computation,  $[\pi]$  is assigned. After feature assignment and before computation begins, the post-

lexical operation Passive may apply to and alter the feature matrix of the main verb. As mentioned in chapter 1, the operation Passive does three major things: it (i) deletes an external theta feature, (ii) deletes a case feature, and (iii) deletes  $[\pi]$ . The formal rule for Passive is given again in (33) (  $\underline{\theta}$  = external theta feature, C = case feature).

(33) Passive:  $\text{verb}(\underline{\theta}, C, \pi) \Rightarrow \text{verb}()$

In English, Passive can only apply to verbs which have at least one external theta feature, one case feature, and one  $[\pi]$  feature. If a given verb does not have at least one feature of each type, Passive can not apply. Given this, it follows that Passive will only be able to alter the feature compositions of transitive verbs, a desired consequence. The feature matrix of the transitive verb *kiss* is given in (34). (34) shows all the 'relevant' features assigned to *kiss* from the numeration.

(34) *hit*  $\{\underline{\theta}, \theta, C, \pi\}$

There are four derivational possibilities which must be explained by the present analysis, two involving the derivation of an active sentence and two involving the derivation of a passive sentence. These possibilities are given in (35), abstracting away from instances of DP movement.

- (35) a. John will [<sub>VP</sub> kiss<sub>i</sub> [<sub>VP</sub> Mary t<sub>i</sub> ]]  
 b. \*John will [<sub>VP</sub> be [<sub>VP</sub> Mary kiss ]]  
 c. \*Mary will [<sub>VP</sub> kiss<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> by John ]]  
 d. Mary will [<sub>VP</sub> be [<sub>VP</sub> kiss by John ]]

(35a, b) show the possibilities for an active sentence. In (35a) the active verb raises to *v*, with acceptable results. The alternative (35b), where the active verb remains in *V* and *be* is adjoined to *v*, is deviant. These derivations share the same structure, generated by identical operations, up to the point where *v*[ $\pi$ ] is drawn from the lexicon and introduced into the computation. The steps involved in this derivation are given in (36).<sup>18</sup>

- (36) a. Select hit[ $\pi$ ]  
 b. Select Mary  
 c. Merge (hit[ $\pi$ ], Mary) = {hit[ $\pi$ ], Mary}  
 d. Copy Mary  
 e. Merge (Mary, {hit[ $\pi$ ], Mary}) = {Mary, {hit[ $\pi$ ], Mary}}  
 f. Select *v*[ $\pi$ ]

In (36), the active verb *kissed* is introduced into the computation and immediately checks its theta feature against the theta feature of

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<sup>18</sup>For expository reasons, case and theta features are not shown for these derivations.

the DO *Mary* when it is introduced. The derivation then proceeds, with *Mary* raising to the Spec of VP to check its case feature against the case feature of *hit*. Following merger,  $v[\pi]$  is selected and introduced into the computation. At this point, there are two possibilities relative to (35a, b). The first, which produces the well-formed (35a), is given in (37).

- (37) g. Copy  $hit[\pi]$   
       h. Merge ( $hit[\pi], v[\pi]$ ) = {*hit*, *v*}  
       i. Merge ({*hit*, *v*, {*Mary*, {*hit*, *Mary*}}}) = {{*hit*, *v*, {*Mary*, {*hit*, *Mary*}}}}

First, Copy duplicates  $hit[\pi]$ . Merge then applies to  $hit[\pi]$  and  $v[\pi]$ , an interarboreal operation, producing the structure {*hit*, *v*}.  $Hit[\pi]$  and  $v[\pi]$  enter into a checking relation, which is symmetric. As a result, both features are checked and the derivation converges at PF.

The alternative to (35a), namely (35b), involves the operation Select ( $be[\pi]$ ) rather than the Copy operation. This case is given in (38).

- (38) g. Select  $be[\pi]$   
       h. Merge ( $be[\pi], v[\pi]$ ) = {*be*, *v*}  
       i. Merge ({*be*, *v*, {*Mary*, { $hit[\pi]$ , *Mary*}}}) = {{*be*, *v*, {*Mary*, { $hit[\pi]$ , *Mary*}}}}

Select introduces  $be[\pi]$  into the derivation.  $Be[\pi]$  and  $v[\pi]$  enter into a symmetric checking relation via Merge, with both features being checked in the process. This step does not violate economy. However, the  $[\pi]$  feature of the in situ active verb *kissed* remains unchecked. Since  $[\pi]$  is a strong formal feature, it cannot be interpreted at the articulatory-perceptual interface. Consequently, the derivation crashes at PF.

In the case of the derivations in (35c, d), after feature assignment and before the computation begins, the operation Passive applies, deleting the external theta feature  $[\theta]$ , the case feature  $[C]$ , and the voice feature  $[\pi]$  from the feature matrix of the transitive verb *hit*, leaving it with a single (internal) theta feature.<sup>19</sup> The output of this operation is shown in (39).

(39) Passive:  $hit(\theta, \theta, C, \pi) \Rightarrow hit(\theta)$

Select then introduces *kissed* into the computation. Both (35c, d) proceed in an identical manner up to the point where  $v[\pi]$  is selected from the lexicon. The steps common to these two derivations are given in (40).

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<sup>19</sup>Only relevant features are shown. Additional features not relevant to these derivations have been omitted for clarity.



- (40) a. Select hit  
       b. Select Mary  
       c. Merge (hit, Mary) = {hit, Mary}  
       d. Select  $v[\pi]$

At this point there are again two possibilities, Copy (hit) or Select (be[ $\pi$ ]). The first of these two possibilities, involving the Copy operation, is given in (41).

- (41) e. Copy hit  
       f. Merge (hit,  $v[\pi]$ ) = {hit, { $v[\pi]$ ,  $v[\pi]$ }}  
       g. Merge ({hit, { $v[\pi]$ ,  $v[\pi]$ }}, {hit, Mary}) = {{hit, { $v[\pi]$ ,  $v[\pi]$ }}, {hit, Mary}}

The Copy + Merge sequence in (41e, f) violates Last Resort since there is no feature of kissed which enters into a checking relation with  $[\pi]$  of  $v$  such that  $[\pi]$  of  $v$  is checked by the operation. Consequently, the operation is barred by economy, resulting in the deviance of (35c).

In the final derivation in (35), namely (35d), the operation Select (be[ $\pi$ ]) applies instead of Copy. This is shown in (42) below.

- (42) e. Select be[ $\pi$ ]  
       f. Merge (be[ $\pi$ ],  $v[\pi]$ ) = {be,  $v$ }

g. Merge ( $\{\text{be}, v\}, \{\text{hit}, \text{Mary}\}) = \{\{\text{be}, v\}, \{\text{hit}, \text{Mary}\}\}$

In (42)  $\text{be}[\pi]$  and  $v[\pi]$  enter into a symmetric checking relation via Merge, with the  $[\pi]$  features of each being checked by the operation. This step satisfies Last Resort. Since no strong features survive past Spell-Out, (41) results in PF convergence. Consequently, (35d) is a well-formed sentence.

Before ending this section, I would like to point out one interesting prediction made by the proposed analysis. Since active verbs are invariably associated with  $[\pi]$  upon entering the computation, it follows that a projection of V with an active verb must always be dominated by a projection of v. Otherwise, the  $[\pi]$  feature of the verb will never be able to enter into a checking relation with an appropriate feature checking head. Given this, it follows that the smallest possible maximal projection of an active verb is vP. On the other hand, if Passive deletes  $[\pi]$  from the feature matrixes of transitive verbs, merger of a projection of V with v is not necessary in the case of a passive derivation. In the case of a passive verb then, it follows that the smallest possible maximal projection is VP.

Support for this prediction can be shown by considering once again the complement selection facts discussed in section 2.2.2.2. Recall that verbs of desiring like *want* and *need* are able to

subcategorize for complements headed by passive verbs but not for complements headed by either active verbs or passive *be*. These facts were taken to follow from the assumption that verbs of this class obligatorily subcategorize for VP complements. The relevant data, modified from (29) and (30) in section 2.2.2.2, is repeated as (43) and (44) below.

- (43) a. \*I want [<sub>VP</sub> John put those books back on the shelf ]  
b. \*I want [<sub>VP</sub> those books be put back on the shelf ]  
c. I want [<sub>VP</sub> those books put back on the shelf ]
- (44) a. \*I need [<sub>VP</sub> John hand a note to my professor ]  
b. \*I need [<sub>VP</sub> a note be handed to my professor]  
c. I need [<sub>VP</sub> a note handed to my professor ]

Note that I have been assuming that the external arguments of active verbs are projected in the Spec of vP. If this is the case, one might reasonably contend that the ungrammaticality of examples like the ones in (43a) and (44a) above are not the result of unchecked [ $\pi$ ] features, but instead derive from the fact that there is no position into which the external argument may be projected. If this were true, one might expect verbs of this class to permit unaccusative VP complements, which are not generally assumed to have external arguments. As the examples in (45) and (46) illustrate, however, this does not appear to be the case.

(45) a. \*I want [the vase break ]

b. \*I want [John leave ]

(46) a. \*I need [the vase break ]

b. \*I need [John leave ]

Under the present theory, since unaccusative verbs like *break* and *leave* are not derived by Passive, they still possess strong  $[\pi]$  features when they enter the computation. If verbs like *want* and *need* strictly subcategorize for bare VPs, the deviance of the examples in (45) and (46) follows from the fact that the  $[\pi]$  features of *break* and *leave* cannot be checked under this configuration. Like transitive active verbs, they require a projection of *v* in order to have their  $[\pi]$  features checked. Note that verbs like *break* and *leave* are perfectly acceptable as complements of verbs like *make* and *let*, which were assumed to allow vP complements:

(47) a. I let [<sub>VP</sub> the vase break ]

b. I let [<sub>VP</sub> John leave ]

(48) a. I made [<sub>VP</sub> the vase break ]

b. I made [<sub>VP</sub> John leave ]

Given these facts, the obvious conclusion to be drawn here is that the examples in (45) and (46) are deviant because the embedded verbs occupy positions in which an appropriate checking relation cannot be established. As a result, the  $[\pi]$  features of these verbs remain unchecked and the derivations do not converge at PF. Since passive verbs are the only verbs which lack  $[\pi]$  features, it follows they are the only verbs which may head the bare VP complements of verbs like *want* and *need* in (43) and (44).

## 2.4. Nonverbal Predicates

Up to this point, I have considered only verbal projections, paying particular attention to differences between active and passive constructions. However, the theory outlined here also has important implications for other types of predicative constructions in English, particularly those involving main verb *be*. In this section, I show how the analysis of active and passive constructions developed in the last section may be extended to include nonverbal predicative constructions. The obligatoriness of *be* in these constructions will be argued to follow from the claim that nonverbal predicates, like passive verbs, do not undergo movement to v. As a result, when v is introduced into a computation involving a nonverbal predicate, the only option for convergence is to apply the operation Select ( $be[\pi]$ ). (Main verb *be* and passive *be* are taken to be the same lexical element.) In this section I will consider two types of nonverbal

predicative constructions: (i) copular sentences, which involve nonverbal predicates, and (ii) adjectival passive constructions, which are generally assumed to be derived from verbal passives (e.g., Bresnan, 1982).

#### 2.4.1 Main Verb *Be*

The examples in (49) all involve subjects which are predicated of nonverbal XPs introduced by what many have referred to as main verb or copular *be* (e.g., Williams 1984).

- (49) a. John will be [DP a fine doctor ]  
      b. Mary will be [AP very good at her profession ]  
      c. Bill has been [PP in his pajamas since dinner ]

As these examples show, the predicate may be of any syntactic category: a DP, as in (51a), an AP, as in (51b), or a PP, as in (51c).

It is well known that predicates like the ones in (49) may be coordinated in apparent violation of the Coordinate Structure Constraint of Ross (1967), which stipulates that only identical categories may be conjoined:

- (50) a. John will be [DP a fine doctor ] and [AP good at his  
          profession ]

- b. Bill has been [<sub>NP</sub> in his pajamas ] and [<sub>VP</sub> playing the violin ]  
since dinner.

As the examples in (50) demonstrate, nonverbal predicates may be coordinated with other nonverbal predicates (50a), or, alternatively, with verbal predicates (50b).

Bowers (1993) argues that coordination facts like these provide strong evidence for the existence of a uniform functional category above the VP wherein the subject is generated.<sup>20</sup> Given the present theory, on assumption that the *Be* shift rule of ASW (1979) applies, each of the examples in (50) involves coordinating two vPs with across-the-board (ATB) extraction of *be* (as well as the subject). *Be* raises to the functional head position F, discussed in the previous section. The output of these operations is given in (51). For clarity, I omit the traces of the extracted subjects in these examples.

- (51) a. John will [<sub>NP</sub> *be*<sub>i</sub> [<sub>vP</sub> *t*<sub>i</sub> [<sub>DP</sub> a fine doctor ]]] and [<sub>vP</sub> *t*<sub>i</sub> [<sub>AP</sub> good  
at his profession ]]]  
b. Bill has [<sub>NP</sub> *been*<sub>i</sub> [<sub>vP</sub> *t*<sub>i</sub> [<sub>NP</sub> in his pajamas ]]] and [<sub>vP</sub> *t*<sub>i</sub> [<sub>VP</sub> ]  
playing the violin ]]] since dinner ]

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<sup>20</sup>Bowers, calls this functional projection PrP (i.e., Predicate Phrase). Its main function is to license predication in the clause. I call this category vP, following Chomsky (1995).

The examples in (51) do not constitute a violation of the Coordinate Structure Constraint. Rather, they simply involve the coordination of two vPs.

I suggest that *be* in the above examples serves the same function as passive *be* in the data discussed earlier (i.e., to check the  $[\pi]$  feature of *v*). Given this the theory predicts that *be* should be obligatory whenever a projection of *v* occurs. For matrix copular sentences like the ones in (52), *be* is obligatory.

- (52) a. \*John will [<sub>VP</sub> e [<sub>DP</sub> a fine doctor ]]  
b. \*Mary will [<sub>VP</sub> e [<sub>AP</sub> very good at her profession ]]  
c. \*Bill has [<sub>VP</sub> e [<sub>PP</sub> in his pajamas since dinner ]]

Each of the examples in (52) fail because *v* has an unchecked strong  $[\pi]$  feature at PF.

In subordinate environments, the theory predicts that *be* should be obligatory if a verb subcategorizes for a vP complement and impossible if it subcategorizes for an XP complement, where  $XP = \{DP, AP, PP\}$ . In the previous section, it was noted that the causative verb like *let* does not subcategorize for bare VP complements. As (53) illustrates, *be* is obligatory with this verb.<sup>21</sup>

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<sup>21</sup>The verb *make*, on the other hand, appears to permit both variations, as the examples in (i) show.



- (53) a. I let [<sub>VP</sub> John be happy ]  
       b. \*I let [<sub>VP</sub> John happy ]  
       b. \*I let [<sub>AP</sub> John happy ]

As the above examples show, *let* does not permit bare AP complements (53c). However, it does allow complements headed by *be* (53a). The ungrammaticality of (53b) follows from the claim that *v* is always assigned a strong [ $\pi$ ] feature from the numeration. In (53b), *be* fails to check the strong [ $\pi$ ] feature of *v*, causing the derivation to crash at PF. In (53a), *be* checks its [ $\pi$ ] feature against the [ $\pi$ ] feature of *v*, allowing the derivation to converge.

Next, consider again the case of verbs of desiring like *want* and *need*, which were argued to subcategorize for VPs in section 2.2.2.2. As the following examples show, these verbs also allow bare AP and PP predicates as complements:

- (54) a. I want [<sub>AP</sub> John dead ]  
       b. I don't need [<sub>AP</sub> John unhappy ]

- 
- (i) a. I made [<sub>VP</sub> John be happy ]  
       b. I made [<sub>AP</sub> John happy ]

Note that like *let*, the verb *make* does not allow bare VPs to serve as complements, although it does appear to permit bare AP complements.

- (55) a. I want [<sub>PP</sub> John in this office ] right now.  
b. I need [<sub>PP</sub> John over there]

The facts in (54) and (55) follow from the claim that because adjectives and prepositions are nonverbal, they lack [ $\pi$ ] features and cannot enter into a checking relation with the [ $\pi$ ] feature of v. Since *want* and *need* do not subcategorize for vP, the theory predicts that *be* will never be able to appear with these verbs. As the following examples show, this prediction is confirmed:

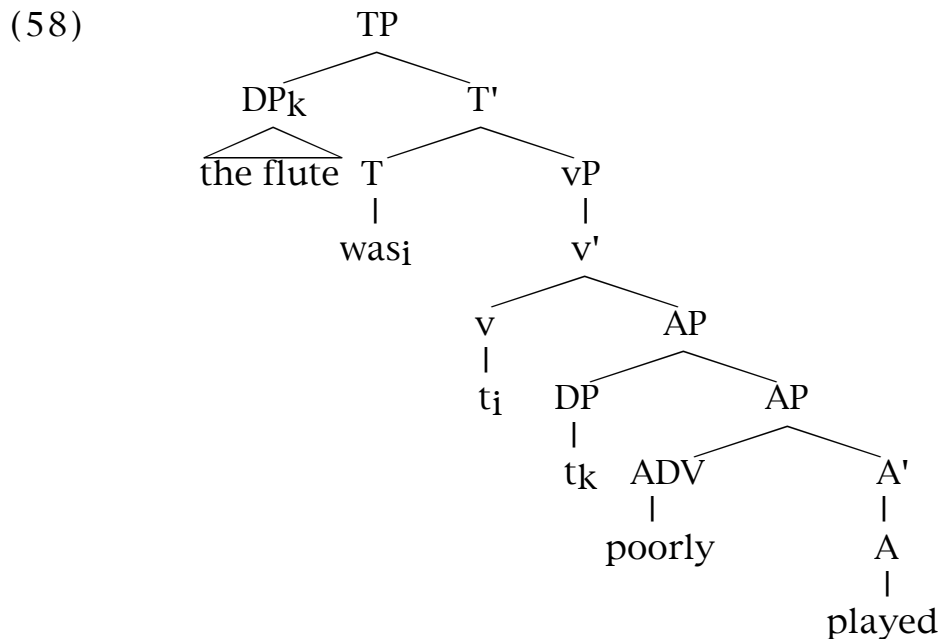
- (56) a. \*I want John be dead.  
b. \*I don't need John be unhappy.
- (57) a. \*I want John be in this office right now.  
b. \*I need John be over there.

The examples in (54) through (57) raise a technical problem which will be addressed in the next section. For the most part, I have been assuming that external arguments are generated in the Spec of vP. If this is the case, then the examples in (56) and (57) should be unacceptable since, by assumption, there is no vP projection in which the external argument of the embedded nonverbal predicate may be licensed. There are two possible solutions to this problem: (i) claim that nonverbal predicates do not have external arguments, or (ii) claim that the external arguments of such predicates may be

generated internal to XP, where  $XP = \{DP, AP, PP\}$ . As alluded to in section 2.2.1.1, I will opt for (ii). Note that the evidence bearing on this argument will basically involve adjectival predicates. The conclusions, however, should be taken to extend to all nonverbal predicates.

#### 2.4.2 AP Predicates and External Arguments

The case of adjectival passives was briefly discussed in section 2.2.1.1 in conjunction with the distribution of DOP adverbs. The proposed structure for such constructions, given in (12), is repeated below as (58).



The structure in (58) differs from the one being assumed for VPs in two important respects: (i) external arguments are assumed to be generated in a higher specifier position of AP, assuming a theory of phrase structure in which a head may license multiple specifier positions (Chomsky 1995, Ura 1994, 1996), and (ii) AP adverbs are assumed to occupy a lower specifier position within the AP. Since specifiers obligatorily precede heads in English, it follows that AP adverbs will never be able to follow the head A.<sup>22</sup>

The AP structure in (58) is reminiscent of the multiple Spec version of the VP internal subject hypothesis originally proposed in Koopman and Sportiche (1988, 1991) and adopted to varying degrees in a number of subsequent works (e.g., Bittner and Hale 1996). In the framework of Koopman and Sportiche (1988, 1991), the lower specifier position of the VP is assumed to be a landing site for objects while the higher Spec position is reserved for licensing the external argument. As alluded to in the previous section, the proposed structure in (58) is necessary given my assumptions about the complement structure of verbs like *want* and *need*. It was argued that these verbs allow only bare lexical projections as complements, including those headed by nonverbal predicates like adjectives,

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<sup>22</sup>This follows from the Linear Correspondence Axiom (LCA) of Kayne (1994), where it is argued that if an element  $\alpha$  asymmetrically c-commands an element  $\beta$ , then  $\alpha$  must precede  $\beta$  in the linear order. Specifiers asymmetrically c-command heads. Consequently, specifiers must precede heads in the linear order. The LCA is assumed to apply universally, eliminating the necessity of adopting language particular directionality requirements in order to account for cross-linguistic word order variation.

which are assumed to license external arguments. Since these predicates may not project to the level of vP when selected by *want* or *need*, it follows that the position of the external argument must be internal to the AP, hence (58).

Evidence in support of this claim comes from comparing the behavior of adjectival and verbal predicates with respect to predicate fronting and wh-movement. Sportiche (1990), based on observations about VP fronting made by Huang (1993), notes that wh-moving an AP has the same effect on reciprocal binding as fronting a VP, an effect which is not produced by wh-moving a complement of V:

- (59) a. [DP which paintings of each other<sub>i/k</sub> ] do the girls<sub>i</sub> think the boys<sub>k</sub> like.  
 b. [VP listen to each other\*<sub>i/k</sub> ], the girls<sub>i</sub> think the boys<sub>k</sub> do.  
 c. [AP how close to each other\*<sub>i/k</sub> ] do the girls<sub>i</sub> want the boys<sub>k</sub>

(59a) involves wh-movement of the embedded object. In this case the embedded reciprocal may be bound by either the lower subject *the boys* or the matrix subject *the girls*. In the VP fronting case (59b), however, the embedded reciprocal may be bound only by the lower subject *the boys*, not by the matrix subject. Barss (1986) argues that contrasts like the one between (59a) and (59b) follow

from the theory that while wh-moved XPs may be reconstructed to intermediate positions, fronted predicates may only be reconstructed to their canonical or base-generated positions. In (59a), on the interpretation where *each other* is bound by *the girls*, the DP is reconstructed to the Spec position of an intermediate CP, whereas on the interpretation where it is bound by *the boys*, it is reconstructed to its canonical position, as the complement of the embedded verb *like*. Since predicates may only be reconstructed to their canonical positions, it follows that *each other* cannot be bound by *the girls* in (59b).

Huang (1993) offers an alternative account of the difference between (59a) and (59b). Assuming that subjects are generated VP-internally, Huang argues that the inability of the embedded reciprocal to be bound by the matrix subject follows from the fact that the trace of the lower subject is fronted along with the predicate in (59b). This trace serves as the binder for *each other* and principle A of the binding theory is satisfied. In (59a), on the other hand, only the complement of V is moved. In this case, principle A may only be satisfied by LF reconstruction.

As noted by Sportiche (1990), the behavior of APs under wh-movement patterns with VP fronting cases like the one in (59b). That is, the reciprocal contained within the moved AP in (59c) may only be bound by the lower subject, not by the matrix subject. Since

wh-moved XPs may be reconstructed to intermediate positions in order to satisfy the binding theory, Sportiche argues that the raised AP in (59c) must contain a trace of the embedded subject. Assimilating this into the present framework, the examples in (59) would have the structures in (60).

- (60) a. [DP which paintings of each other<sub>i/k</sub> ] do the girls<sub>i</sub> think the boys<sub>k</sub> like.  
 b. [vP t<sub>k</sub> listen to each other\*<sub>i/k</sub> ], the girls<sub>i</sub> think the boys<sub>k</sub> do.  
 c. [vP t<sub>k</sub> how close to each other\*<sub>i/k</sub> ] do the girls<sub>i</sub> want the boys<sub>k</sub>

If the external arguments of APs are projected in the Spec of a dominating functional category like vP, then (60b) and (60c) arise from operations on the same category (i.e., in both cases a vP is moved). Given the structures assigned in (60), it follows that both predicate fronting and wh-movement should be able to operate on vPs. Note, however, that it is impossible to wh-move vP when it contains a VP:

- (61) \*[vP t<sub>k</sub> when/where/how listen to each other\*<sub>i/k</sub> ] do the girls<sub>i</sub> think the boys<sub>k</sub>

In addition, while well-formed cases of predicate fronting can be found involving APs (62a), predicate fronting is deviant in the case of (60c), as shown by (62b).

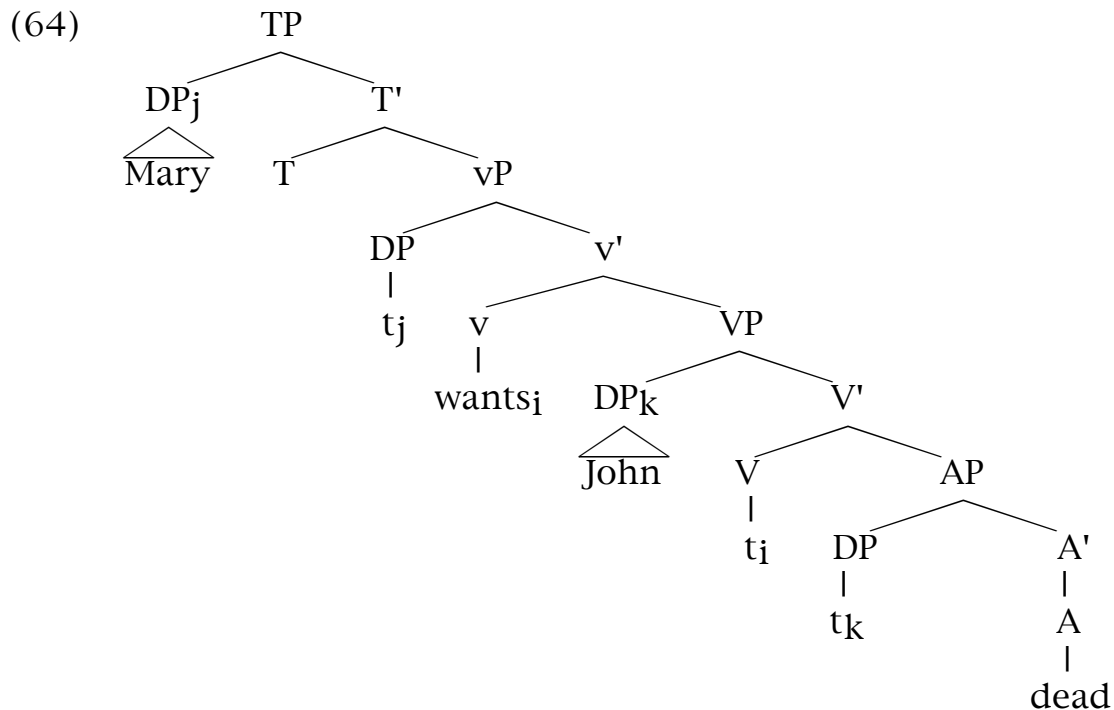
- (62) a. [vP t<sub>i</sub> very proud of each other<sub>i</sub> ], the girls<sub>i</sub> are.  
b. \*[vP t<sub>k</sub> very close to each other<sub>i/k</sub> ], the girls<sub>i</sub> want the  
boys<sub>k</sub>

In section 2.2.2.2, it was claimed that predicate fronting operates on vP exclusively. This suggests that the fronted XP in (62b) is not a vP. The most reasonable alternative is that it is a bare AP, a conclusion which is consistent both with the wh-movement facts and with the arguments made here concerning the distribution of *be*. As (63) shows, *be* cannot head the complement of verbs like *want*.

- (63) a. Mary wants [AP John dead ]  
b. \*Mary wants [vP John be dead ]

Under the present theory, these facts follow from the claim that verbs like *want* may only subcategorize for bare lexical complements, an AP in the case of (63a). Assuming that the embedded subject raises overtly to the Spec of the matrix VP for case, an assumption which has been implicit in all the complement selection cases discussed above, the structure of the well-formed (63a) would be (64).





Given the structure proposed in (64), it follows that while wh-movement can apply to the embedded AP constituent, predicate fronting cannot. As a result, the facts in (60), modified and repeated below as (65) with the ill-formed (65b) included, receive a natural explanation.

- (65) a. [DP which paintings of each other<sub>i/k</sub> ] do the girls<sub>i</sub> think the boys<sub>k</sub> like.  
 b. [vP t<sub>k</sub> listen to each other\*<sub>i/k</sub> ], the girls<sub>i</sub> think the boys<sub>k</sub> do.  
 c. [AP t<sub>k</sub> how close to each other\*<sub>i/k</sub> ] do the girls<sub>i</sub> want the boys<sub>k</sub>

d. \*[AP t<sub>k</sub> very close to each other<sub>i/k</sub> ], the girls<sub>i</sub> want the boys<sub>k</sub>

(65b, d) involve predicate fronting, which only affects vPs. Since verbs like *want* do not allow vP complements, the ungrammaticality of (65d) is explained. (65a, c) involve wh-movement, which affects DPs and APs, among other categories. In (65a), to satisfy principle A of the binding theory, the raised DP must be reconstructed, either to an intermediate Spec position, allowing the embedded reciprocal to be bound by the matrix subject, or to its canonical position as the complement of the verb *like*, forcing it to be bound by the lower subject. Since the raised AP in (65c) contains the trace of the lower subject, it satisfies principle A and does not need to be reconstructed. Consequently, the only possible interpretation for (65c) is the one in which the embedded reciprocal is bound by the lower subject.

If it is the case that the external arguments of nonverbal predicates are generated XP-internally (where XP = AP, PP, etc.), it remains to answer the question what, if anything, forces this. Since main verb *be* is present in many cases, it cannot be that Spec,vP is unavailable (see the structure in (58) above). I suggest that theta theory provides a solution to this problem. Until now, I have discussed only one set of formal head features, the set of [ $\pi$ ] features which forces active verbs to raise overtly to v. These features are

absent from passive verbs and nonverbal heads. On the other hand, all predicates have  $\theta$ -roles to assign. Bošković (1994), Bošković and Takahashi (1998), Hornstein (1999), and Lasnik (1995) argue that  $\theta$ -role assignment reduces to checking theory, assuming that  $\theta$ -roles are formal features which must be checked in the course of a derivation. Unlike  $[\pi]$ features, which require a checking relation between two heads, thetafeatures require a checking relation between a head and its argument, a Spec-head relation if the argument is an XP.

On the assumption that nonverbal predicates enter the computational component of the grammar with thetafeatures and that their external arguments are generated in Spec,v, there are two possibilities, each of which must be ruled out. These are exemplified in (66), with the nonverbal predicate in each case being adjectival.

- (66) a. \*John let [<sub>VP</sub> Bill be [<sub>AP</sub> silly ]]  
       b. \*John let [<sub>VP</sub> Bill silly<sub>i</sub> [<sub>AP</sub> t<sub>i</sub> ]]

Lasnik (1995) argues that thetafeatures are strong in English and must be checked before Spell-Out. In the case of active verbs, this is accomplished by raising to v. In v, active verbs check their strong formal  $[\pi]$ features against the  $[\pi]$ features of v and their strong formal thetafeatures against the thetafeatures of the external argument in Spec,vP. Nonverbal predicates like *silly*, on the other

hand, lack  $[\pi]$  features. As a result,  $be[\pi]$  must be adjoined to  $v[\pi]$ . Nonverbal predicates still have strong theta features which must be checked against the theta features of the external argument, however. If  $be$  occupies  $v$ , the nonverbal head will be unable to raise to check its theta features against the theta features of the of the external argument. As a result, the theta features of *silly* and *Bill* remain unchecked and the derivation crashes at PF, as in (66a).<sup>23</sup> On

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<sup>23</sup>The surface order of constituents in (66a) is identical to that in (67). Consequently, (66a) gives the illusion of being a grammatical sentence. The only difference between the two involves the position in which the external argument is assumed to be projected, Spec,vP in (66a) and Spec,AP in (67). In light of the reciprocal binding facts discussed earlier, a grammaticality contrast between the two appears to be necessary, as the following examples suggest:

- (i) a. The girls<sub>i</sub> watched the boys<sub>k</sub> be nice to each other's<sub>i/k</sub> mothers.
- b. How nice to each other's\*<sub>i/k</sub> mothers did the girls<sub>i</sub> watch the boys<sub>k</sub> be?

Recall that verbs like *watch* in (i) select only vP complements. Since *watch* does not allow FP complements, there is no *be* shift in either of the above examples. Earlier in this section, it was argued that while APs may undergo wh-movement, vPs may not. Evidence for this claim was based on reciprocal binding facts. As noted above, APs and DPs containing a reciprocal behave differently when wh-moved out of a subordinate clause. In both cases, the reciprocal may be bound by either the matrix or embedded subject. When an AP is wh-moved, however, a reciprocal embedded within it may only be bound by the embedded subject. This is not the case with DPs. When a DP is wh-moved, the embedded reciprocal may still be bound by either the matrix or embedded subject. To account for these differences, it was proposed that whereas wh-moved APs contain a trace of the embedded subject, DPs do not. Consequently, DPs must be reconstructed in order to satisfy principle A, whereas reconstruction is not required in the case of APs.

If both (66a) and (67) are possible derivations, there should be no binding differences between the examples in (i). If the external argument may be projected in Spec,vP, the wh-moved AP will not contain a trace. Consequently, (ib) should allow an interpretation in which the AP is reconstructed to an intermediate position where it can be bound by the matrix subject. Since the only possible antecedent in (ib) is the embedded subject, it follows that the AP must contain a trace and that reconstruction is not

the other hand, if the predicate does raise to *v* to enter into a checking relation with its external argument, *be*[ $\pi$ ] cannot be adjoined to *v*[ $\pi$ ]. consequently, the strong [ $\pi$ ]features of *v* will go unchecked at PF and the derivation will crash, as in (66b).

The only alternative to derivations like those in (66) is one in which a nonverbal predicate like *silly* checks its theta feature against the thetafeature of its external argument in Spec,AP. If *vP* is projected, as in (67) below, where it is the complement of *let*, *be*[ $\pi$ ] is adjoined to *v*[ $\pi$ ]. *Bill* then raises to the Spec of the matrix VP for case, with *let* raising to matrix *v*.

(67) John [<sub>VP</sub> let<sub>i</sub> [<sub>VP</sub> Bill<sub>k</sub> t<sub>i</sub> [<sub>VP</sub> be [<sub>AP</sub> t<sub>k</sub> silly ]]]]

Since nonverbal predicates have no [ $\pi$ ] features, a projection of *v* is not required for PF convergence. This allows cases like (68), in which the adjectival predicate *dead* heads the AP complement of the verb *want*.

(68) John [<sub>VP</sub> want<sub>i</sub> [<sub>VP</sub> Bill<sub>k</sub> t<sub>i</sub> [<sub>AP</sub> t<sub>k</sub> dead ]]]

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required. If the external argument was projected in Spec,vP, as in (66a), its trace would be to the right of *be* in (ib). Since *watch* does not allow FP complements, *be* must occupy *v* in this case. Given this, the raised AP could not possibly contain a trace of the subject. Consequently, it must be that the subject raises out of an AP internal position before the AP is wh-moved, leaving a trace which binds the reciprocal and allows principle A to be satisfied without reconstruction. Thus, in spite of the fact that the order of the surface constituents is identical in (66a) and (67), (66a) cannot be a grammatical possibility and must be ruled out.

The adjective *dead* checks its theta feature against the theta feature of *Bill* in Spec,AP. *Bill* then raises to the Spec of the matrix VP for case, with the verb again raising to v. Since *dead* has no  $[\pi]$  feature, it follows that its maximal projection may serve as the complement to verbs like *want*, which select only bare lexical categories like VPs and APs.

By assuming that  $\theta$ -roles are formal features which must be checked in the course of a derivation, it is possible to derive the requirement that the external arguments of nonverbal predicates must be projected in the Spec position of the lexical category, and not in Spec,v. Since theta features and  $[\pi]$  features are both strong in English, it follows that only heads with theta features and  $[\pi]$  features may occupy v overtly when the external argument is projected in Spec,v. A head with only theta features, like a nonverbal predicate, will be unable to check the strong  $[\pi]$  feature of v in such cases.<sup>24</sup> A head with only  $[\pi]$  features, like *be*, will be unable to check the strong theta feature of the external argument. Since active verbs are the only heads which have both theta features and  $[\pi]$  features, only active verbs may occupy v overtly when the external argument is

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<sup>24</sup>Unlike Bošković and Takahashi (1998), I do not assume that lexical items can lower into  $\theta$ -positions. Consequently, (ib) below, in which the external argument occupies the Spec,AP at LF, cannot be derived from (ia).

- (i) a. John watched [<sub>VP</sub> Bill be [<sub>AP</sub> silly ]]
- b. John watched [<sub>VP</sub> e be [<sub>AP</sub>Bill silly ]]

projected in Spec,v.<sup>25</sup> Consequently, the external arguments of nonverbal predicates must be projected in Spec,X (where X = A, P, etc.).

The second major proposed difference between VPs and APs concerns the X' status of adverbs. In the VP structures discussed earlier, adverbs were assumed to be strictly V' licensed, which allowed them to appear either to the right or to the left of an in situ verb. AP adverbs, on the other hand, were assumed to be licensed in the Spec of AP. On the present theory, this distinction was required given the fact that AP adverbs, unlike VP adverbs, must obligatorily precede the head. The relevant contrast is between (69) and (70).

- (69) a. The house had been [VP perfectly built ]  
b. The house had been [VP built perfectly ]

- (70) a. John was [AP perfectly happy ]  
b. \*John was [AP happy perfectly ]

As (69) illustrates, degree of perfection (DOP) adverbs may either precede or follow an in situ passive verb. As (70) shows, however,

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<sup>25</sup>From what has been said so far, nothing in principle prevents the external arguments of active verbs from being projected in Spec,VP. Thus, it is conceivable that active verbs could check their thetafeatures against the theta feature of the external argument in Spec,VP and then raise to v to check [ $\pi$ ] features. I leave this as a possibility, noting that such a derivation poses no significant problems to the analysis being developed here. Active verbs have a [ $\pi$ ] feature regardless, which forces a projection of v.

DOP adverbs must obligatorily precede A. Since by assumption neither passive verbs nor adjectives may raise out of their canonical positions, it follows that the difference between (69) and (70) can not arise from head movement. On the other hand, assuming that AP adverbs are licensed in the Spec of AP allows the contrast between (69) and (70) to receive a natural explanation. That is, since specifiers must obligatorily precede heads, the impossibility of (70b) follows (Kayne 1994).

### 2.4.3. *Summary*

In this section, nonverbal predicates were examined. It was claimed that like passive verbs, nonverbal predicates lack  $[\pi]$  features. As a result, when *v* is introduced into a derivation involving a nonverbal predicate, the only option for convergence is to apply the operation Select ( $be[\pi]$ ). It was also argued that nonverbal predicates differ from verbs in the manner in which their external arguments are licensed. While the external arguments of verbs are projected in Spec,v, the external arguments of nonverbal predicates can only be projected in Spec,X (where XP = A, P, etc.). This was derived on the assumption that  $\theta$ -role assignment involves checking formal features. Since nonverbal predicates have thetafeatures but no  $[\pi]$  features, generating their external arguments in Spec,v will result in a PF crash. If the head raises to *v* to check the theta feature of the external argument, *be* cannot be introduced into the derivation to check  $[\pi]$  features. On the other hand, if *be* checks the  $[\pi]$  features of



v, the in situ nonverbal head will be unable to check the theta feature of the external argument in Spec,v. The only option is to assume that the predicate checks the theta feature of the external argument in Spec,X, with *be* adjoining to v to check [ $\pi$ ] features whenever v projects.

## 2.5. A Systematic Comparison of Verb Types

The generalizations made here apply across all the major verb types, both finite and nonfinite (e.g., present participle, past participle, and bare infinitive). The examples below show how the complement selection and DOP adverb placement facts pattern with respect to these verb types. As the data show, the distinction is between passive and active.

- (71) a. John (\*poorly) built the building (poorly). (Active)  
b. The building was (poorly) built (poorly) by John. (Passive)  
c. John was (\*poorly) building the building (poorly). (Prog)  
d. John had (\*poorly) built the building (poorly). (Perf)  
e. John will (\*poorly) build the building (poorly). (Bare Inf)
- (72) a. \*Bill wants John put the books on the shelf. (Active)  
b. Bill wants the books put on the shelf. (Passive)  
c. \*Bill wants John putting the books on the shelf. (Prog)  
d. \*Bill wants John put the books on the shelf. (Perf)  
e. \*Bill wants John put the books on the shelf. (Bare Inf)

This distinction holds across all auxiliary-verb combinations, as the following complement selection data suggest.

- (73) a. \*Bill wants John put the books on the shelf.  
b. \*Bill wants John will put the books on the shelf.  
c. \*Bill wants John had put the books on the shelf.  
d. \*Bill wants John is putting the books on the shelf.  
e. \*Bill wants John will have put the books on the shelf.  
f. \*Bill wants John will be putting the books on the shelf.  
g. \*Bill wants John will have been putting the books on the shelf.
- (74) a. Bill wants the books put on the shelf.  
b. \*Bill wants the books be put on the shelf.  
c. \*Bill wants the books will be put on the shelf.  
d. \*Bill wants the books have put on the shelf.  
e. \*Bill wants the books have been put on the shelf.  
f. \*Bill wants the books will have been put on the shelf.

Only the passive participle form of the verb is acceptable as a complement of *want*, which falls out from the analysis given here, since V only remains in situ when it is passive. All other forms of the verb are active. Active verbs raise to v. *Want* does not select vP.

The distinctions also hold with respect to VPE and predicate fronting, as the following VPE data show:

- (75) a. John will put the books on the shelf. John will.  
b. John is putting the books on the shelf. John is.  
c. John has put the books on the shelf. John has.  
d. John will have put the books on the shelf. John will have.  
e. John will be putting the books on the shelf. John will be.  
f. John has been putting the books on the shelf. John has been.
- (76) a. The books will be put on the shelf. They will be.  
b. The books are being put on the shelf. \*They are being.  
c. The books have been put on the shelf. They have been.  
d. The books will have been put on the shelf. They will have been.  
e. The books will be being put on the shelf. \*They will be being.  
f. The books will have been being put on the shelf. \*They will have been being.

In this analysis, the passive auxiliary *be* raises to F ONLY when progressive *be* is not present. When both are present, progressive *be* occupies F and passive *be* occupies v. VPE only operates on vP, not VP. The data in (75) show that the projection headed by the active verb (=vP) may undergo VPE. In (76), when passive *be* occupies F, it

can survive VPE. When it occupies *v*, it cannot. In (76b), (76e), and (76f), it is blocked from raising to *F* by progressive *be*.

The examples cited here reflect only a portion of the total data to be considered for English. A systematic comparison is still needed (for English as well as for other languages). I refer the reader to Akmajian, Wassow, and Steele (1979) for a more detailed comparison of these data.

## 2.6. Conclusions

The major claim of this chapter was that active verbs raise overtly to *v*, the head position of a functional category immediately above VP, whereas passive verbs do not. Main verbs, in addition to the functional head *v*, were assumed to enter the computational component of the grammar with strong formal  $[\pi]$ features. Obligatory movement of the verb to *v* in such cases was taken to follow as a consequence of the requirement that the verb must check its strong  $[\pi]$ feature against the strong  $[\pi]$ feature of *v* before Spell-Out. Failure to do so causes the derivation to crash at PF. On the assumption that passive verbs lose their  $[\pi]$ features in the course of verbal passive formation, it was argued that raising to *v* in such cases constitutes a violation of Last Resort since there is no feature of a passive verb which enters into a checking relation with the  $[\pi]$ feature of *v* as a result of the operation. Consequently,

passive *be* must be introduced into the derivation to check the  $[\pi]$ feature of *v*. A number of empirical facts, related to the distribution of DOP adverbs, the distribution of adverbs in the pseudo-passive construction, complement selection, and predicate fronting/VP ellipsis, were found to receive a natural explanation on this account. Like passive verbs, nonverbal predicates were argued to lack  $[\pi]$ features. Since raising to *v* is barred by Last Resort, if a nonverbal predicate occurs in a derivation with a projection of *v*, *be* must be introduced to check the strong  $[\pi]$ feature of *v*. The implication of this analysis is that passive *be* and main verb *be* are the same lexical element, its sole syntactic function being to check  $[\pi]$ features in accordance with the principle of Last Resort.

## Chapter 3: Preposition Movement and Antipassive

### 3.1 Overview

In this chapter, I examine another type of head movement, namely, preposition incorporation (PI), which I will argue is involved in antipassivization, a valency reducing operation like Passive, but one which English is generally thought not to have. The antipassive construction is commonly found in ergative-absolutive languages, which treat the subjects of intransitive verbs and the objects of transitive verbs as a class (marked with absolutive case), distinct from the subjects of transitive verbs (marked with ergative case). Nominative-accusative languages, to which English belongs, treat the subjects of transitive verbs and the subjects of intransitive verbs as a class (marked with nominative case), distinct from the objects of transitive verbs (marked with accusative case). Both Passive and Antipassive are valency reducing operations which make transitive verbs into intransitive verbs. They differ in that Passive demotes transitive subjects (TS) to oblique status and changes transitive objects (TO) into intransitive subjects (IS), whereas Antipassive demotes transitive objects (TO) to oblique status and changes transitive subjects (TS) into intransitive subjects (IS).

The Antipassive is often viewed as the ergative-absolutive equivalent of the Passive in nominative-accusative languages. There

is a strong tendency for morphologically ergative languages to have an antipassive construction and for morphologically accusative languages to have a passive construction. It is less common for a morphologically ergative language to have a passive construction, and even less common for a morphologically accusative language to have an antipassive construction, but these possibilities are attested. Choctaw is a morphologically accusative language which does not have a passive construction (but which apparently does have an antipassive construction) (Davies 1984). Enga, on the other hand, is a morphologically ergative language which does not have an antipassive construction (Van Valin, 1980). A number of morphologically ergative languages have both Passive and Antipassive constructions, including Mam (England 1983), Quiché (Mondloch, 1978), Basque (Bollenbacher, 1978), West Greenlandic Eskimo (Woodbury, 1975), Inuit (Bittner and Hale, 1996), and Inuktitut (Johnson, 1980, Johns, 1987). Furthermore, many morphologically accusative languages have antipassive-like constructions which have been analyzed as non-morphological antipassives. These languages include English (Heath, 1976), French (Postal, 1977; Legendre, 1993), Spanish (Masullo, 1992), Russian (Legendre and Tanya, 1994), and even Hebrew (Dubinsky, 1987).

In this chapter, I will argue for the existence of a (non-morphological) active-antipassive alternation in English based on a consideration of three different types of (non-passive) transitivity

alternations: (i) the unspecified object alternation (3.3.1), (ii) the conative alternation (3.3.2), and (iii) the preposition drop alternation (3.3.3). I will suggest that the intransitive variants of these alternations should be analyzed as deriving from the transitive variants via a process of antipassivization. The lack of antipassive morphology in English will be discussed extensively in section 3.2. In section 3.3, I discuss the antipassive construction in English and compare it with languages which have overt antipassive morphology. In section 3.4, I discuss the nature of incorporation and the properties of semantic features. I also discuss previous analyses of incorporation and verb movement (e.g., Baker 1988, Hale and Keyser, 1993). In section 3.5, I suggest that antipassivization involves preposition incorporation and will develop a theory which attempts to explain the lack of overt antipassive morphology in English. Finally, in section 3.6, I extend the theory to account for the presence/absence of passive morphology.

### 3.2 Antipassive and Overt Morphology

The antipassive construction is generally associated with ergative-absolutive languages like West Greenlandic Eskimo (WGE), shown in (1) from Woodbury (1977), as cited in Baker (1988a).

- (1) a. ANut-ip    miirqa-t            parr-ai.  
           man-ERG child-PL(ABS) care INDIC/3sS/3pO



'The man takes care of the children.'

b. ANut-O      mirrqa-nik      parr-si-vuq.

man(ABS) children-INSTR care-APASS-INDIC/3sS

'The man takes care of the children.'

Syntactically, antipassivization generally does three things. First, it changes a transitive verb (TV) into an intransitive verb (IV). In WGE, transitive verbs agree with their objects. The verb *parr* 'care' agrees with both its object and its subject in (1a). In (1b), however, it only agrees with its subject. *Parr* also carries an antipassive affix in (1b). Second, it turns a transitive subject (TS) into an intransitive subject (IS). In ergative-absolutive languages like WGE, this change has morphological consequences. When the subject is transitive, it is usually marked with ergative case (as in (1a)). When the subject is intransitive, it is marked with absolutive case (as in (1b)). Finally, the transitive object (TO) is demoted to an oblique status and is usually marked with a non-core case. In (1a) the object DP is marked with absolutive case (a core case), whereas in (1b) it is marked with instrumental case.

English has a number of transitivity alternations which look very similar to the WGE antipassive alternation given in (1). One such alternation, the conative alternation, is shown in (2).<sup>1</sup>

- (2) a. John shot the rat.  
b. John shot at the rat.

Like the WGE antipassive in (1), there is both a transitive variant (2a) and an intransitive variant (2b). Unlike WGE, however, there is no overt morphology on the verb in the intransitive variant. The transitive subject in (2a), like the WGE transitive subject in (1a), becomes an intransitive subject. This occurs without any changes in case marking. Finally, the transitive object in (2a) becomes the object of a preposition in (2b), again with no corresponding morphological changes.

Semantically, the WGE antipassive alternation and the English conative alternation produce the same effects. In both cases, there is a shift in focus from the object to the event or subject as a result of detransitivizing the verb. The only significant differences between these two alternations are morphological. WGE morphologically

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<sup>1</sup>One possible alternative analysis of (2b) involves treating *shoot at* as a 'transitive' serial verb (i.e., the reanalysis account). This is evidenced by the fact that (pseudo)-passivization is possible (e.g., The rat was shot at by John). Note, however, that it is possible to insert an adverbial element between the verb and *at* (e.g., John shot several times at the rat), suggesting that *at* is a preposition and not a verb particle.

distinguishes the two variants whereas English does not. These effects are summarized in table 1.

**Table 1**

	<b>WGE</b> (Antipassive)	<b>English</b> (Conative)
OBJ De-focused (Semantic)	Yes	Yes
TS --> IS (Syntactic)	Yes	Yes
TV --> IV (Syntactic)	Yes	Yes
TO --> OBL (Syntactic)	Yes	Yes
SUB Case Change (morph)	Yes (ERG->ABS)	No
APass Affix (morph)	Yes	No
OBJ Case Change (morph)	Yes (ABS->INSTR)	No

Given the syntactic and semantic similarities between (1) and (2), it seems obvious, from a theoretical standpoint, that they should be treated as evolving from the same syntactic process (i.e., antipassivization). Based on the morphological facts, however, few researchers have taken this step. But should a uniform analysis be excluded solely on the basis of the morphology? Exactly how reliable is the morphology?

There are two major morphological effects to consider: (i) the change in the case of the subject and (ii) the change in the form of the verb. Turning to the first point, is a change in the case of the subject from ergative to absolutive an indication of antipassivization? In ergative-absolutive languages, Passive produces the same effect on the case of the subject as Antipassive does. In both instances, the case of the subject changes from ergative to

absolutive. This effect has already been demonstrated for Antipassive in the Greenlandic Eskimo examples in (1) and is shown for Passive in the following example from Inuktitut, taken from Johnson (1980), as cited in Dwyer (1986).

- (3) a. Piita-up    Maali-ø    kunik-paa.  
       Peter-ERG Mary-ABS kiss-3sg-3sg.  
       'Peter kissed Mary'
- b. Piita-mit    Maali-ø    kunil-tau-vuq.  
       Peter-ABL Mary-ABS kiss-PASS-3sg.  
       'Mary was kissed by Peter'

The verb in (3b) is a derived intransitive (as are antipassive verbs). However, this effect is found with canonical intransitives as well, as the following Chukchi examples from Kozinsky et al. (1988), as cited in Bobaljik and Branigan (2003) show.

- (4) a. øʔtvʔet    jørʔen-nin    mimt-e  
       boat-ABS fill-3SG>3.SG water-ERG  
       'Water filled the boat'
- b. øʔtvʔet    jørʔet-γʔi    mimt-e  
       boat-ABS fill-3SG water-INSTR  
       'The boat filled with water'

In some languages, antipassivization does not result in a change of case for the subject. This is shown by the Warlpiri examples in (5), taken from Bittner and Hale (1996).

- (5) a. Ngarrka-jarra ka-pala parnka-ni.  
man-DU(NOM) PRS-2DU run-NPST  
'The two men are running'
- b. Ngarrka-jarra-rlu ka-pala-jana kurdukurdu nya-nyi.  
man-DU-ERG PRS-2DU-3PL children(NOM) see-NPST  
'The two men see the children'
- c. Ngarrka-jarra-rlu ka-pala-jana kurdukurdu-ku wapal-nya-ni.  
man-DU-ERG PRS-2DU-3PL children-DAT APASS-look-NPST  
'The two men are looking for the children'

Warlpiri is a split-ergative language which employs an ergative pattern of case marking. The subject of an intransitive verb and the object of a transitive verb appear in nominative case, while the subject of a transitive verb appears in ergative case. In (5a) the verb *parnka* 'run' is intransitive and the subject is nominative (unmarked in Warlpiri). In (5b) the verb *nya* 'look/see' is transitive and the

subject is ergative. The object *kurdukurdu* 'children' appears in the unmarked case (nominative) in this example.

Based on (5a) and (5b), one would expect that a detransitivizing operation like Antipassive should force the subject to be unmarked (i.e., appear in nominative case). As (5c) shows, however, we get just the opposite result. In this example, the DO is now marked with dative case while the subject remains in ergative case, not nominative as one might expect.

Given these examples, it is clear that the effects in (i) are not specifically the result of antipassivization, but instead are a consequence of the fact that the operation has changed a transitive verb into an intransitive one.

I now turn to the second point (ii): the change in the form of the verb. There are two questions we can ask: (i) does the presence of an antipassive morpheme on an intransitive verb always indicate that antipassivization has taken place, and (ii) does the lack of overt antipassive morphology on a verb always indicate that there has been no antipassivization? I will address the second question first. As Bittner (1987) points out, WGE has both morphological and non-morphological antipassives.

(6) a. Jaaku-p    ujarak    tigu-a-a

Jacob-ERG stone(ABS) take-TR.IND-3SG/3SG  
'Jacob took a stone'

b. Jaaku        ujarak-mik tigu-si-vu-q  
Jacob(ABS) stone-INS take-APASS-INTR.IND-3SG  
'Jacob took a stone'

(7) a. Jaaku-p illu        sana-va-a  
Jacob-ERG house(ABS) build-TR.IND-3SG/3SG  
'Jacob built a house'

b. Jaaku        illu-mik sana-vu-q  
Jacob(ABS) house-INS build-INTR.IND-3SG  
'Jacob built a house'

In both of the above alternations, a transitive verb becomes intransitive, with the absolutive marked DO becoming an oblique DP (marked with instrumental case) and the ergative marked subject appearing in absolutive case. The only difference is that the WGE verb *tigu* 'take' has an antipassive morpheme while the verb *sana* 'build' does not. As noted by Bitner (1987), both of these alternations have the same semantic effects on the interpretation of the oblique DP.

This is true for other types of valency changing operations as well. A similar situation holds for applicative constructions in Chichewa, as illustrated by the examples in (8) and (9) from Trithart (1977), as cited in Baker (1988a).

- (8) a. Ngombe zi-na-tumiz-a                mitolo ya udzu kwa mbuzi.  
       cows    SP-PAST-send-ASP bundles of grass to goats  
       'The cows sent bundles of grass to goats.'
- b. Ngombe zi-na-tumiz-ir-a                mbuzi mitolo ya udzu.  
       cows    SP-PAST-send-**APPL**-ASP goats bundles of grass  
       'The cows sent the goats bundles of grass.'
- (9) a. Joni a-na-pats-a                nthochi kwa amai ake.  
       John SP-PAST-give-ASP bananas to mother his  
       'John gave bananas to his mother.'
- b. Joni a-na-pats-a                amai ake nthochi.  
       John SP-PAST-give-ASP mother his bananas  
       'John gave his mother bananas.'

(8) exemplifies the applicative alternation in Chichewa, while (9) illustrates the dative alternation. Both alternations have an oblique variant in which the theme is expressed as a direct object and the goal is expressed as an adjunct PP. In the double object variant of



each alternation, the goal shifts to the immediate left of the theme and is expressed as a direct object. The major difference between the two pairs involves verbal morphology. The verb in (8b) has an applied suffix whereas the verb in (9b) does not.

Passive is another type of valency changing (reducing) operation which may occur in languages without corresponding morphology. Many languages have active-passive alternations without any overt passive morphology on the verb (e.g., Hungarian, Chinese, Achenese).<sup>2</sup> The following examples from Chinese (Perlmutter and Postal, 1977) illustrate this fact.

(10) a. Zhù laǒshi píyè-le wǒ-de kǎoshì.

Zhu Professor mark-ASP my test  
'Professor Zhu marked my test'

b. Wǒ-de kǎoshì bèi Zhù laǒshi píyè-le.

My test by Zhu Professor mark-ASP  
'My test was marked by Professor Zhu'

The form of the verb *píyè* 'mark' in (10a) and (10b) is active. In all other respects, however, the alternation displays the properties of

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<sup>2</sup>Arka and Kosmas (2002) argue for a passive construction in Manggarai without any corresponding passive morphology.

passivization. The agent in (10a) is demoted to an adjunct *bei*-phrase in (10b) and the DO is promoted to subject position.

These examples clearly demonstrate that it is possible for a valency changing operation like Passive or Antipassive to apply in a given language without producing overt verbal morphology. If Chinese can have a passive construction with no overt passive morpheme, why can't English have an antipassive construction with no overt antipassive morpheme? Note that English has a productive middle alternation, as the following examples show.

- (11) a. Mary cut the meat.  
      b. The meat cuts easily.

- (12) a. I break many vases.  
      b. Vases break quite easily.

The direct object of the active verbs in (a) corresponds to the subject of the middle verbs in (b). This is similar to the effects produced as a result of the active-passive alternation. Unlike passive verbs, however, middle verbs do not possess any overt morphology which distinguishes them from active verbs in English. In other languages, active and middle verbs are morphologically distinct. This is true for Ancient Greek, as shown by the examples in (13) from Spencer (1988).

(13) a. Ho de:mos tithetai nomous.

The people make-MID-PRES laws-ACC

'The people make laws for themselves'

b. Tithe:si nomous.

he-makes-ACT laws-ACC

'He makes laws'

In Ancient Greek, the middle voice indicates that the subject is the actor and is either (i) acting upon himself reflexively or (ii) acting in his own self interest. More generally, the middle voice emphasizes the affected object of the transitive variant and de-emphasizes the agent, which is implicit but unexpressed in the middle variant. This shift in emphasis is also found in the English middle construction.

The fact that the middle alternation in English produces no distinct morphology makes it analogous to the antipassive alternation being proposed in this thesis. Like the middle, the antipassive produces a characteristic set of features, the most pronounced of these being that the DO in the transitive variant appears as an oblique adjunct in the antipassive variant and is de-focused. The English verb *shoot* in (2) clearly displays this property.

Turning now to the first question: does the presence of an antipassive morpheme on an intransitive verb always indicate that antipassivization has taken place? In some languages, it is possible for overt antipassive morphology to appear with transitive verbs.<sup>3</sup> Consider the following data from Chukchi (Bobaljik and Branigan, 2003):

- (14) a. ʔaaček-a    kimitʔ-ən    ne-nʔʔetet-ən  
          youth-ERG   load-ABS   3PL.SUB-carry-3SG.OBJ  
          'Young men carried away the load'
- b. ʔaaček-ət            ine-nʔʔetet-γʔet            kimitʔ  
          youth-PL(ABS)   APASS-carry-3PL.SUBJ   load-INSTR  
          'Young men carried away a load'

(14) shows all the characteristic syntactic, semantic, and morphological features of the typical antipassive alternation in ergative-absolutive languages. The verb detransitivizes, the case of the subject changes from ergative to absolutive, and the object is demoted and marked with an oblique case (instrumental). The verb *nʔʔetet* 'carry' bears an overt antipassive prefix (*ine*) in (14b). Note that in Chukchi, transitive verbs reference the features of the

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<sup>3</sup>It is also possible for overt passive morphology to appear with transitive verbs. This is true in Ukrainian (Spencer, 1990). Moreover, overt applicative morphology may appear with intransitive verbs in Abaza (O'Herin, 2001).

subject and the object. Intransitive verbs, on the other hand, reference only the subject.

In addition to the prototypical active-antipassive alternation given in (14), Chukchi has a second type of antipassive, called the 'spurious' antipassive by Halle and Hale (1997). This alternation is shown in (15) (Bobaljik and Branigan, 2003).

- (15) a.  $\gamma\text{em-nan } \gamma\text{et} \quad \text{t}\text{e-}\text{t}\text{ʔu-}\gamma\text{et}$   
I-ERG you.SG(ABS) 1SG.SUB-see-2SG.OBJ  
'I saw you'
- b.  $\text{e-nan } \gamma\text{em} \quad \text{e-ine-}\text{t}\text{ʔu-}\gamma\text{ʔi}$   
he-ERG I (ABS) 3SG.SUB-APASS-see-3SG.SUBJ  
'He saw me'

Like (14b), the verb *tʔu* 'see' in (15b) has an overt antipassive prefix (ine) and intransitive agreement morphology (it agrees with only the subject). However, syntactically the clause is transitive. The case of the subject in (15b) remains ergative and the case of the object remains absolutive. Note the comparison between (15b), in which a verb with overt antipassive morphology appears in a transitive clause, and the WGE example in (7b), in which an active verb appears with antipassive syntax.

Given the above evidence, I conclude that the presence of overt morphology alone is insufficient to determine whether or not a particular valency changing operation like Antipassive has applied in a given language or whether a language has a particular valency changing operation at all. Consequently, it follows that Antipassive should not be ruled out as an operation in English based solely on the lack of overt morphology. I will take up the morphology issue again in section 3.5, at which point I will offer a theory of antipassivization which attempts to explain the lack of overt antipassive morphology in English. In the next section, I will explore three (non-passive) transitivity alternations in English and suggest that they should be classified as active-antipassive.

### **3.3 The Antipassive in English**

In this section, I will discuss three different transitivity alternations in English which bare striking similarities to the active-antipassive alternation discussed in the previous section: the unspecified object alternation (3.3.1), the conative alternation (3.3.2), and the preposition drop alternation (3.3.3). These alternations produce none of the morphological effects found in ergative-absolutive languages with morphological antipassives. Syntactically and semantically, however, there is very little difference. Given these similarities, I will conclude that English has an active-antipassive alternation.

### 3.3.1 *The Unspecified Object Alternation*

The unspecified object alternation, exemplified in (16), is a transitivity alternation in which a transitive verb becomes intransitive via deletion of an indefinite (or unspecified) direct object.

- (16) a. John ate the rice.  
b. John ate.

When the object is deleted, it usually receives an indefinite or unspecified interpretation. In (16a), the theme is clearly specified (i.e., rice). In (16b), however, it is interpreted as an unspecified type and/or quantity of food (i.e., anything that can be eaten). The same paradigm is found in languages with morphological antipassives, as the following examples from WGE illustrate (Sadock 1980).

- (17) a. Angut-ip aranaq unatar-paa  
man-ERG woman(ABS) beat-INDIC  
'The man beat the woman'
- b. Angut unata-a-voq  
man(abs) beat-APASS-INDIC

'The man beat someone'

The major differences between the English examples in (16) and the WGE examples in (17) are (i) WGE has overt antipassive morphology, whereas English does not, and (ii) and WGE has overt case morphology, whereas English does not.

A number of theories have been offered to account for the unspecified object alternation in English (and other languages). These theories range from lexical (e.g., indefinite objects are marked as optional in the subcat frames of participating verbs) to syntactic (e.g., indefinite objects are deleted before s-structure or phonetic form). Among the syntactic accounts are those which treat this alternation as a form of antipassivization. Heath (1976) has proposed this for English and Postal (1977) has made a similar claim for French (see also Legendre, 1993). Given the similarities between the English data in (16) and the WGE data in (17), such accounts are not surprising.

### *3.3.2 The Conative Alternation*

The conative alternation, introduced previously in (2) and exemplified again in (18), is a also transitivity alternation in which a transitive verb detransitivizes. It differs from the unspecified object alternation in that the direct object is not deleted. Rather, it is



introduced by a preposition (*at*), through which it is assigned an oblique case.

- (18) a. John shot the rat.  
b. John shot at the rat.

Like the unspecified object alternation discussed in section 3.3.1, there is a change in meaning between the two variants. (18a) implies that the result of the event was accomplished (e.g., John shot at the rat and John kissed the rat). In (18b), however, we are only sure that John shot in the direction of the rat. He may have kissed the rat or he may have missed. We don't know.

The conative alternation and the unspecified object alternation share one common property. In both alternations, detransitivizing the verb shifts focus from the object onto the event or subject. This is exactly what antipassivization does.

Languages with morphological antipassives also allow the demoted direct object to be introduced by a preposition, as the following examples from Yucatec illustrate (Krämer and Wunderlich 1998):

- (19) a. màʔalobʔ ʔa-tan -ik                      màayah  
         well            2nd PER-speak-PERF Maya

'You speak Maya well'

- b. màʔalobʔ ʔa-t'àan                      ʔitS màayah  
well      2nd PER-speak.APASS PREP Maya  
'You speak Maya well'

The major difference between English and Yucatec is that Yucatec has overt antipassive morphology, whereas English does not.

### *3.3.3 The Preposition Drop Alternation*

The final type of transitivity alternation to be discussed in this section is the so called preposition drop alternation, illustrated by the examples in (20).

- (20) a. John climbed the mountain.  
      b. John climbed up the mountain.

Superficially, the preposition drop alternation is identical to the conative alternation discussed in the previous section. Both alternations have a transitive variant in which the verb appears with a direct object and an intransitive variant in which the object is introduced by a preposition. Semantically, however, there are some differences. Verbs which participate in the preposition drop alternation tend to be verbs of motion or directed motion (Levin

1993). When used transitively, the implication is that the goal has been reached. (20a) implies that John has reached the top of the mountain (assuming that it was his goal to reach the top). (20b), on the other hand, does not imply this. He could have reached the top or not. We simply don't know.

The important thing to note about this alternation is that, like the conative and unspecified object alternations discussed above, there is a shift in focus from the result to the event when the verb is detransitivized. As we have seen, this shift in focus is typically found with the antipassive.

#### *3.3.4 A Typology of Antipassive*

In section 3.2, the lack of overt antipassive morphology in English was addressed. Given the evidence, it was shown that the presence (or absence) of overt morphology was not in and of itself sufficient to rule out the existence of an active-antipassive alternation. Even in languages which possess overt antipassive morphology, morphology isn't always found with antipassive verbs. The WGE examples from Bittner (1987) in (6) and (7) above illustrate this fact. The only difference between (6) and (7) is that the verb has overt antipassive morphology in (6b) and no antipassive morphology in (7b). The semantic effects produced by each alternation, however, are the same. The alternation in (7) parallels with the alternations found

with unspecified object verbs, conative verbs, and preposition drop verbs discussed in 3.3.

If, as I am proposing, English does have an active-antipassive alternation, there are some additional considerations which must be addressed. When the direct object is demoted as a result of antipassivization, it can be realized in one of two ways: (i) as DP with oblique case or (ii) as a DP introduced by a preposition. English only seems to allow the second possibility. Most languages with morphological antipassives appear to favor the first. This can be shown by once again comparing English with WGE (Sadock 1980).

- (21) a. John ate the rice.  
b. John ate something.

- (22) a. Angut-ip aranaq unatar-paa  
man-ERG woman(ABS) beat-INDIC  
'The man beat the woman'
- b. Angut arna-mik unata-a-voq  
man(abs) woman-INSTR beat-APASS-INDIC  
'The man beat a woman'

Both English and WGE allow indefinite, nonspecific object DPs. In WGE, however, the verb is intransitive with antipassive morphology

(22b), whereas in English the verb remains transitive (21b). Note that (21b) may be passivized.

- (23) a. John ate something.  
b. Something was eaten by John.

In English, it appears that the use of an overt preposition to license the demoted direct object is obligatory. The reverse seems to be true for WGE.

The Yucatec examples from Krämer and Wunderlich (1998), given in (19) and repeated as (24) below, show that languages with overt antipassive morphology may also license a demoted object with a preposition. As in English, this appears to be an obligatory feature of antipassivization in Yucatec.

- (24) a. màʔalobʔ ʔa-tan -ik                      màayah  
well              2nd PER-speak-PERF Maya  
'You speak Maya well'
- b. màʔalobʔ ʔa-t'àan                      \*(ʔitS) màayah  
well              2nd PER-speak.APASS      PREP      Maya  
'You speak Maya well'

In sum, there are four distinct possibilities with respect the presence and/or absence of overt morphology and the presence and/or absence of licensing prepositions, all of which are attested. Table 2 summarizes these possibilities.

**Table 2**

<b>APASS Morpheme</b>	<b>Overt Preposition</b>	<b>Language</b>
Yes	Yes	Yucatec
Yes	No	WGE
No	Yes	English
No	No	WGE

### *3.3.5 Summary*

In this section, three major (non-passive) transitivity alternations in English were examined: the unspecified object alternation, the conative alternation, and the preposition drop alternation. Each of these alternations was found to produce syntactic and semantic effects which parallel those of the active-antipassive alternation. Syntactically, the transitive verb becomes intransitive and the direct object becomes oblique and must be either introduced by a preposition or deleted entirely. Semantically, detransitivizing the transitive verb shifts focus away from the result or goal and onto the event itself. Given such similarities, it was concluded that each of these alternations should be treated as active-antipassive. In the following sections, an explanation will be offered for why antipassive verbs in English lack overt morphology.

### 3.4 Incorporation and Semantic Features

As was shown in the previous section, a number of transitivity alternations in English exhibit properties, both syntactic and semantic, which suggest that they should be treated as active-antipassive. The explanation I would like to offer for these facts involves incorporation, specifically, preposition incorporation (PI). The main claim will be that the antipassive morpheme is a free morpheme which is base generated as a preposition heading the  $\mathbb{P}$  in which the demoted DO is embedded. After it checks the case and theta features of its DP complement, it raises and adjoins to V, either at PF or at LF, in order to check an additional semantic feature, which I will refer to simply as OBL (oblique).<sup>4</sup> OBL should be understood as a semantic feature which adds a locative, directional, or instrumental element to the meaning of the predicate (OBL = LOC, INS, TH, ...). OBL is added to the feature matrix of a verb by the operation Antipassive.

As pointed out in chapter 1, incorporation is slightly different than the type of verb movement discussed in chapter 2. Movement of an active verb to  $v$  to check  $[\pi]$  is movement of the substitution

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<sup>4</sup>I take the semantics of OBL to be a function of the type of thematic role assigned to the complement DP by P (e.g., Instrument [INS], Theme [TH]). For the English alternations under discussion, the relevant role is locative or directional in nature ([LOC]).

type, represented schematically in (25). The lexical item, either an active verb or the passive auxiliary *be*, checks its  $[\pi]$  feature against the  $[\pi]$  feature of *v*, which is a phonetically null functional category. Categories like *v* and *V* do not spell out at PF. They merely hold features which need to be checked. When  $[\pi]$  is checked, it is deleted. Consequently, movement of the type shown in (25) produces the effects of substitution (*verb* in (25) is meant to represent an actual lexical item).

- (25) a.  $[\text{VP} \dots v[\pi] \dots [\text{VP} \dots \text{verb}[\pi] \dots ]]$   
 b.  $[\text{VP} \dots \text{verb}_i \dots [\text{VP} \dots t_i \dots ]]$

Incorporation, on the other hand, is movement of the adjunction type, schematically shown in (26). It involves the movement of one lexical item, in this case the antipassive preposition/morpheme, to *V* in order to check its OBL feature against the OBL feature of another lexical item, the main verb (which already occupies the *V* position). In this case, both elements are spelled out, assuming they have phonetic content, producing the effects of head adjunction.

- (26) a.  $[\text{VP} \dots \text{verb}[\text{OBL}] \dots [\text{PP} \dots \text{Apass}[\text{OBL}] \dots ]]$   
 b.  $[\text{VP} \dots \text{verb} + \text{Apass}_i \dots [\text{PP} \dots t_i \dots ]]$



The type of movement to be discussed in this chapter also differs from the type discussed in chapter 2 in another significant way.  $v$  is a functional category whereas  $V$  is lexical. Movement to  $v$  (from  $V$ ) is movement to a functional category to check functional or grammatical features. Movement to  $V$ , on the other hand, is movement to a lexical category to check semantic features.  $[\pi]$ , discussed in chapter 2, is a functional feature. OBL is a semantic feature. Semantic features contribute to meaning in ways that functional features like  $[\pi]$  do not.

The type of movement I am proposing here (as well as the type of movement which will be proposed in chapter 4) is based loosely on the lexical decomposition approach to syntax advocated by Hale and Keyser (1993). It should be pointed out, however, that my approach, while similar in a number of respects to theirs, does not entail that the meanings of verbs are built up through successive applications of Copy + Merge. On the present theory, lexical decomposition reduces to a theory of semantic (thematic) roles, which, as was shown in chapter 2, reduces to the theory of feature checking. Semantic features like OBL are analogous to theta features like agent, goal, and theme. The former are checked in head-head configurations whereas the latter is checked in Spec-head configurations. Semantic features can be thought of as theta roles for heads. For a conative verb like *shoot*, checking OBL in  $V$  licenses  $V$  as a binary relation holding between the shooter (agent) and the

location ( $\langle \text{shooter, location} \rangle \in \text{LOC}$ , where  $\text{LOC} = \text{OBL}$ ). Semantic features like OBL are generalized types of relations the same way that agent, goal, and theme are generalized types of arguments.

Before moving ahead with the analysis, I would like to briefly discuss Hale and Keyser (1993) and Baker (1988a).

### 3.4.1 *Semantic Features and Lexical Decomposition*

In this thesis, a principled distinction has been made between purely syntactic features like  $[\pi]$ , which are associated with active verbs, the passive auxiliary *be*, and the functional category *v*, and meaning based features like OBL, which are associated with either lexical categories like V and P or lexical items like verbs, prepositions, and affixes. In chapter 4, I will introduce four more semantic features: PRED, POSS, and CAUSE, which I will argue are associated with the lexical category V, and DIR, which I will argue is associated with the lexical category V, verbs, and affixes. Table 3 summarizes these classifications.

**Table 3**

Feature	Feature Type	Associated with ...
$[\pi]$	Functional	<i>v</i> , V, verbs, <i>be</i>
OBL	Semantic	verbs, prepositions, affixes
DIR	Semantic	V, verbs, affixes
CAUSE	Semantic	V
POSS	Semantic	V

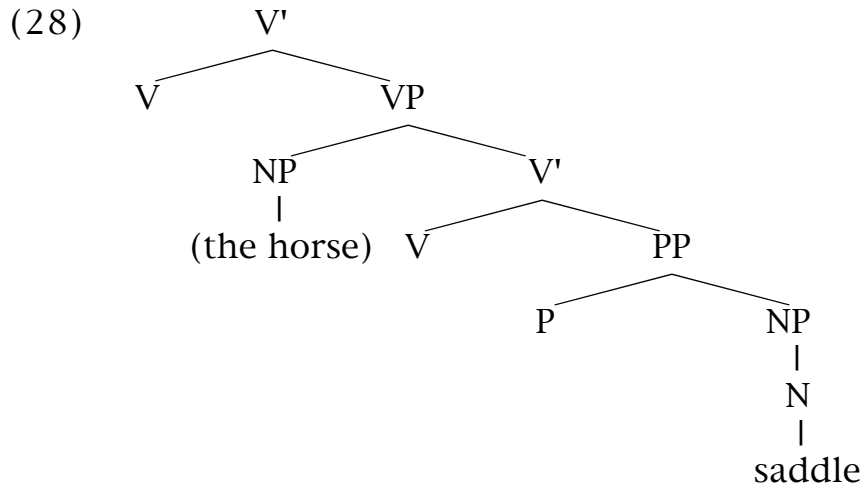
PRED	Semantic	V
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The approach advocated here is based on work in lexical semantics which has attempted to derive the meanings of words from more general semantic elements which are known to recur over and over again in the meanings of different words (e.g., Hale and Keyser, 1993; Dowty, 1979; Jackendoff, 1972, 1983, 1990).

One question which has been revisited over the years is whether lexical decomposition should apply exclusively in lexical semantic structure or whether it should be incorporated to some degree at the syntactic level. A number of recent proposals have advocated the syntactic view, to varying degrees (e.g., Collins and Thráinsson, 1996; Kratzer, 1994; Chomsky, 1994). In the theory of Hale and Keyser (1993), incorporation takes place at Lexical Relational Structure (LRS), a level of representation intermediate between semantic structure and syntactic structure. LRS involves the generation of syntactic structures and is subject to the same principles that govern syntactic derivations (e.g., the ECP). Hale and Keyser are mainly concerned with explaining variations like the one in (27).

- (27) a. He saddled the horse.  
       b. He provided the horse with a saddle.

(27a) involves a denominal verb derivation with *saddle* canonically generated under N and moving to V via an empty P. This canonical structure corresponds to the non-derived case in (27b) and is given in (28).

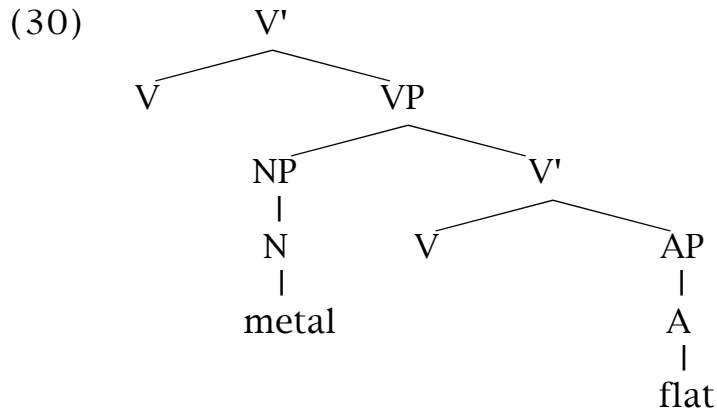


Hale and Keyser appeal to syntactic constraints like the ECP as motivation for their theory. Specifically, they argue that the ill-formedness of constructions like the ones in (29) are parallel to ill-formed cases in overt syntax which involve a violation of the ECP.

- (29) a. \*He saddled the horse with.  
 b. \*He metaled flat (cf. He flattened the metal).

(29a) involves a violation of the Head Movement Constraint (a subcase of the ECP), with the noun *saddle* moving over the preposition *with* and into V. (29b) is a violation of the ECP since the

noun *metal* incorporates out of a Spec position inside a lower VP. Note that if the Adjective *flat* raises, no such violation arises since *flat* is moving out of a complement position (cf. *He flattened the metal*). The canonical structure for (29b) is provided in (30).



The problems with this approach go back to the days of generative semantics, when researchers were attempting to derive the lexical meanings of verbs like *kill* from logically related component meanings such as CAUSE and DIE (e.g., Lakoff 1970). One of biggest problems at that time was how to derive the phonetic form of the word *kill* from CAUSE and DIE. Even if this issue were to be resolved satisfactorily, there remains the problem of synonyms. How would a closely related word like *murder* differ from *kill*? In order to distinguish these two words, one would end up needing to propose several additional subcomponents of meaning.

The theory advanced in this thesis, while based on lexical decomposition, does not incur the same set of problems. Unlike the

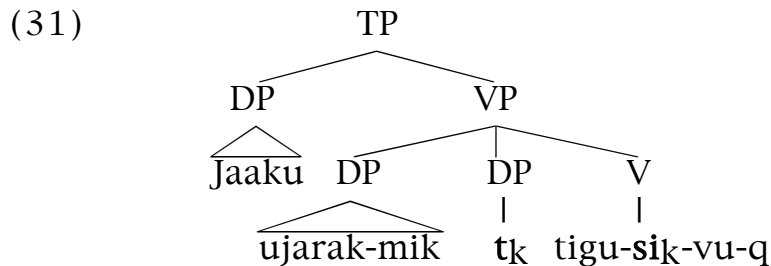
theory of Hale and Keyser (1993), no intermediate level of syntactic representation (or LRS) is assumed. Lexical items (including affixes) enter the computation as fully formed elements which must check certain semantic features in order to be licensed.

### *3.4.2 Antipassive and Noun Incorporation*

In Baker (1988a), preposition incorporation (PI) is used to explain the applicative alternation. The antipassive alternation, on the other hand, is treated as a form of Noun Incorporation (NI). The antipassive morpheme is generated in the direct object position of a transitive verb. Unlike nouns, which are free morphemes, the antipassive morpheme is an affix (i.e., bound morpheme). Affixes must attach to a host at S-structure, a requirement Baker formalizes as the Stray Affix Filter. This effectively forces the antipassive affix to raise from N to V overtly and explains why full noun incorporation (NI) is optional whereas antipassive affix incorporation is obligatory.

Antipassivization for Baker is a purely syntactic process. The antipassive affix is generated in the head position of a DP complement of the verb while the demoted direct object is generated as an adjunct phrase. The antipassive morpheme then raises and adjoins to V, absorbing accusative case from the verb. Together, the verb + antipassive morpheme complex theta mark the

DP adjunct. (31) shows how this would work for the WGE antipassive given in (6b).



Baker's theory crucially relies on the presence of an overt antipassive morpheme to absorb accusative case from the verb and help theta mark the adjunct DP. As we have seen, however, not all languages with active-antipassive alternations have overt antipassive morphology. The WGE antipassive in (7b) is a perfect example. Moreover, there are some languages which allow double antipassivization, such as Halkomelem Salish (Gerdtz and Hukari, 2000, 2003). It is unclear how Baker's theory would account for a language such as this.

A second problem with Baker's account is that full noun incorporation does not operate the same way that antipassivization does. For Baker, Noun Incorporation, like Antipassive, is a transitivity alternation which takes a transitive verb and makes it intransitive by incorporating the root noun of the DO. Like the demoted object of antipassive constructions, the incorporated noun generally receives an unspecified or indefinite interpretation (Van

Geenhoven, 1998; Farkas and de Swart, 2003). However, in spite of these similarities, significant differences exist. First, the antipassive morpheme must always be case-marked by the verb to which it adjoins. Incorporated nouns and the DPs from which they excorporate do not need to be case-marked (Baker, 1988a: 124). Second, Antipassive can affect changes in the progressive properties of the verbs to which it applies (e.g., by changing a telic verb into an atelic one (Bitner, 1987)).<sup>5</sup> NI, on the other hand, does not produce this effect. Third, unaccusative verbs permit NI (of their nominal subjects) but do not undergo antipassivization.<sup>6</sup> (32) shows this possibility for NI structures in Onondaga, from Chafe (1970) as cited in Baker (1988a).

- (32) [Nə̀kə̀ tk ] o-nə̀hsk-akayə̀h  
           that      3N-house-old  
           'That house is old'

---

<sup>5</sup>Antipassivization may also introduce irrealis mood (Bittner, 1987).

<sup>6</sup>Intransitive verbs with agentive subjects, on the other hand, do not allow NI, as the following examples from Onondaga illustrate (Woodbury, 1975):

- (i) a. H-ate-ʔ se:-ʔ neʔ o-tsiʔkt-aʔ  
           3MS-REFL-drag-ASP the-PRE-louse-SUF  
           'The louse crawls'
- b. \*H-ate-tsiʔ kti-ʔ se:-ʔ  
           3MS-REFL-louse-drag-ASP  
           'The louse crawls'



Fourth, Noun Incorporation may apply to strictly intransitive verbs whereas Antipassive cannot. The following Niuean examples from Seiter (1980) bare this out.

(33) a. Manako nakai a koe [pp ke he tau manu ]

like Q ABS you to PL animal

'Do you like animals?'

b. Na manako manu nakai a koe?

PAST like animal Q ABS you

'Do you like animals?'

*Manako* 'like' is syntactically intransitive in (33a), yet it permits noun incorporation.<sup>7</sup> Antipassive, on the other hand, is impossible with intransitive verbs of any type.

One final difference between full NI and antipassivization is that the antipassive morpheme does not really behave like a noun. It cannot be modified or create discontinuous dependencies the way that incorporated nouns can. The following Southern Tiwa example

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<sup>7</sup>Baker gets around this by claiming, following Seiter (1980), that the *ke* phrase in (33a) is not a true PP. Rather, it is a middle object (i.e., NP) and a true argument of the verb, which makes the verb transitive. Baker argues that affective or perception predicates, the class to which *makako* belongs, are defective case assigners. As a result, *ke*, a case particle, is needed to assign case to the NP in the non-incorporated variant of the alternation.

from Baker (1988a) shows that incorporated nouns can strand determiners.<sup>8</sup>

- (34) [DP Yede t<sub>k</sub> ] a-seuan<sub>k</sub>-mũ-ban  
that            2sS:A-man-see-past  
'You saw that man'

Despite the superficial similarities, it is clear that NI and antipassivization are distinct processes. In the next section, I will argue that antipassivization is best characterized as a type of preposition incorporation.

### 3.5 Preposition Incorporation

In this section, I offer an alternative to Baker's (1988) incorporation account of the antipassive construction. I claim that the antipassive morpheme is a free morpheme base generated under P. After checking the case and theta features of its DP complement, it raises and adjoins to V, either at PF or at LF, in order to check its OBL feature against the OBL feature of the main verb. As mentioned earlier, OBL is added to the feature matrix of the main verb as a

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<sup>8</sup>The example in (34) highlights another significant problem for Baker (1988). Since Abney (1987), determiners like *yede* 'that' have been treated as functional heads occupying the head position of DP, a functional category immediately dominating NP. For the noun to move out of the DP in (34), it would have to raise over the determiner, which should be a violation of the Head Movement Constraint (i.e., ECP).

result of undergoing antipassivization. The Antipassive rule, formalized in chapter 1, is repeated below as (35).

(35) Antipassive:  $\text{verb}(\theta, C) \Rightarrow \text{verb}(\text{OBL})$

OBL can be either strong or weak and can be assigned to only lexical items from the numeration, not lexical categories like V. Like  $[\pi]$ , OBL must be checked in a head-head configuration with an appropriate feature checking head (i.e., it is a head feature). Furthermore, this checking relation must be symmetric.

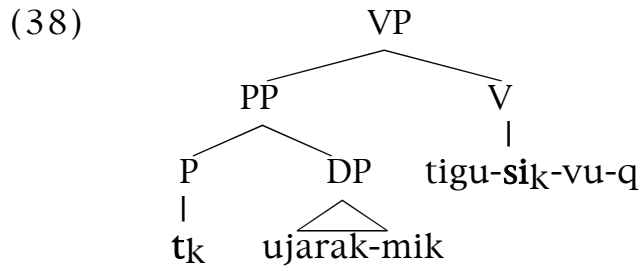
As mentioned in section 3.3.4, there are four possibilities which must be explained, the two most common being exemplified by the English data in (36) and WGE data in (37).

(36) John shot at the rat.

(37) Jaaku          ujarak-mik tigu-si-vu-q  
Jacob(ABS) stone-INS take-APASS-INTR.IND-3SG  
'Jacob took a stone'

As these examples illustrate, WGE has overt antipassive morphology but no preposition. English, on the other hand, has a preposition but no overt antipassive morphology. Given this, we can posit that OBL features are weak in English and strong in WGE. Consequently, P to V

movement (i.e., preposition incorporation) must take place at PF in WGE and at LF in English. (38) shows the structure of the VP in WGE after PI has applied.



The antipassive morpheme *si* is base generated in P, where it checks the case and theta features of the DP *ujarak-mik*. The OBL feature of *si* is strong, as is the OBL feature of the verb.<sup>9</sup> In order for the derivation to converge, *si* must raise to V and check its strong OBL feature against the strong OBL feature of *tigu* 'take' before Spell-out.

The English derivation for (36) proceeds in a similar manner, with the preposition *at* checking the case and theta features of its DP complement *the rat*. The OBL feature of *at* is weak, however, as is the OBL feature of the verb *shoot*. As a result, *at* must move at LF. Moving before LF would result in a violation of the economy condition Procrastinate.

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<sup>9</sup>OBL is instrumental in the WGE example in (37). In the English example in (36), OBL is locative.

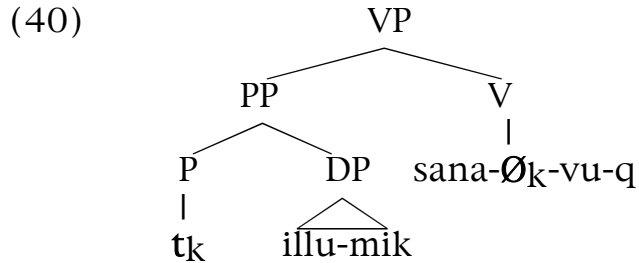
If OBL is always weak in English, one would expect it to not have overt antipassive morphology. Conversely, if OBL is always strong in a language, one would expect that language to always have overt antipassive morphology. As we have seen, however, there are additional possibilities. In WGE, for example, it is possible to have antipassive with no overt morphology, as the following examples from Bittner (1987) illustrate:

- (39) a. Jaaku-p    illu                    sana-va-a  
           Jacob-ERG house(ABS) build-TR.IND-3SG/3SG  
           'Jacob built a house'
- b. Jaaku            illu-mik    sana-vu-q  
           Jacob(ABS) house-INS build-INTR.IND-3SG  
           'Jacob built a house'

Not only is there no antipassive morphology to speak of in (39b), but there is no preposition either. If *sana* 'build' in (39b) is an antipassive verb, as I am assuming here (based on Bittner's evidence), then under the current theory it should have undergone the Antipassive rule in (35), which means it would have an unchecked OBL feature.

One way around this problem is to posit that WGE allows null prepositions to check the theta and case features of DP

complements and the OBL feature of the verb.<sup>10</sup> Under this approach, the structure of the VP for the WGE antipassive in (39b) would be something like (40).



The 'null' preposition, signified by  $\emptyset$  in the above example, checks the theta and case features of the DP *illu-mik*, after which it raises and adjoins to the verb, where it checks its OBL feature against the OBL feature of *sana* 'build'. Since the preposition in (40) has no phonetic form, we can assume that movement takes place either at PF or at LF. However, if we assume that movement takes place at LF, an explanation is available for the contrast between (39b) and (37): null heads can check weak OBL features in WGE, whereas only heads carrying phonetic content can check strong OBL features.<sup>11</sup>

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<sup>10</sup>Null prepositions have been proposed for Russian (Fowler and Yadroff, 1993), Zina Kotoko (Holmberg, 2002), and many other languages. See also Baker (1988).

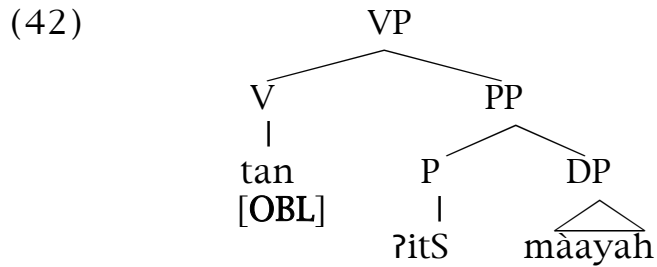
<sup>11</sup>Note that an alternative analysis is available, whereby a null antipassive morpheme is selected directly from the numeration and inserted into the derivation to check the strong OBL features of the antipassive verb. The major problem with this alternative is that there is no lexical item (i.e., preposition) available to check the theta and case features of the demoted object.

The final possibility which needs to be explained is represented by the Yucatec data given in (19) and repeated again as (41) below.

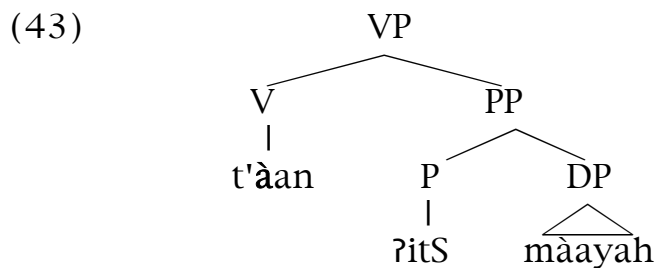
- (41) a. màʔalobʔ ʔa-tan -ik                      màayah  
           well            2nd PER-speak-PERF Maya  
           'You speak Maya well'
- b. màʔalobʔ ʔa-t'àan                      ʔitS màayah  
           well            2nd PER-speak.APASS PREP Maya  
           'You speak Maya well'

As the above data show, when antipassivized, the verb in Yucatec is overtly marked (with the infix *à*). In addition, there is an overt preposition, *ʔitS*, licensing the demoted object.

These facts, I suggest, can be explained if we assume that only verbs have (strong) OBL features in Yucatec. *ʔitS* is assigned case and theta features from the numeration which are checked against the case and theta features of the demoted DP. However, no OBL feature is assigned. The verb, on the other hand, is assigned a strong OBL feature as a result of the operation Antipassive. This feature must be checked before Spell-Out. Otherwise the derivation will crash at PF. (42) represents this point in the derivation (with the unchecked strong OBL feature in boldface).



The only option for convergence is for Select to take the antipassive morpheme *à*, which has a strong OBL feature, directly from the numeration and introduce it into the computation to check the strong OBL feature of the main verb *tan* 'speak', which is spelled out in its antipassive form, *t'àan*. The result is shown in (43).



The 'periphrastic' Yucatec antipassive in (43) is the counterpart to the periphrastic passive in English discussed extensively in chapter 2. Both derivations involve essentially the same process (over different lexical categories). In the case of English, active verbs have strong  $[\pi]$  features which must be checked before Spell-Out. Passive verbs, on the other hand, lose their  $[\pi]$  features as a result of undergoing the operation Passive. As a result, the verb is unable raise to *v* (without violating Last Resort). The only



option for convergence is for Select to take *be*, which is always assigned a strong  $[\pi]$  feature, and introduce it into the derivation to check  $[\pi]$  of *v*.

In the case of the Yucatec antipassive, prepositions in Yucatec are not assigned an OBL feature from the numeration. Consequently, P cannot raise to V to check the strong OBL feature of the verb, which has acquired this feature as a result of antipassivization. Like the passive verb in English raising to *v* to check  $[\pi]$ , movement of P to V to check OBL in Yucatec would be a violation of Last Resort. The only possible option for convergence is for Select to take the antipassive morpheme *à* from the numeration and introduce it into the derivation to check the strong OBL feature of V. *à* is spelled out as a verbal affix whereas *be* is spelled out as a free morpheme. (44) represents the derivations of the English passive and Yucatec antipassive at the point where Select must take appropriate feature checking head from the numeration and introduce it into the respective computations. (45) represents the (converging) outputs of the this step.

- (44) a.  $[\text{VP John V}[\pi] [\text{VP arrested } [\text{PP by the police}]]]$   
 b.  $[\text{VP } ?a\text{-tan } [\text{OBL}] [\text{PP } ?itS \text{ màayah } ]]$

- (45) a.  $[\text{VP John be } [\text{VP arrested } [\text{PP by the police}]]]$   
 b.  $[\text{VP } ?a\text{-t'`aan } [\text{PP } ?itS \text{ màayah } ]]$

Before concluding this section, I would like to discuss an interesting set of similarities between prepositions and antipassive affixes. In this chapter, I have argued that antipassive affixes start out as prepositions which incorporate into the verb stem at some point in the derivation. If incorporation occurs at PF, it will show up as an affix. If incorporation occurs at LF, it will show up as a preposition. Given this claim, we should expect prepositions and antipassive suffixes to behave similarly in at least some respects.

In English, the choice of a particular preposition is often determined by the semantic properties of the verb which selects it. For example, the majority of verbs which participate in the English conative alternation permit only the preposition *at*. A few of the verbs in this class, specifically certain verbs of the *push/pull* subclass, permit only the preposition *on* (Levin, 1993). Examples are given below.

- (46) a. John shot at the dog.  
      b. \*John shot on the dog.
- (47) a. \*The baby sucked at the bottle.  
      b. The baby sucked on the bottle.

The verb *shoot* in (46) must appear with the preposition *at*. It can never appear with the preposition *on*. *Suck* in (47), on the other hand, may appear with *on*, but not with *at*. This particular set of facts is interesting but problematic for the current theory. Note that in the English passive, the preposition is invariant. It must always be *by*. If the oblique variant of the conative alternation is derived via antipassivization, as I have argued, how do we explain the selectional differences?

Interestingly enough, antipassive affixes in many languages are also dependent (to varying degrees) on the semantics of the verbs to which they attach. This is the case in WGE, which has five different antipassive suffixes, one of which is phonetically null (Bittner, 1987). Some verbs in WGE may select any of the five. However, there are a number of verbs which disallow certain suffixes. For example, the verb *tusar* 'hear' may appear with the antipassive suffix *-llir*, (e.g., *tusarlirpuq*), but not *malig* 'follow' (e.g., *\*malillirpuq*). *Malig* allows the null suffix (e.g., *malippuq*), but not *tuqut* 'kill' (e.g., *\*tuquppuq*).<sup>12</sup> Note that *tuqut* cannot take the suffix *-llir* either (e.g., *\*tuqullirpuq*) (Bittner, 1987). Similar effects are found with passive affixes in certain languages. For example, Mam has four different passive affixes, each of which has a slightly different

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<sup>12</sup>*Tuquppuq* is grammatical but does not have the expected antipassive reading. Instead, the reading is reflexive, e.g., 'to kill oneself' (Bittner, 1987).

meaning (England, 1983). In fact, having more than one passive or antipassive affix in a given language is fairly common (Dixon, 1994).

Under the PI account, the antipassive facts receive a natural explanation. Earlier in this chapter it was suggested that OBL features may be of various types (e.g., locative, directional, instrumental). When the antipassive affix incorporates into the verb stem to check its OBL feature against the OBL feature of the verb (at either LF or PF), it is reasonable to assume that the features must be compatible. In other words, if a verb has a locative OBL feature, only a preposition with a locative OBL feature can check it. The verb *shoot* in (46) appears to have a directional OBL feature, as does the preposition *at*. The preposition *on*, however, appears to have a locative OBL feature, which is incompatible with *shoot*. Consequently, *shoot* and *on* can not check one another's OBL features and the derivation in (48b) crashes. Note that *on* is perfectly acceptable with *suck* in (49), as they both appear to have locative OBL features. *At*, which has a directional OBL feature, is incompatible with *suck*.

### 3.6 Passive Morphology and OBL

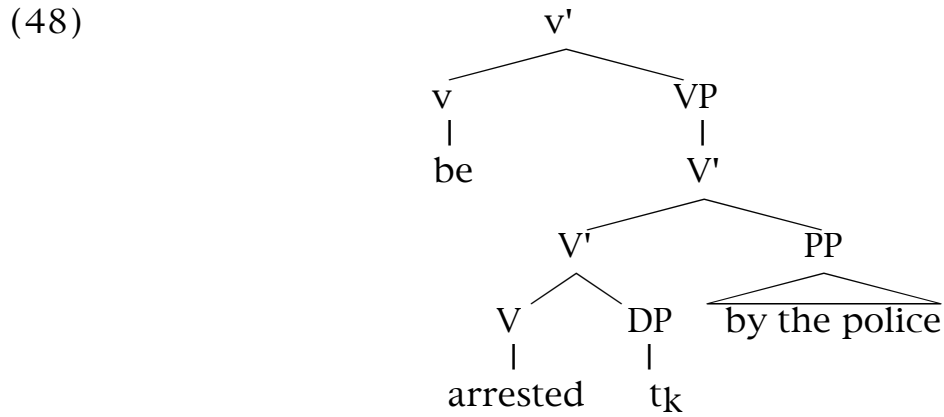
In chapter 2 the active/passive alternation was discussed in detail, where it was argued that active verbs raise to *v* while passive verbs remain in *V*. It was proposed that movement from *V* to *v* is triggered

by the strong voice feature  $[\pi]$ , which must be checked in overt syntax. The presence/absence of overt passive morphology on the verb, however, was not addressed. This issue will be taken up in the current section.

Earlier in this chapter, I claimed that prepositions in English antipassive constructions incorporate into the verb at LF. On this account, antipassive prepositions are taken to be LF affixes, the 'covert' counterpart to the overt antipassive morphemes in languages like WGE. It was argued that P to V incorporation is the result of the presence of OBL, a semantic feature. OBL is weak in English, which explains why English verbs never show overt antipassive morphology. In Ergative languages like WGE, on the other hand, OBL is (optionally) strong, explaining the presence of overt antipassive morphology on most verbs in WGE.

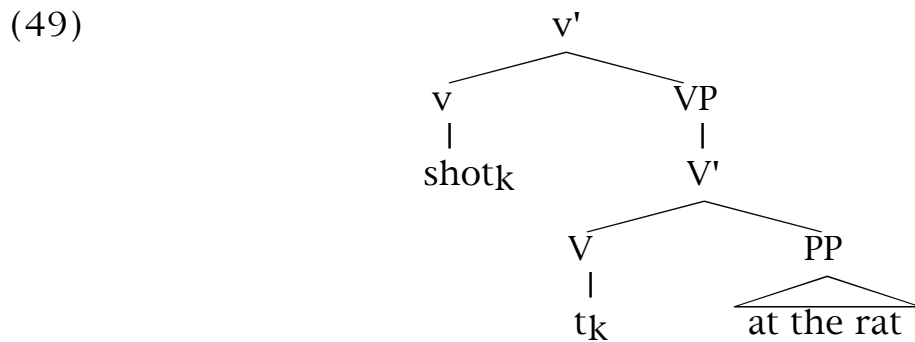
Passivization, I will suggest, does not involve P to V incorporation. There are reasons why an incorporation account of passive morphology would not be tenable given the theory of head movement currently proposed in this thesis. Unlike the PP of antipassives, which I take to be generated as a complement, the *by*-PP of passives is generated as an adjunct, and, under the theory of verb movement given in chapter 2, occupies a position higher than

the passive verb at all levels of structure. This is illustrated schematically in (48).<sup>13</sup>



Since the passive verb does not raise out of V at any point in the derivation, incorporation of P into V would leave a trace which is not c-commanded at either PF or LF, thereby violating the ECP.

As I alluded to above, in the case of antipassives, I assume that the PP is generated as a complement of V. This case is shown in (49).




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<sup>13</sup>t<sub>k</sub> in (48) represents the trace of the raised subject, not shown in this example.

In (49), V c-commands P at all levels of structure. As a result, incorporation of P to V is permitted by the ECP.<sup>14</sup>

The presence/absence of passive morphology on the verb follows from the relative strength of OBL in a given language. In languages with overt passive morphology like English, we can assume that strong OBL is an obligatory feature of passive verbs. This feature, I suggest, is assigned to the verb as a result of the operation Passive, a modified version of which is given in (50).

(50) Passive:  $\text{verb}(\theta, C, \pi) \Rightarrow \text{verb}(\text{OBL})$

OBL is strong in English. As a result, it must be checked before Spell-Out. Since incorporation is not possible (given the ECP), the only option for convergence is for the passive morpheme, which I will represent as -EN, to be selected from the numeration and be inserted into the derivation to check the strong OBL of V. The OBL of -EN is also obligatorily strong in English. In languages with no overt passive morphology like Chinese and Hungarian, we can assume that Passive does not assign an OBL feature. As a result, the passive morpheme cannot be selected from the numeration since it will possess an OBL feature which cannot be checked against anything in

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<sup>14</sup>The assumption made here about the complement status of the *at*-phrase in (49) is not a crucial one given that, unlike passive verbs, antipassive verbs have strong  $[\pi]$  features and must raise to v before Spell-Out. Consequently, the verb would c-command the *at*-PP even if it were generated as an adjunct phrase.

the derivation. The result in such a case would be a nonconvergent derivation.

Under the current theory, passive morphology is licensed in V, not in a higher functional projection like *v*, and does not trigger movement of the verb, a view seemingly at odds with the minimalist idea that overt morphology triggers overt syntactic operations (Chomsky, 1995). Support for this approach comes from the syntax of verbs of desiring like *want*, which were discussed extensively in chapter 2. In that chapter, it was claimed that verbs like *want* subcategorize for bare VPs. This was based on the fact that *want* permits complements headed by verbal passives but not by active verbs. The relevant data is given in (51) and (52). Note that the verb *put* in (51) does not permit an adjectival passive (Levin and Rappaport, 1986).

(51) a. \*I [<sub>VP</sub> want<sub>i</sub> [<sub>VP</sub> [DP you] t<sub>i</sub> [<sub>VP</sub> put that book back on the shelf]]

b. I [<sub>VP</sub> want<sub>i</sub> [<sub>VP</sub> [DP that book]<sub>k</sub> t<sub>i</sub> [<sub>VP</sub> put t<sub>k</sub> back on the shelf]]

(52) a. \*I [<sub>VP</sub> want<sub>i</sub> [<sub>VP</sub> [DP the police] t<sub>i</sub> [<sub>VP</sub> arrest him]]

b. I [<sub>VP</sub> want<sub>i</sub> [<sub>VP</sub> [DP him]<sub>k</sub> t<sub>i</sub> [<sub>VP</sub> arrested t<sub>k</sub> by the police]]



If *want* subcategorizes for a bare VP, the passive morpheme must be licensed in V since there is no intermediate functional  $X^0$  available to license it. Consequently, it follows that passive morphology must be licensed via lexical insertion (in V), and not via overt verb movement, as has been proposed in the literature (Chomsky, 1995).

### 3.7 Productivity

There is one significant difference between the passive and the proposed antipassive in English. Passive applies to almost every transitive verb, whereas antipassive appears to be more selective, applying only to a subset of active transitive verbs. In languages with morphological antipassives, the antipassive is generally more productive. It should be noted, however, that not all active transitive verbs in English passivize. Active verbs like *remain* and *become*, which take subject complement DPs, do not passivize.

- (53) a. George remains a man of the people.  
b. \* A man of the people is remained by George.

- (54) a. George became president of the USA.  
b. \*President of the USA was become by George.

Moreover, some verbs, like *resurrect*, generally always appear in passive form (e.g., *Christ was resurrected on the third day*). Consequently, both Passive and Antipassive must be constrained to

apply to a subset of verbs, the subset being much larger in the case of Passive.

### 3.8 Passive/Antipassive Interactions

Before concluding this chapter, I would like to briefly discuss the possibility of Passive and Antipassive applying in the same derivation with a monotransitive verb (i.e., a verb with exactly one external DP argument and exactly one internal DP argument). Can Passive feed Antipassive in such a case? Can Antipassive feed Passive? The answer to both of these questions appears to be negative. In the case of Passive feeding Antipassive, Passive deletes the external theta feature and the case feature of the verb. This blocks Antipassive from applying, since Antipassive needs a case feature to delete. Since Passive has already deleted the case feature, Antipassive can't apply.

In the case of Antipassive feeding Passive, Antipassive deletes the internal theta feature and the case feature of the verb. This blocks Passive from applying, since Passive must delete a case feature in the operation. Since Antipassive has already deleted the lone case feature of the verb, Passive can't apply.

While neither operation is able to feed the other, I would like to suggest that the two operations may apply simultaneously. In order to do this, the two operations must first undergo UNION. The

Passive and Antipassive rules are given below. Note that Strong/Weak values are given for the OBL feature.

- (55) a. Passive:  $\text{verb}(\underline{\theta}, C, \pi, (\text{DIR})) \Rightarrow \text{verb}(\text{OBL}_{\text{STRONG}})$   
 b. Antipassive:  $\text{verb}(\theta, C) \Rightarrow \text{verb}(\text{OBL}_{\text{WEAK}})$

Earlier in this chapter, it was argued that Passive adds a strong OBL feature to the feature matrix of the verb to which it applies. This feature is subsequently checked by the passive morpheme -EN. Antipassive adds a weak OBL feature, which is checked at LF via Preposition Incorporation. Since these two features are not identical, UNION must include both. The output of UNION is given in (56). I will refer to this 'super rule' as Passanti.

- (56) Passanti:  $\text{verb}(\underline{\theta}, \theta, C, \pi, (\text{DIR})) \Rightarrow \text{verb}(\text{OBL}_{\text{STRONG}}, \text{OBL}_{\text{WEAK}})$

I would like to suggest that Passanti applies to derive prepositional passives (or pseudopassives) like the one in (57b).

- (57) a. John shot at the rat.  
 b. The rat was shot at by John.

The conative verb *shoot* has the feature matrix shown in (58a) below. (58b) gives the output of Passanti.

- (58) a.  $\text{Shoot}(\underline{\theta}, \theta, C, \pi)$

b Passanti:  $\text{Shoot}(\theta, \theta, C, \pi) \Rightarrow \text{Shoot}(\text{OBL}_{\text{STRONG}}, \text{OBL}_{\text{WEAK}})$

The output of this operation leaves the verb stripped completely of features. Two OBL features, one strong and the other weak, are subsequently added by the operation. The DP object *the rat* has both a theta feature and a case feature which it must check. The only option for checking of the theta feature is for the preposition *at* to be selected from the numeration. *At* has a strong theta feature, which it checks against the strong theta feature of the DP, and a weak OBL feature, which it checks against the weak OBL feature of the verb *shoot* at LF. The passive morpheme *-EN* checks the strong OBL feature of the verb. The DP then moves to Spec,TP to check its case feature. Note that the preposition *at* must not have a case feature in this derivation. Otherwise, the strong case feature of T will go unchecked and the derivation will crash.

### 3.9 Conclusions

The primary goal of this chapter has been to motivate the existence of a non-morphological active-antipassive alternation in English. To this end, a number of English transitivity alternations were examined: the unspecified object alternation, the conative alternation, and the preposition drop alternation. Although the morphological properties which are typical of active-antipassive alternations in languages of the ergative-absolutive type (e.g., overt verbal morphology, distinct case markings on subject DPs) were not

found, the syntactic and semantic properties were shown to be nearly identical. Given these similarities, it was concluded that English has a 'syntactic' active-antipassive alternation.

In section 3.2, the lack of overt antipassive morphology in English was addressed. Given the inherent inconsistency and unreliability of the morphological data in the languages surveyed, it was concluded that morphological evidence by itself is insufficient to support any contention that English lacks an antipassive construction, especially in light of the fact that the (non-passive) transitivity alternations discussed in section 3 exhibit syntactic patterns identical to the active-antipassive alternations found in languages which mark the intransitive variant with overt antipassive morphology.

In section 3.4, it was argued that antipassivization involves preposition incorporation (PI) of the type discussed in Baker (1988a, 1996). In languages which have overt antipassive morphology, it was concluded that PI occurs before Spell-Out. In languages with no overt antipassive morphology (e.g., English), it was concluded that PI occurs at LF. It was suggested that the trigger for this movement is the abstract semantic feature OBL. Morphological differences between English and ergative-absolutive languages like WGE reduce to differences in the feature strength of OBL. If OBL is strong, a language will have overt antipassive

morphology. If OBL is weak, a language will not have overt antipassive morphology.

There are some important advantages to treating transitivity alternations like the ones discussed in section 3 as active-antipassive alternations. First, while there are many morphologically ergative languages in the world, true syntactically ergative languages are extremely rare (Dyirbal appears to be one such language, e.g., Dixon (1994)). The vast majority of morphologically ergative languages are syntactically accusative (e.g., Tzotzil). The analysis of the active-antipassive alternation presented in this chapter is consistent with these facts. WGE has a syntactic and a morphological antipassive. English, on the other hand, only has a syntactic antipassive. If the major difference between ergative languages like WGE and accusative languages like English is morphological in nature, differences like these would almost be expected.

A second advantage in proposing that English has a syntactic antipassive is that it is now possible to classify a number of seemingly unrelated (non-passive) transitivity alternations as active-antipassive, thereby simplifying the grammar of English. On this theory, the unspecified object alternation, the conative alternation, and the preposition drop alternation are all derived via the same process (i.e., antipassivization). This allows us to capture a number of important similarities between them. Subtle differences in

meaning reduce to differences in the types of OBL features assigned to the verbs and prepositions out of the numeration.

## Chapter 4: Verb Movement and Ditransitivity

### 4.1 Overview

In this chapter I will examine verb movement from a lower V to a higher V, an operation which occurs when a verb has multiple internal arguments which must be licensed in multiple projections of VP. As alluded to in chapter 1, I will adopt a version of the split VP hypothesis, which assumes that a VP can be 'split' by intervening functional projections, most notably ArgPO (e.g., Koizumi 1993, Chomsky 1995, Collins and Thráinsson 1996, who argue for an intervening TP). The version I adopt involves an intervening projection of v (e.g., Chomsky, 1995), as shown in (1) below:

- (1) [vP [VP [vP [VP ]]]]

The data to be discussed will involve two common and seemingly unrelated alternations which affect the internal arguments of certain verbs in English: the dative alternation, shown in (2), and the *as* alternation, shown in (3).

- (2) a. John sent Mary a letter.  
b. John sent a letter to Mary.
- (3) a. John appointed Bill Press Secretary.



b. John appointed Bill as Press Secretary.

As the data suggest, both alternations have a variant where the verb is followed by two DPs (the a examples above), and one where the second DP is introduced by a preposition (the b examples). The crucial difference between (2) and (3) involves the order of the two postverbal XPs, which changes in the dative alternation (a phenomenon commonly referred to as dative shift), but which remains the same in the *as* alternation. A primary goal of this chapter will be to explain this fact and to relate these alternations under a unified theory of verb movement of the type discussed in the previous two chapters. The major claim will be that the oblique variant of the dative alternation is derived VP-internal via passivization. The oblique variant of the *as* alternation, on the other hand, is derived via VP-internal antipassivization.

The analysis to be offered in this chapter depends crucially on two important assumptions regarding dative and *as* verbs. First, I assume that both verb types subcategorize for two internal arguments. Second, I assume that the double DP (e.g., V DP DP) order is the basic order in both alternations and that the oblique order (e.g., V DP PP) is syntactically derived (contra Larson 1988, 1990). Both of these assumptions will be motivated in section 4.2. In section 4.3, the analysis is presented and defended. Section 4.4 provides a detailed discussion of two important issues raised under

the proposed account: (i) the lack of overt passive morphology with dative shifted verbs, and (ii) the status of the English prepositions *by*, which licenses the demoted agent in passives, and *to*, which licenses the demoted goal in the oblique (i.e., passivized) variant of the dative alternation. Section 4.5 presents a summary and conclusions.

## 4.2. Dative and As Alternations

In this section I will examine evidence for treating dative and *as* verbs in a similar manner. The major problem in relating these alternations, as alluded to above, is the fact that the dative alternation involves a re-ordering of the two post-verbal XPs, whereas the *as* alternation does not. In section 4.2.1, I provide evidence that dative verbs and *as* verbs both subcategorize for two internal arguments. Section 4.2.2 presents evidence for treating the V DP DP variant as basic and the oblique (e.g., V DP PP) order as derived.

### 4.2.1 Internal Structure

Verbs which participate in the dative alternation and those which participate in the *as* alternation have traditionally been subject to different analyses in the literature. Verbs which participate in the dative alternation have been analyzed as

subcategorizing for two post-verbal XPs. Verbs which participate in the *as* alternation, on the other hand, have been analyzed as subcategorizing for a 'small clause' (SC). The structures generally assigned to these two alternations are shown in (4) and (5) below.

- (4) a. [VP send [DP Mary ] [DP a letter ]]  
b. [VP send [DP a letter ] [PP to Mary]]
- (5) a. [VP appoint [SC [DP Bill ] [DP press secretary ]]]  
b. [VP appoint [SC [DP Bill ] [PP as press secretary ]]]

The major difference is that while dative verbs select directly for the category of both post-verbal XPs, *as* verbs select directly for the category of SC. If it is the case that *as* verbs do not select for either post-verbal XP, it follows that they should have no effect on the syntactic realization of the XPs embedded within the SC. In the case of *appoint* in (14), this appears to be the case since the second XP may be realized as either a DP or as a PP headed by *as*. Other verbs of this class, however, exhibit a different range of effects. Consider the case of *call*, as compared with the dative verb *spare*, in (6), and *characterize*, as compared with the dative verb *transfer*, in (7).

- (6) a. John spared Bill the details.  
b. \*John spared the details to Bill.  
c. John called Bill a fool.

- d. \*John called Bill as a fool.
- (7) a. \*John transferred his account the money.  
 b. John transferred the money to his account.  
 c. \* John characterized Bill a lifesaver.  
 d. John characterized Bill as a lifesaver.

As the above facts illustrate, both the dative and *as* alternations display a similar range of effects with respect to participating verbs. Verbs may participate fully in each alternation (i.e., by allowing either variant), as is the case with the dative verb *send* in (4) and the *as* verb *appoint* in (5). However, there are a number of verbs in each class which allow only one of the two possible variants. In (6) the dative verb *spare* and the *as* verb *call* permit the double object variant but not the oblique variant. Conversely, in (7) the dative verb *transfer* and the *as* verb *characterize* allow the oblique variant but not the double object variant. These facts are summarized in table 1 below.

Table 1

Verb	NP NP Variant	NP PP Variant
<i>send</i>	Yes	Yes
<i>appoint</i>	Yes	Yes
<i>spare</i>	Yes	No
<i>call</i>	Yes	No
<i>transfer</i>	No	Yes
<i>characterize</i>	No	Yes

Under a small clause analysis of *as* verbs, it is not immediately obvious why this variation should exist. That is, if *as* verbs select directly for SC, it is not clear why they should care about the syntactic category of the second post-verbal XP embedded within it. One way around this problem would be to assume, following Stowell (1981), that SC is a projection of the category of the clause-internal predicate, which in this instance would either be a DP or a PP. On this view, *call* would restrictively subcategorize for a DP small clause while *characterize* would restrictively subcategorize for a PP small clause:

- (8) a. John called [DP Bill [DP a fool ]]
- b. \*John called [PP Bill [PP as a fool ]]
  
- (9) a. \* John characterized [DP Bill [DP a lifesaver ]]
- b. John characterized [PP Bill [PP as a lifesaver ]]

Although an account along these lines would provide a plausible explanation for the above facts, it is incompatible with most current theories of clause structure. For instance, it is widely assumed that the subject is generated in the Spec position of a functional category immediately outside the domain of the lexical predicate (I have referred to this category as vP). Note that if this assumption is to be maintained, it is no longer possible to account

for the contrasts in (8) and (9) in terms of selectional restrictions. That is, since each of the matrix verbs in (8) and (9) now subcategorize for vPs, the contrast between the (a) and (b) examples is lost.

One alternative to the small clause approach is to assume that *as* verbs, like dative verbs, have two internal arguments.<sup>1</sup> As pointed out by Blight (2003), two additional sets of facts appear to provide support for this assumption: (i) nominalizations, and (ii) *re*-prefixation.

#### 4.2.1.1 *Nominalizations*

As the examples in (10) through (12) illustrate, dative verbs may be nominalized. However, the process of nominalization may apply only to the oblique variant.

- (10) a. \*[DP John's gift of Mary (of) roses ] pleased his mother.  
b. [DP John's gift of roses to Mary ] pleased his mother.

- (11) \*[DP John's sparing of Bill (of) the details ] pleased his mother.

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<sup>1</sup>It should also be noted that *as* has been analyzed as the head of SC (e.g., Bowers 1993), as well as a complementizer (e.g., Starke 1995). I will not discuss these analyses here since I believe that the evidence will clearly show that *as* functions as a preposition heading an oblique PP.

(12) [DP John's transfer of the money to his account ] pleased his mother.

The dative verb *give* in (10) allows either variant of the alternation, but only the oblique variant has a corresponding nominal. *Spare* in (11) allows only the double object variant and has no corresponding nominal. *Transfer* in (12) permits only the oblique variant and allows a corresponding nominal. The facts in (10) through (12) appear to arise from the inability of the nominalized head to license the second DP, suggesting that it is an argument of the corresponding verb. It is well known that nominals cannot license direct DP objects, a deficiency generally attributed to the inability of nominals to assign case. The DP object of a nominal must be preceded by a preposition (*of* is the default preposition used for this purpose). Note that insertion of this preposition immediately before the second DP cannot rescue (10a) and (11) from ungrammaticality.<sup>2</sup> On the other hand, if the second constituent following the nominalized head is a PP, no such problem arises.

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<sup>2</sup>The preposition *of* is default preposition used to license the DP immediately after the verb in the nominalization of a transitive verb. It cannot be used to license a second DP after the verb, however. For this reason, nominalizations which are based on the double object variants (V DP DP) of ditransitive verbs are ill-formed. The oblique variants (V DP PP) of such verbs permit nominalizations because the second post-verbal argument is a PP, not a DP.

If *as* verbs subcategorize for SC complements, they should not show the same pattern of nominalization. However, as the data in (13) through (15) illustrate, this is not the case.

- (13) a. \*[DP John's appointment of Bill (of) press secretary ]  
pleased everyone.  
b. [DP John's appointment of Bill as press secretary ] pleased  
everyone.

(14) \* [DP John's calling of Bill (of) a fool ] angered everyone.

(15) [DP John's characterization of Bill as a lifesaver ] pleased his  
mother.

Under a theory which assumes that *as* verbs take small clauses, there is no clear way to explain the contrast between (13a) and (13b), or between (14) and (15). If nominals do not take small clauses, as has been suggested by Kayne (1984), (13b) and (15) should both be ungrammatical. If they do, (13a) and (14) should both be acceptable since the second DP is not dependent on the nominalized head for licensing (e.g., case, theta role). The fact that *as* verbs pattern the way they do suggests that they have two internal arguments.



#### 4.2.1.2 *re- Prefixation*

A second piece of evidence for treating *as* verbs like dative verbs involves *re-* prefixation. It is well-known that the internal arguments of *re-* taking verbs are associated with two different readings, an internal reading associated with direct DP arguments, and an external reading associated with oblique PP arguments (Wechsler, 1989). The examples in (16) illustrate this with dative verbs.

- (16) a. John resent Mary the letter.  
b. John resent the letter to Mary.

(16a) entails that Mary was the first intended recipient of the letter (i.e., the internal reading). (16b), on the other hand, does not entail this. Mary can be, but does not have to be, the first intended recipient (i.e., the external reading). Interestingly, *as* verbs display the identical pattern:

- (17) a. John reappointed Bill press secretary.  
b. John reappointed Bill as press secretary.

(17a) entails that Bill is being appointed to a position to which he was previously appointed at some earlier point in time (i.e., the internal reading). The reading associated with (17b) does not entail

this. Although it is true that Bill had been previously appointed to some position, it is not necessarily the case that his appointment was as press secretary (i.e., the external reading). These facts do not fall out from a small clause analysis of *as* verbs, which predicts that any changes in the licensing/semantic properties of the matrix verb should not affect any of the constituents within the SC complement.

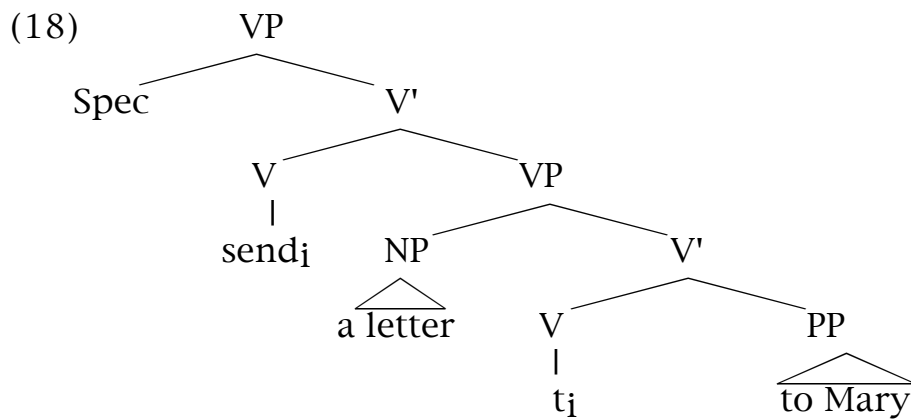
#### *4.2.1.3 Summary*

In sum, the similarities between dative verbs and *as* verbs discussed above suggest that the two classes should be treated in the same manner. Moreover, the fact that the second post-verbal XP of both dative and *as* verbs is affected by changes in the licensing/semantic properties of the head in question suggests that it is an argument of the verb. Consequently, dative and *as* verbs must both be analyzed as having two internal arguments.

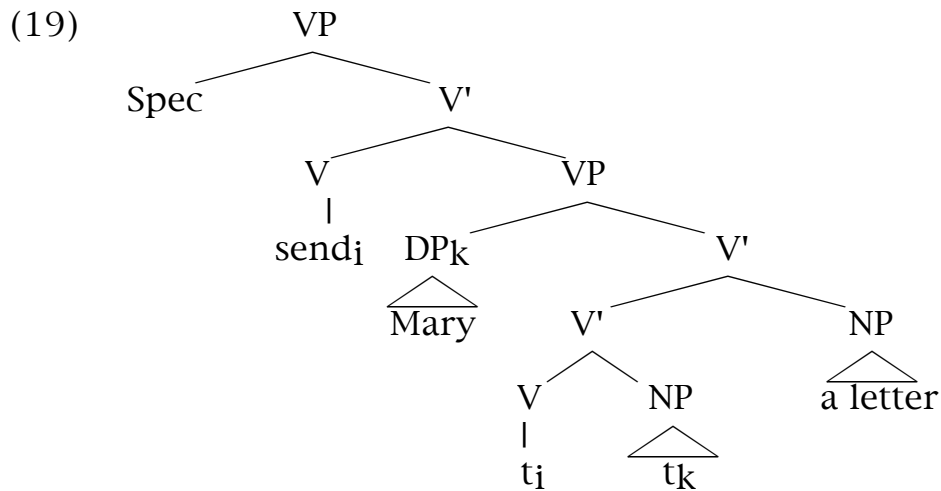
#### *4.2.2 The Basic Variant*

The proposal I offer in this thesis is similar in many respects to Larson's (1988, 1990) account of the double object construction. Like Larson, I assume that the oblique and double object variants of the dative alternation (as well as the *as* alternation) are transformationally related. I depart from Larson, however, in assuming that the double object variant is basic, while the oblique

variant is the derived order in both alternations. In Larson (1988, 1990), the goal argument is projected as the complement of the verb in a lower projection of V. The theme argument is projected in the Spec of the lower VP. The verb then raises to the head position of a higher projection of V (a VP shell), resulting in the oblique variant (18).



In the double object variant, dative shift applies, analyzed by Larson as VP-internal passivization. The theme argument is suppressed and shows up as an obligatory NP adjunct. The verb is unable to assign case to the goal NP, which must move to the Spec of the lower VP. The verb then raises to the head of the VP shell (19).



In this chapter, I will assume the opposite, namely, that the theme argument is projected as a complement within the lower VP and the goal is projected in a higher Spec position. Support for this view comes from a number of thematic hierarchy effects which, among other things, suggest that themes, which generally rank lowest in the hierarchy, must be assigned a theta role before goals and agents (e.g., Grimshaw, 1992). Assuming that the order of theta role assignment is reflected syntactically, it follows that themes must be closer to the licensing verb than goals (i.e., they must be theta-marked first). Given that the complement position is closer to the head than the Spec position, it seems reasonable to conclude that themes are projected as complements while goals are projected as specifiers. This can be seen by considering the formation of synthetic compounds in English. As the data in (20) and (21) show, given a dative verb with two internal arguments, a goal and a theme,

only the theme can appear word-internally as part of the compound (e.g., Grimshaw, 1992).

- (20) a. gift-giving (to children).  
b. \*child-giving (of gifts).

- (21) a. letter-writing (to soldiers).  
b. \*Soldier-writing (of letters).

If, as Grimshaw assumes, only the argument that is thematically closest to the head can become part of a synthetic compound with the licensing verb, it follows that the theme, and not the goal, must be projected into the complement position. Consequently, the double object variant must be considered basic, as suggested by Dryer (1986).

#### 4.3. V (to v) to V

In this section, I offer an account of the facts. I begin by considering the verbs *receive* and *become*, verbs which involve only a single projection of vP but which show the same semantic relationship between their arguments that I am proposing for the post-verbal arguments of *give* verbs and *appoint* verbs respectively. At issue will be the question of whether these verbs permit the same range of syntactic operations that occur within the lower vP of *give* verbs

(i.e., Passive) and *appoint* verbs (i.e., Antipassive). The evidence will show that *receive* and *give* permit the identical pattern of alternations. The same holds true for *become* and *appoint*. Finally, I provide a detailed account of the dative and *as* alternations.

#### 4.3.1 Main Verbs Receive and Become

The main verbs *receive* and *become* are exemplified in (22) below. These verbs are important because the semantic relationship between their arguments corresponds to the semantic relationship between the post-verbal arguments of dative verbs like *give* and *as* verbs like *appoint*, both of which are shown in (23). In fact, Jackendoff refers to *give* as 'the causative of *receive*' (Jackendoff 1990:136).

- (22) a. John received the book.  
b. John became the press secretary.

- (23) a. Mary gave John the book.  
b. Mary appointed John press secretary.

The semantic relationship between the post-verbal arguments of *give* and semantic relationship between the two arguments of *receive* correspond roughly to one of 'possession' (x POSSESSES y). In this thesis, I will use the term POSS to represent this relationship.

The major difference between the two verbs is that *give* has an additional semantic feature, which I will refer to as CAUSE, and an additional argument (x CAUSES y to POSSESS z). The feature specifications for *receive* and *give* are given in (42). ( $\underline{\theta}$  = external theta feature,  $\theta$  = internal theta feature, C = case feature).

- (24) a. receive { $\underline{\theta}$ ,  $\theta$ , C,  $\pi$ , POSS}  
       b. give { $\underline{\theta}$ ,  $\underline{\theta}$ ,  $\theta$ , C, C,  $\pi$ ,  $\pi$ , CAUSE, POSS}

Similarly, the semantic relationship between the post-verbal arguments of *appoint* is identical to the relationship between the two arguments of *become*, roughly one of 'becoming' (y BECOMES z). I will represent this relationship with the term PRED (predication). The major difference between the two verbs is that *appoint*, like *give* above, possesses the additional semantic feature CAUSE (x CAUSES y to BECOME z). Thus, *appoint* can be seen as the causative of *become* the same way that *give* is the causative of *receive* (Jackendoff 1990). The feature specifications for *become* and *appoint* are given in (25).<sup>3</sup>

- (25) a. become { $\underline{\theta}$ ,  $\theta$ , C,  $\pi$ , PRED}  
       b. appoint { $\underline{\theta}$ ,  $\underline{\theta}$ ,  $\theta$ , C, C,  $\pi$ ,  $\pi$ , CAUSE, PRED}

---

<sup>3</sup>Both *appoint* and *become* have OBL features added to their respective feature matrixes when antipassivized.

POSS, PRED and CAUSE, like the OBL feature discussed in chapter 3, are semantic features assigned from the numeration. They are semantic features because they are associated with semantic categories, namely, V and the verb to be selected for computation. They are meant to characterize the key component parts of the meanings of the verbs with which they are associated. As with syntactic or grammatical features like  $[\pi]$ , they must be checked in the course of a derivation, before Spell-Out applies. Checking can occur either via a movement operation (Copy + Merge) or at lexical insertion.

As mentioned in chapter 3, semantic features like PRED, POSS, and CAUSE are analogous to theta features like agent, goal, and theme. For a dative verb like *give*, checking POSS in the lower V licenses V as a binary relation holding between the possessor (goal) and the thing possessed (theme) ( $\langle \text{possessor, thing possessed} \rangle \in \text{POSS}$ ). Checking CAUSE in the higher V licenses V as a binary relation holding between the causer (agent) and the result (subevent) ( $\langle \text{causer, result} \rangle \in \text{CAUSE}$ ).

Turning now to the data, as the examples in (26) demonstrate, *receive* can be passivized.

- (26) a. John received the book.  
b. The book was received by John.



*Become*, on the other hand, cannot be passivized, but it does permit oblique PP complements, as shown in (27).<sup>4</sup>

- (27) a. John became the press secretary.  
 b. \*The press secretary was become by John.  
 c. John became like the press secretary.

These operations are identical to the ones which I will claim take place within the lowest vP of dative verbs (Passive) and the lowest vP of *as* verbs (Antipassive) (section 4.3.2). A summary of the features of each of these verbs is given in table 2 below.

**Table 2**

Verb	Passive	Antipassive
<i>receive</i>	Yes	No
<i>become</i>	No	Yes
<i>give (VP Internal)</i>	Yes	No
<i>appoint (VP Internal)</i>	No	Yes

Note that despite the lack of overt morphology, the variant in (27c) is in keeping with the definition for antipassive given in chapter 1

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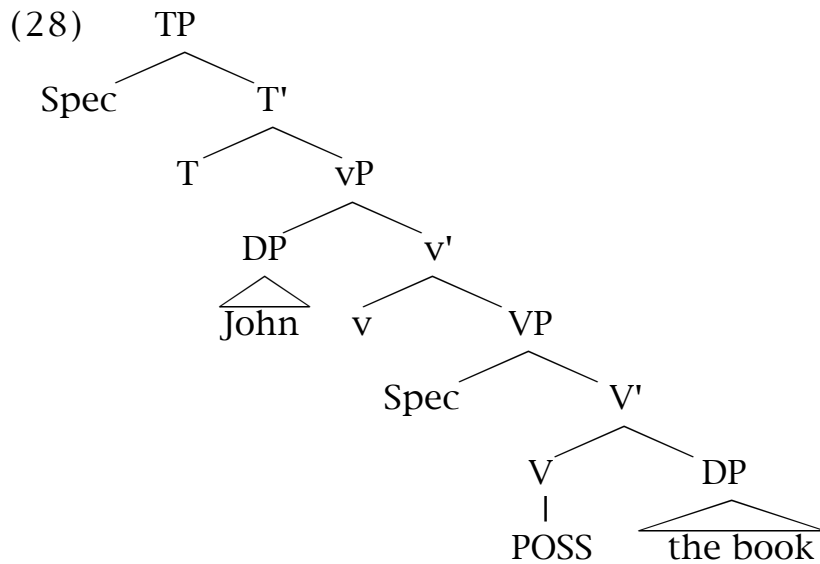
<sup>4</sup>It should be noted that *become* prefers the preposition *like* whereas *as* verbs like *appoint* prefer *as*. *Like* and *as* are similar semantically. *Become* may use *as* in certain cases. *Appoint*, however, can never use *like*. The relevant data is given below.

- (i) a. ?John became as press secretary.  
 b. \*They appointed John like the press secretary.

(i.e., the object in (27a) goes into a peripheral function and is marked with a preposition in (27c), and the subject remains the subject). I now turn to a more thorough account of the particulars of these operations for *receive* and *become* respectively.

#### 4.3.1.1 *Receive*

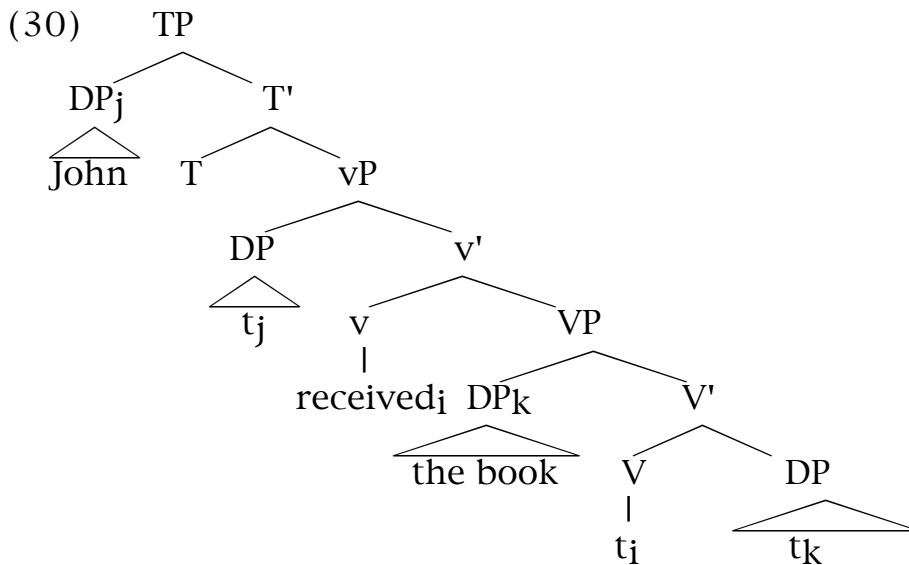
(28) shows the canonical structure for the active variant of *receive* in (26a).



*Receive* has a strong  $[\pi]$  feature, two theta features a case feature, and a strong POSS feature, all of which must be checked in the course of the derivation. The feature specifications for *receive*, given in (24a), are repeated in (29) below.

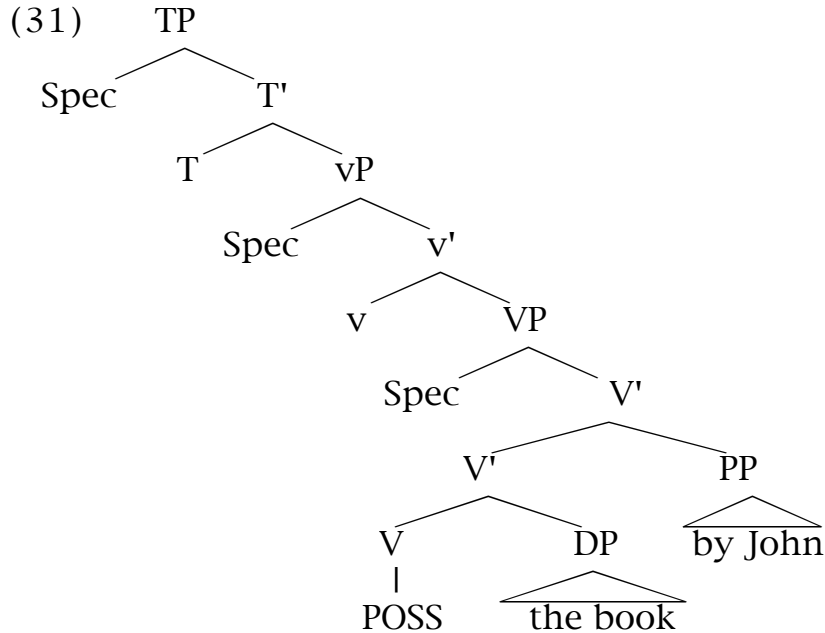
(29)  $\text{receive } \{\underline{\theta}, \theta, C, \pi, \text{POSS}\}$

At lexical insertion, *receive* checks its strong POSS feature against the strong POSS feature of V. It then checks its internal theta feature against the theta feature of the DP [the book], which subsequently raises to Spec,VP, at which point its strong case feature is checked against the case feature of *receive* in V. *Receive* then raises to v and checks its strong  $[\pi]$  feature against the strong  $[\pi]$  feature of v. It then checks its external theta feature against the theta feature of the external argument *John*, which then raises to T for case. The result of these steps is shown in (30).



*Receive* in this example also has a strong past tense feature, which it checks against the strong tense feature of T via movement to T at IF (not shown here). For this reason it must be spelled out as *received*.

The canonical structure for the passive variant of *receive* is shown in (31) below.

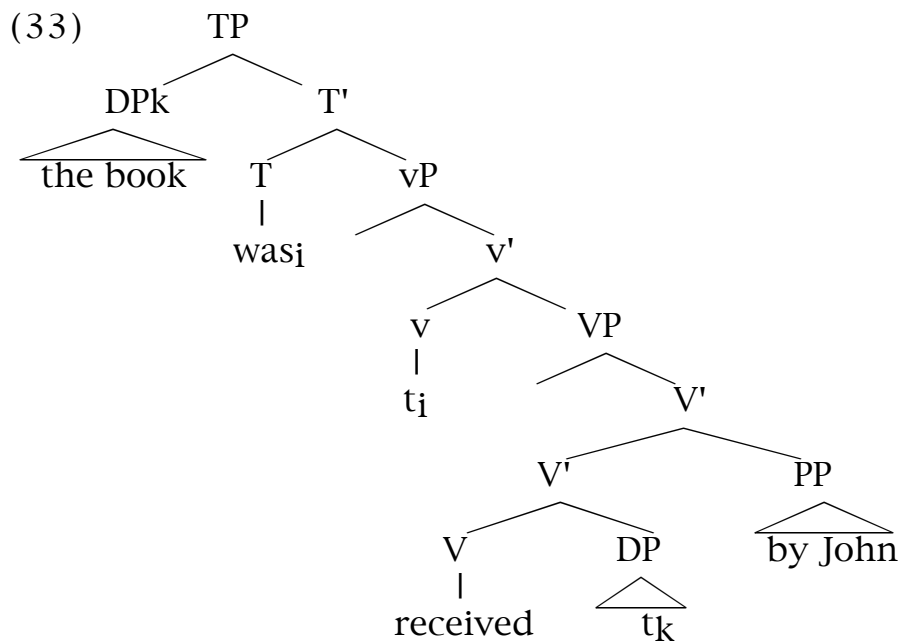


In the chapter 2, it was argued that the operation Passive strips away one case feature, the external theta feature, and the strong  $[\pi]$  feature from the feature matrix of the active verb to which it applies. (32) shows the effect of Passive on the feature matrix of *receive*.

(32) Passive:  $\text{receive}(\underline{\theta}, \theta, C, \pi, \text{POSS}) \Rightarrow \text{receive}(\theta, \text{POSS})$

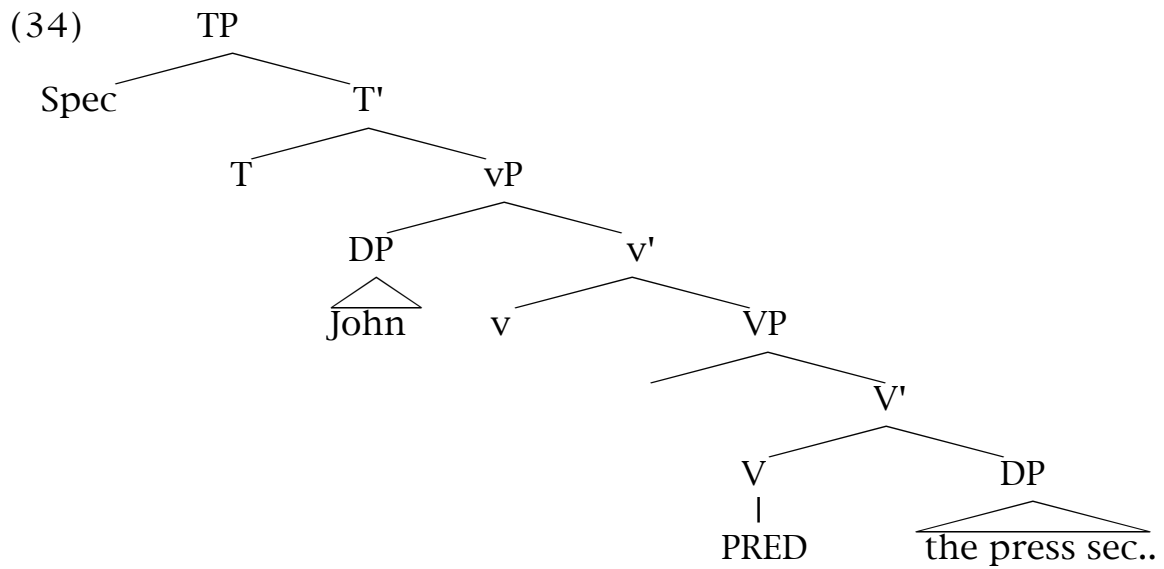
In this case, Passive strips *receive* of its  $[\pi]$  feature, its case feature, and its external theta feature. Only the internal theta feature and the POSS feature remain.

As was the case with active *receive* in (26a), passive *receive* checks its strong POSS feature against the strong POSS feature of V at lexical insertion. It then checks off its theta feature against the theta feature of [the book]. At this stage of the derivation, *receive* has exhausted all of its features and cannot move again without violating Last Resort. *v*, however, has a strong  $[\pi]$  feature which must be eliminated before spell-out. Given this, *be* $[\pi]$  must be selected from the numeration to check the  $[\pi]$  feature of *v*. [the book] subsequently raises to Spec,TP for case and *Be* raises to T to check its strong past tense feature against the past tense feature of T. The output of this derivation is shown in (33).



#### 4.3.1.2 *Become*

The canonical (or d-structure) of active *become* in (27a) is given in (34) below.



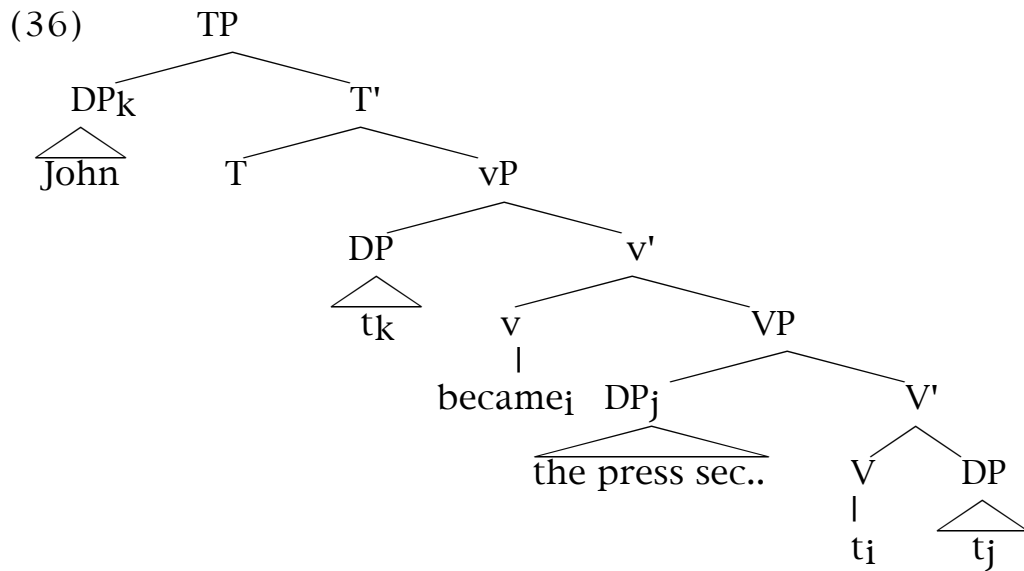
Like *receive*, *become* enters the computation with a strong  $[\pi]$  feature, an accusative case feature, and two theta features, all of which must be checked before in the course of the derivation. It also has a PRED feature which must be checked. The feature matrix for *become* is repeated in (35) below.<sup>5</sup>

(35) *become*  $\{\bar{\theta}, \theta, C, \pi, \text{PRED}\}$

At lexical insertion, *become* checks its PRED feature against the PRED feature of V. It then checks the theta feature of DP [the press secretary], which subsequently raises to Spec,VP where it checks off its strong case feature against the case feature of *become*. *Become* then raises to v and checks its strong  $[\pi]$  feature against that of v. It also checks its remaining theta feature against the theta feature of its external argument *John* in Spec,VP. *John* subsequently raises to Spec,TP for case (which is checked by T). This is shown in (36).

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<sup>5</sup>*Become* is often thought of as a linking verb (i.e., a verb without argument structure). Linking verbs generally 'link' modifiers with subjects. In this thesis, I treat *become* as a change of state verb with two arguments, both of which refer to (different states of) the same entity. I assume that the theta roles are identical and that one is external and the other is internal (e.g., <theme, theme>).



*Become* (spelled out as *became* at PF) raises to T at LF to check its past tense feature against the past tense feature of T.

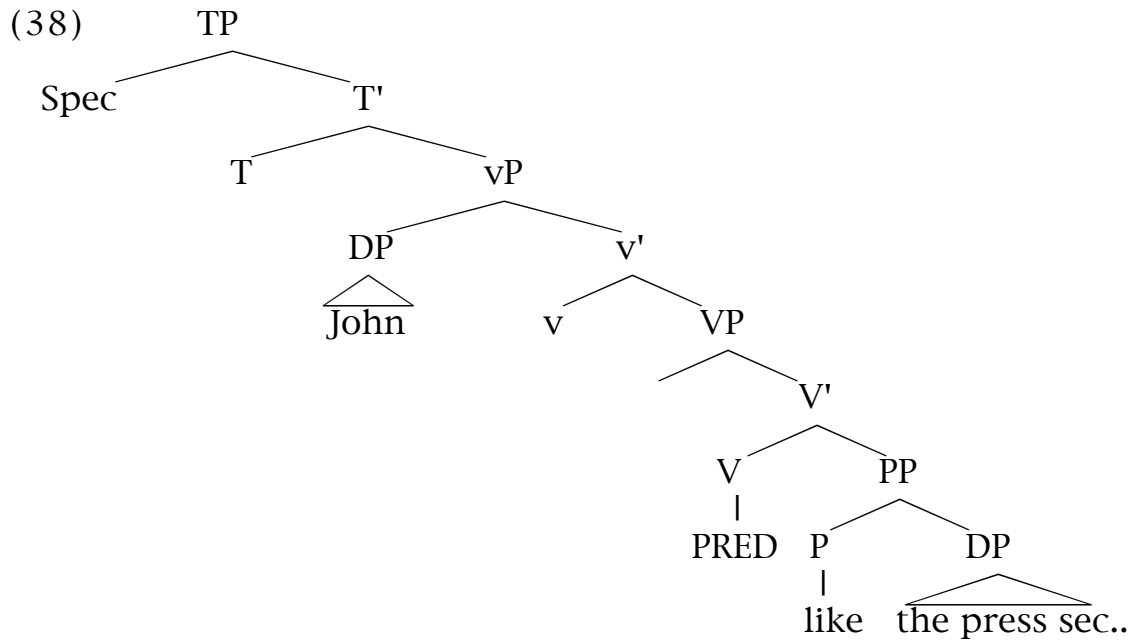
In the oblique variant of the alternation, *become* undergoes the operation Antipassive, which, like Passive, strips away its case feature and one of its theta features, in this case the internal theta feature, and adds an OBL feature. This forces its complement to be projected as a PP (headed in this case by the preposition *like*). (37) shows the effect of Antipassive on the feature matrix of *become*.

(37) Antipassive:  $\text{become}(\theta, \theta, C, \pi, \text{PRED}) \Rightarrow \text{become}(\theta, \pi, \text{PRED}, \text{OBL})$

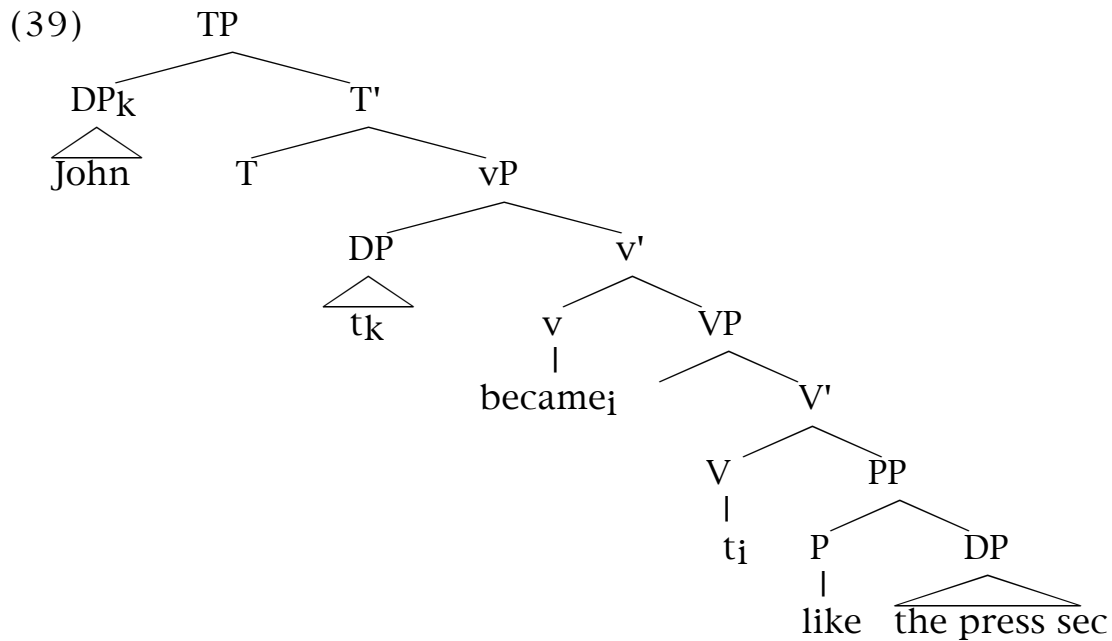
Unlike the operation Passive, Antipassive does not strip away the  $[\pi]$  feature of *become*. Because its external theta feature was not



eliminated, *become* has an external argument which must be projected in the Spec,vP. Since the spec,vP exists, so must v (with its strong  $[\pi]$  feature). Antipassive *become* is left with one (external) theta feature, its PRED feature, and an OBL feature. The canonical structure for (27b) is given in (38).



The preposition *like* checks both the theta feature and the case feature of the DP [a press secretary]. At lexical insertion, *become* checks off its PRED feature against the PRED feature of V. It then raises to v where it checks both the external theta feature of *John* and the strong  $[\pi]$  feature of v. *John* raises to Spec,TP for case. At LF, the preposition *like* must raise and adjoin to *become* to check OBL features. The verb is spelled out as *became*. The PF structure is given in (39).



Note that if *be* were selected from the numeration to check the strong  $[\pi]$  feature of *v*, which, as I argued in chapter 2, is a last resort operation for passives, the theta feature of the external argument would go unchecked since *become* would never enter into an appropriate (Spec-head). The result would be a nonconvergent derivation and a PF crash.

#### 4.3.2 Dative and As Verbs

In this section, I turn to the dative and *as* alternations. The dative alternation has received a great deal of attention in the literature over the years and several theories have been proposed to account for it (e.g., Larson, 1988, 1990; Bowers, 1989; Johnson, 1991;

Keyser & Roeper, 1992; Koizumi, 1993; Collins & Thráinsson, 1996). The *as* alternative, on the other hand, has received comparatively little attention. What literature does exist on the topic focuses mainly on the claim that the post verbal XPs of *as* verbs form an independent small clause. As pointed out earlier, there are significant problems with this approach. As far as I can tell, there has been no attempt to explain the alternation or to relate it to other types of alternations like the dative.

In section 4.2, it was suggested that dative verbs like *give* and *as* verbs like *appoint* should both be analyzed as canonically ditransitive (with the oblique variant being derived). The major difference between these verb types lies in the semantic relationship between the two post verbal arguments. For dative verbs, this relationship is one of possession. For *as* verbs, it is one of predication. On the present account, these relationships are licensed by semantic features associated with the main verbal head V and the verb to be selected from the numeration. In the case of dative verbs the relevant feature is POSS. In the case of *as* verbs it is PRED.

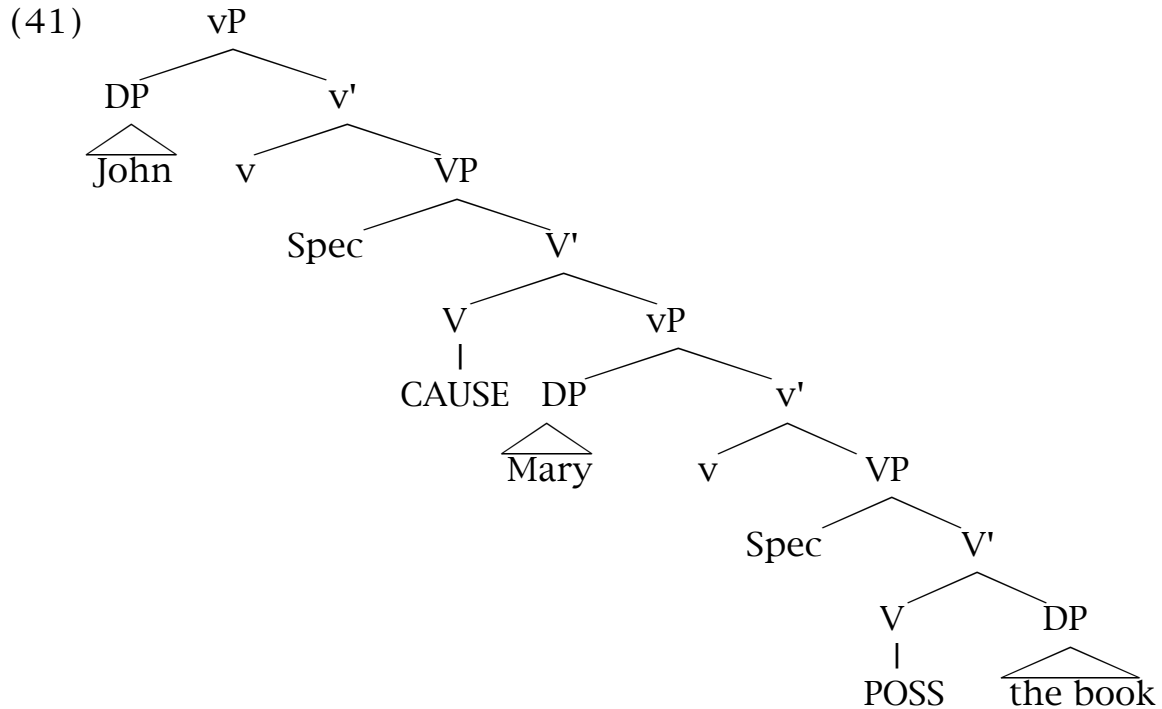
As was pointed out in the previous section, the monotransitive verbs *receive* and *become* show the same semantic relationships between their two arguments that I am proposing for dative and *as* verbs respectively. The data also showed that *receive* may be passivized while *become* may be antipassivized. Based on these

similarities, I propose that the differences in the syntactic effects produced by the dative and *as* alternations result from differences in the types of operations which occur in the lowest VP in each verb type. Verbs which participate in the dative alternation permit passivization within the lowest VP, whereas verbs which participate in the *as* alternation permit antipassivization. This difference is all that is needed to account for all the facts particular to these two alternations. While there are differences with respect to the kinds of syntactic operations which are permitted within the lowest VP, no such differences exist with respect to the higher VP. The same kinds of syntactic operations (and features) occur in each case. The higher V in both dative verbs and *as* verbs is associated with the feature CAUSE and both verb types project their agent argument in the Spec of the higher vP. Additionally, both verb types permit passivization within the higher vP.

The derivational cases to be explicated for each alternation are given in (40) below.

- (40) a. John gave Mary the book.  
b. John gave the book to Mary.  
c. John appointed Mary Press Secretary.  
d. John appointed Mary as Press Secretary.

(40a) illustrates the double object variant of the dative alternation, which I will take to be the active variant. (40c) shows the double object variant of the *as* alternation, which I will again take to be the active variant. (40b) shows the oblique variant of the dative alternation, which I take to be the passive variant. Finally, (40c) illustrates the oblique variant of the *as* alternation, which I will take to be the antipassive variant. The canonical structures of the double object variant of the dative alternation in (40a) is given in (41).



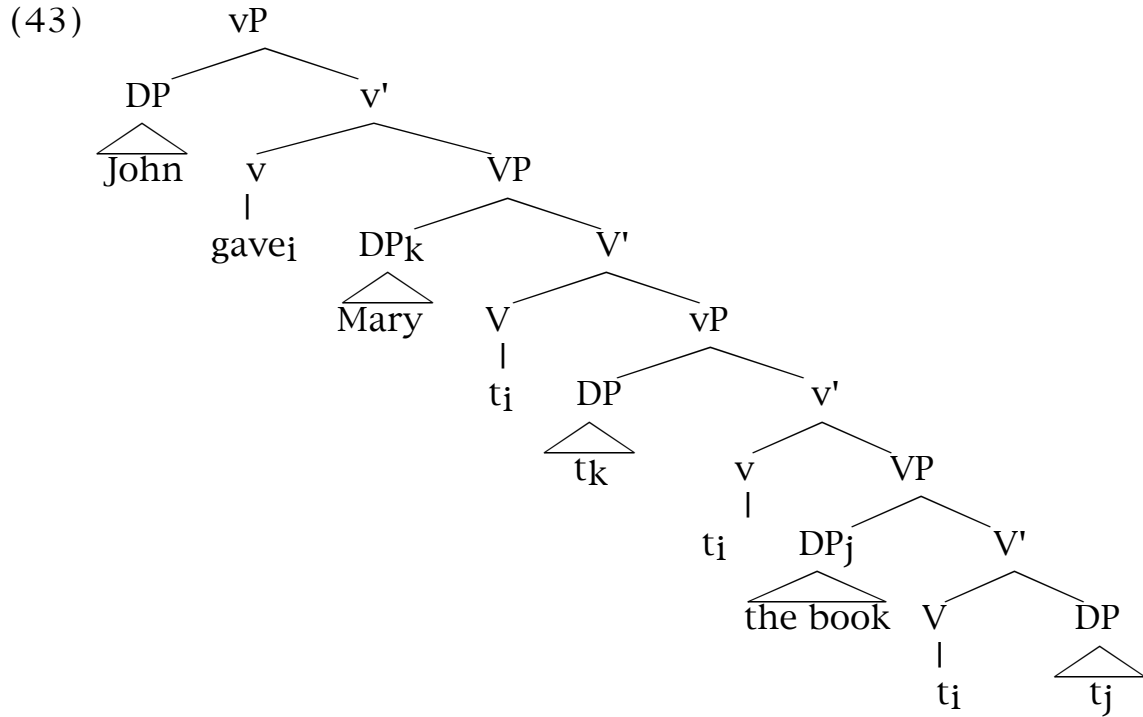
When *give* is selected from the numeration, it is assigned three theta features, two case features, two  $[\pi]$  features, a CAUSE feature, and a POSS feature. The feature matrix for *give* is shown in (42) below.

(42) *give* { $\theta$ ,  $\theta$ ,  $\theta$ , C, C,  $\pi$ ,  $\pi$ , CAUSE, POSS}

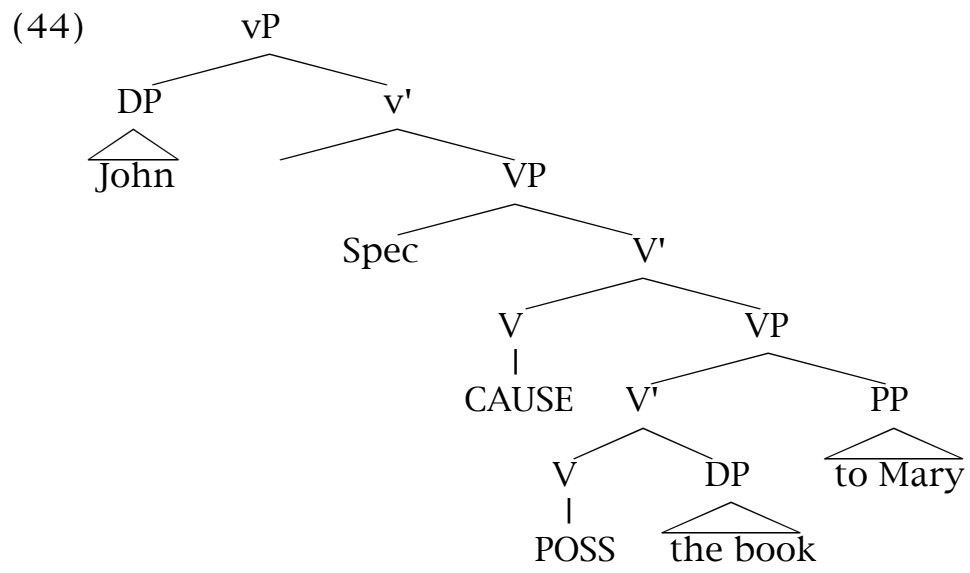
As (42) suggests, I analyze ditransitive verbs like *give* (and *appoint*) as having two external arguments and one internal argument. In the case of *give*, the external arguments are the agent and the goal. As (41) shows, both of these arguments are projected into positions which are 'external' to VP. Given that the external-internal distinction is largely one based on syntactic position, this suggests that verbs like *give* and *appoint* actually have two external arguments, one being external to the lower VP and the other being external to the higher VP.

At lexical insertion, *give* checks its POSS feature against the POSS feature of lower V and one of its theta features against the theta feature of the DP [the book]. [the book] then raises to Spec,VP and checks its case feature against one of the case features of *give*. *Give* subsequently raises to v and checks one of its [ $\pi$ ]features against the [ $\pi$ ]feature of v. It then checks off its second theta feature against the theta feature of the goal DP [Mary] and raises to the higher V to check its CAUSE feature against the CAUSE feature of V. [Mary] subsequently raises to the upper Spec,VP to check its case feature against the remaining case feature of *give*. *Give* then raises to v and checks off its remaining [ $\pi$ ] feature against the [ $\pi$ ]feature of v. Finally, it checks its last theta feature against the theta feature of the agent DP [John], which then moves to Spec,TP to check its

case (not shown in this example). (43) shows this derivation at the point where T is to be selected from the numeration and merged with vP. At LF, *give* raises to T to check its weak past tense feature. At PF it is spelled out as *gave*.



The canonical structure of the oblique (or passive) variant of the dative alternation in (40b) is shown in (44).





*Give* possesses the same set of features when it leaves the numeration as it did in the earlier case. In this case, however, it is subject to the operation Passive, which strips away its lowest external theta feature (that corresponding to the goal), one of its case features, and one of its  $[\pi]$  features. It is left with two theta features (one of which is external), one case feature, one  $[\pi]$  feature, a CAUSE feature, and a POSS feature. The output of this operation is shown in (45).

(45) Passive:  $\text{give}(\underline{\theta}, \underline{\theta}, \theta, C, C, \pi, \pi, \text{CAUSE}, \text{POSS}) \Rightarrow$   
 $\text{give}(\underline{\theta}, \theta, C, \pi, \text{CAUSE}, \text{POSS})$

At lexical insertion, *give* checks its POSS feature against the POSS feature of V and its internal theta feature against the theta feature of the DP [the book]. The lack of an additional external theta feature forces the goal argument, the external argument of the lower vP, to be projected as an oblique PP headed by *to*. *To* serves the same function as the preposition *by* in ordinary passives (i.e., to license the external argument). [the book] raises to the Spec,VP and checks its case feature against the lone case feature of *give*.

Since there is no external argument in the lower vP and since *give* only has a single  $[\pi]$  feature which it must use to check against the  $[\pi]$  feature of matrix v, an intermediate vP is not possible. Given

that *v* must always possess an obligatory  $[\pi]$  feature, projecting an intermediate *vP* in this case would trigger a PF crash since one of the two strong  $[\pi]$  features (one in the upper *v* and one in the lower) would go unchecked. Note that the passive auxiliary *be* cannot be inserted into the lower *v* in this case to check  $[\pi]$ . If it were, it would block *give* from moving to *V*, which it must do to check its CAUSE feature. Raising over *be* would produce a violation of the Head Movement Constraint (Minimality). Given this, the only option available to ensure a convergent derivation is to not project an intermediate *vP*.

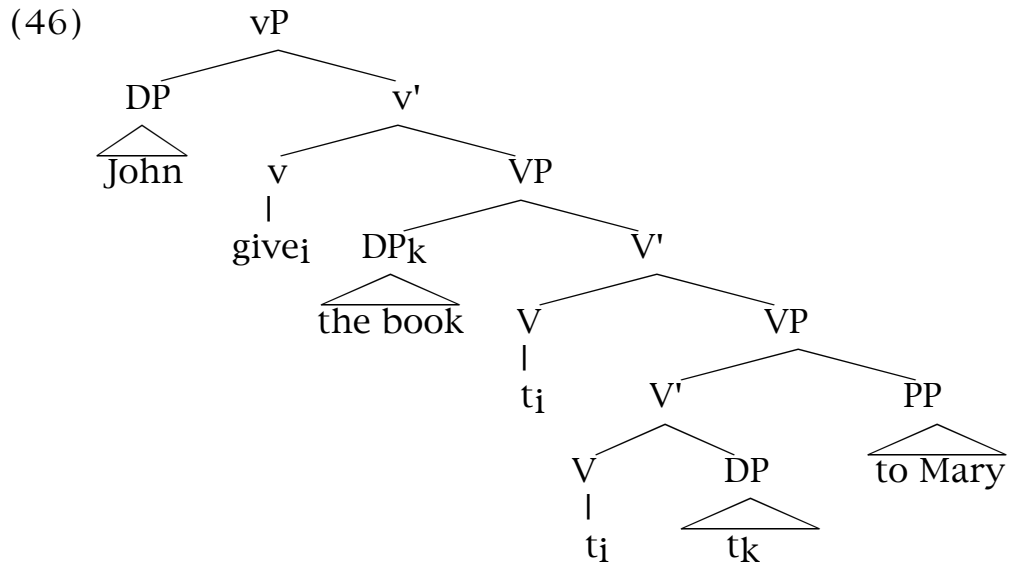
Returning to the derivation, after checking its case feature, *give* raises to upper *V* to check its CAUSE feature against the CAUSE feature of *V*. It then checks its external theta feature against the theta feature of the DP [John], before moving to *v* to check its  $[\pi]$  feature against the  $[\pi]$  feature of *v*. At this point all of its strong features have been discharged. At LF, it moves to *T* to check its weak past tense feature. (46) shows this derivation at the point where *T* is to be selected from the numeration and merged with *vP*. Once *TP* is formed, the DP [John] raises to its Spec position to check case.<sup>6</sup>

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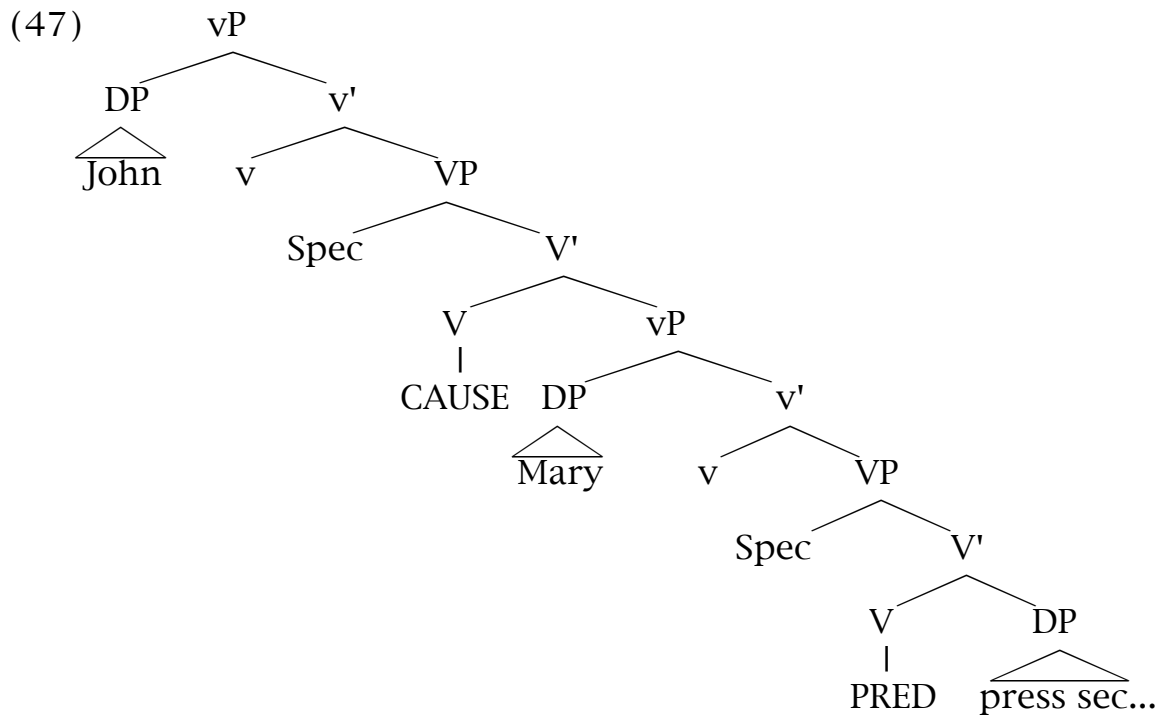
<sup>6</sup>In some dialects, the so-called indirect passive is acceptable. This type of passive is exemplified below:

- (i) a. John gave Mary a book.
- b. A book was given Mary.

Indirect passives are reported to be good in British English. However, I find them to be quite ungrammatical. As a result, I will not consider them in this thesis.



The derivation of the double object variant of *appoint* in (40c) is almost identical to the derivation of the double object variant of *give* in (40a). The only difference is that whereas *give* was assigned the POSS feature, *appoint* is assigned the PRED feature. Other than that, the derivations proceed in an identical manner. The canonical structure of (40c) is provided in (47) below.

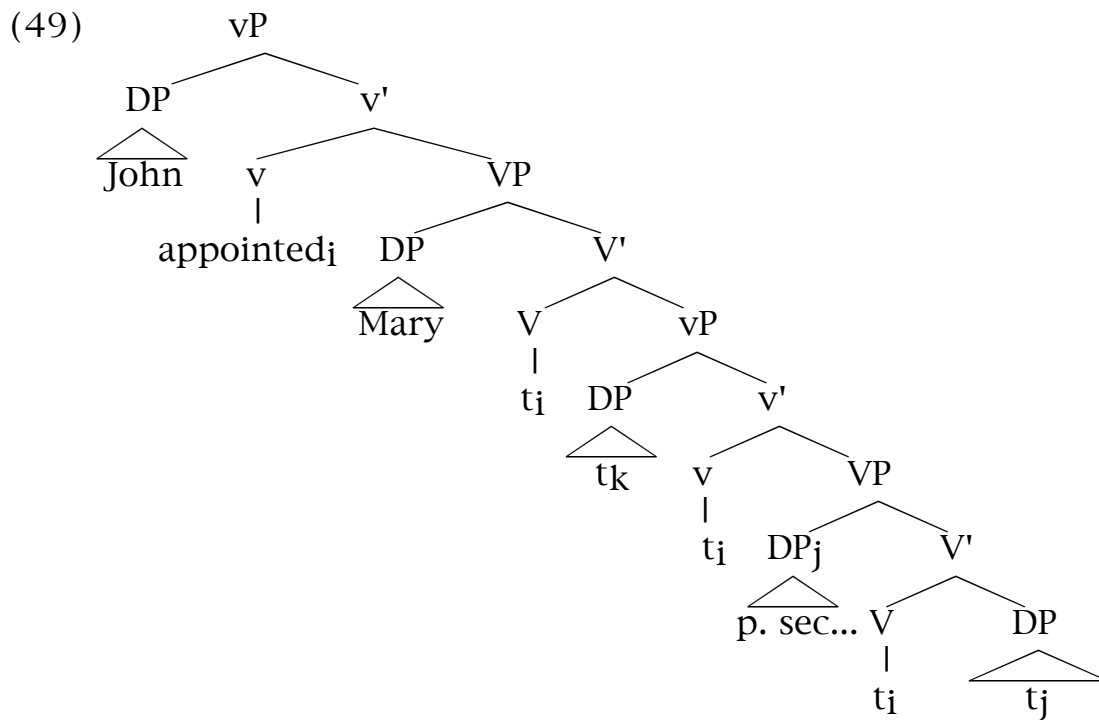


When *appoint* is selected from the numeration, it is assigned three theta features (two of which are external), two case features, two  $[\pi]$  features, a CAUSE feature, and a PRED feature. The feature matrix for *appoint* is given in (48).

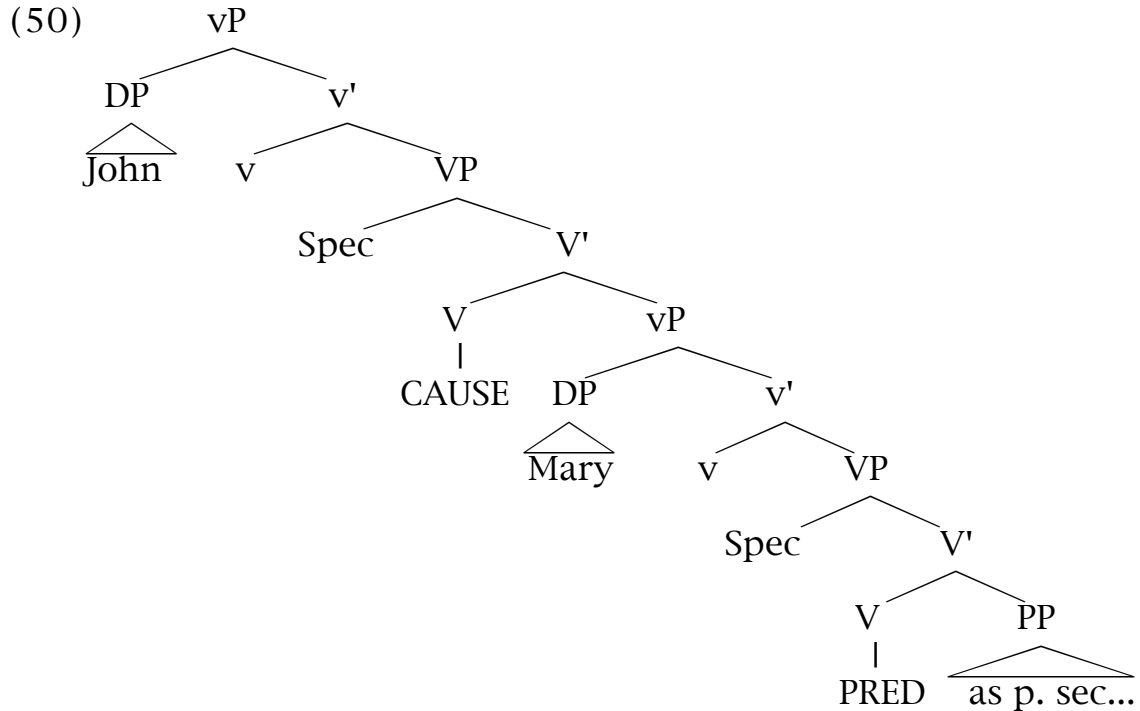
(48) *appoint*  $\{\theta, \theta, \theta, C, C, \pi, \pi, \text{CAUSE}, \text{PRED}\}$

At insertion, *appoint* checks its PRED feature against the PRED feature of V and its internal theta feature against the theta feature of the DP [press secretary]. [press secretary] then moves to Spec,VP where it checks its case feature against one of the case features of *appoint*. *Appoint* subsequently raises to v to check one of its two

strong  $[\pi]$  features against the  $[\pi]$  feature of lower v. It also checks one of its remaining external theta features against the theta feature of the DP [Mary], before raising to matrix V to check its CAUSE feature against the CAUSE feature of V. The DP [Mary] then moves to the higher Spec,VP and checks off its case feature against the lone remaining case feature of *appoint*. Finally, *appoint* raises to matrix v, where it checks its last  $[\pi]$  feature against the  $[\pi]$  feature of v and its last theta feature against the theta feature of the DP [John]. Once TP is formed, [John] moves to its Spec for case. At LF, *appoint* raises to T and checks its weak past tense feature against the weak tense feature of T. (49) shows this derivation, again at the point at which T is to be selected from the numeration.



The derivation of the oblique variant of *appoint* in (40d) is somewhat different than the derivation of the oblique variant of *give*. The canonical structure is given in (50).



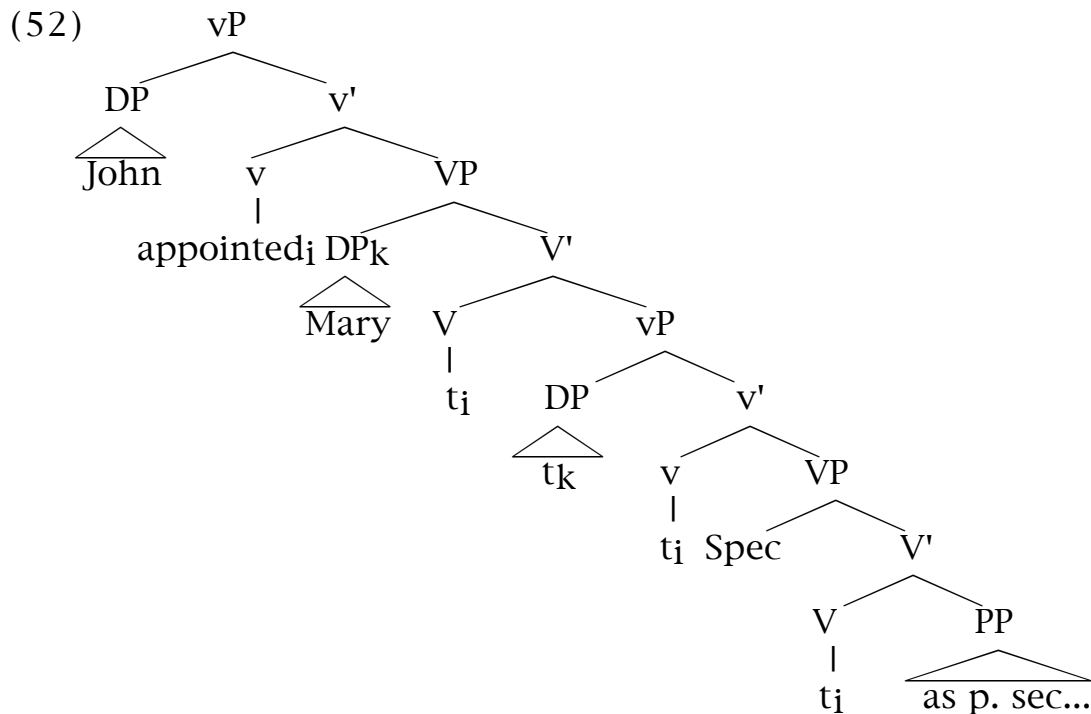
*Appoint* is selected from the numeration with the same set of features. Before entering the computation, however, the operation Antipassive strips away its internal theta feature and one of its case features and adds an OBL feature. It is left with two theta features (both external), one case feature, two  $[\pi]$  features, a CAUSE feature, a PRED feature, and an OBL feature. The output of Antipassive is shown in (51) below.

(51)  $\text{Apass: appoint}(\underline{\theta}, \underline{\theta}, \theta, C, C, \pi, \pi, \text{CAUSE}, \text{PRED}) \Rightarrow$

$\text{appoint}(\underline{\theta}, \underline{\theta}, C, \pi, \pi, \text{CAUSE}, \text{PRED}, \text{OBL})$

At insertion, *appoint* checks its PRED feature against the PRED feature of V. Since *appoint* has no internal theta feature, however, a direct DP argument cannot be projected (as its complement). If such an argument were projected, *appoint* would be unable to check its theta feature and the derivation would crash at PF. Consequently, the internal argument of *appoint* must be projected as an oblique PP headed by *as* (*as* checks the theta feature of [press secretary] in this case). *As* also has an OBL feature, which is weak.

After checking its PRED feature, *appoint* moves to v to check one of its  $[\pi]$  features against the  $[\pi]$  feature of v and one of its external theta features against the theta feature of the DP [Mary]. It then raises to matrix V and checks its CAUSE feature against the CAUSE feature of V. The DP [Mary] raises to the higher Spec,VP where it checks off its case feature against the lone case feature of *appoint*. At this point, *appoint* raises to upper v where it checks its last  $[\pi]$  feature against the  $[\pi]$  feature of v and its last theta feature against the theta feature of its external argument, the DP [John]. With no features remaining, it is spelled out as *appointed* (its past tense feature being checked at LF). The external argument [John] moves to the Spec,TP to check case. At LF, *as* raises and adjoins to *appoint*, with mutual checking of OBL features. (52) shows this derivation at the point where T is to be selected.



The verbs *give* and *appoint* are representative of dative and *as* verbs which participate in their respective alternations (i.e., both verbs permit both variations). However, there are two other possibilities for each alternation: (i) verbs which permit the double object variant of the alternation only and (ii) verbs which permit the oblique variant only. Each of these possibilities is represented in (53) and (54) below.

- (53) a. John denied Bill the job.  
 b. \*John denied the job to Bill.  
 c. John called Bill a fool.  
 d. \*John called Bill as a fool.



- (54) a. \*John transferred Bill the money.  
b. John transferred the money to Bill.  
c. \* John characterized Bill a lifesaver.  
d. John characterized Bill as a lifesaver.

The verb *deny* in (53) is similar to *give* semantically (i.e., it is of the same general semantic class). The result of the act of *denying* is the goal NOT being 'in possession of' the theme. Similarly, the verb *call* in (54) belongs to the same semantic class as does the verb *appoint*. The result of the act of *calling* is the direct object 'taking on the properties of' the object complement. Unlike *give* and *appoint*, however, these verbs do not permit both variants of their respective alternations. Instead, they only permit the double object variants.

The opposite situation holds for the cases of *transfer* and *characterize*, where only the oblique variant is possible. *Transfer* belongs to the class of *give* type verbs (e.g., the result of the act of *transferring* is the goal being 'in possession of' the theme). *Characterize*, on the other hand, belongs to the *appoint* class (e.g., the result of the act of *characterizing* is the direct object 'taking on the properties of' the object complement).

Under the current theory, verbs like *deny* and *call* would need to be lexically specified as 'active' only in the lowest vP. In other

words, the operation Passive cannot apply to *deny* and the operation Antipassive cannot apply to *call*. Specifying *call* in this way poses no real problems since there is no antipassive in the higher vP. The case of *deny*, however, is slightly more problematic, given that it does permit Passive in the higher vP (as does *call*), as (55) shows.

- (55) a. Bill was denied the job by John.  
b. Bill was called a fool by John.

One way around this problem would be to de-externalize the goal argument for verbs like *deny* and *spare*. Recall that in this theory, a principled distinction has been made between external and internal arguments. Dative verbs like *give* and *as* verbs like *appoint* have been argued to have two external arguments each and only one internal argument. The thematic structure of *give* is shown in (56) (external arguments are underlined).

- (56) give <agent, goal, theme>

If we assume that the operation Passive is only able to eliminate external theta features from the verb to which it applies, it follows that a verb like *give* would allow the operation to apply up to two times (i.e., it has two external arguments which can be eliminated). In the case of *deny*, if we assume that the goal argument is not marked as being external, it follows that Passive will

only be able to apply once, to the agent, which is projected in the Spec position of the highest vP. Given this, the thematic structure of *deny* would look like (57).

(57) *deny* <agent, goal, theme>

Since the goal argument of *deny* is internal, the question arises as to where it is projected. There are two possibilities: either (i) it is projected in the Spec position of the lowest VP or (ii) it is projected in the Spec position of the lowest vP (the same position it would be projected if it were an external argument). Note that either possibility will work under the present account. While external arguments MUST be projected in Spec,vP, there is nothing in principle which prevents an internal argument from being projected there. In the case of *deny*, the lowest Spec,vP is needed as a case position for the theme DP. Since this position is reserved, we can assume that the goal argument is forced to be projected in Spec,vP, a position otherwise reserved for external arguments. Given that *deny* has two [ $\pi$ ] features, an intermediate vP is needed anyway.

Turning now to the verbs *transfer* and *characterize*, we are faced with the opposite problem. Both of these verbs permit only the oblique variant of their respective alternations. Given the present theory, *transfer* would require obligatory passivization within the lowest vP while *characterize* would require obligatory

antipassivization. Note that like *deny* and *call*, these verbs both allow Passive in the higher vP, as (58) shows.

- (58) a. The money was transferred to Bill by John.  
b. Bill was characterized as a lifesaver by John.

This problem is easily resolved if we assume that these verbs are 'deficient' in that they are not assigned the same set of features as other verbs in their respective classes when they are selected from the numeration. Recall that *give* and *appoint* are each assigned three theta features (two of which are external), two case features, two  $[\pi]$  features, a CAUSE feature, and a POSS/PRED feature. The relevant specifications are summarized in (55).

- (59) a. *give*  $\{\theta, \theta, \theta, C, C, \pi, \pi, \text{CAUSE}, \text{POSS}\}$   
b. *appoint*  $\{\theta, \theta, \theta, C, C, \pi, \pi, \text{CAUSE}, \text{PRED}\}$

The operation Passive strips away an external theta feature (the goal), one case feature, and one  $[\pi]$  feature from the feature array of *give*, while the operation Antipassive strips away the internal theta feature and one case feature from the feature array of *appoint*, and adds an OBL feature. The output of these operations is summarized in (60) below.

- (60) a. *give*  $\{\theta, \theta, C, \pi, \text{CAUSE}, \text{POSS}\}$

b. appoint  $\{\underline{\theta}, \underline{\theta}, C, \pi, \pi, \text{CAUSE}, \text{PRED}, \text{OBL}\}$

Given that *transfer* requires an obligatory passive and *characterize* requires an obligatory antipassive, we can assume that these verbs are only assigned a subset of the features that *give* and *appoint* are assigned. In other words, the set of features assigned to *transfer* is identical to the set resulting from the application of Passive in the case of *give*. Similarly, the set of features assigned to *characterize* is identical to the set resulting from the application of Antipassive in the case of *appoint*. (61) specifies the set of features assigned to *transfer* and *characterize* when they are selected from the Numeration.

(61) a. transfer  $\{\underline{\theta}, \underline{\theta}, C, \pi, \text{CAUSE}, \text{POSS}\}$

b. characterize  $\{\underline{\theta}, \underline{\theta}, C, \pi, \pi, \text{CAUSE}, \text{PRED}, \text{OBL}\}$

Given the feature specifications in (61), it follows that *transfer* and *characterize* will never be able to permit the double object variant of their respective alternations. To produce the double object variant, a verb must be able to check a minimum of three theta features and two case features. *Transfer* and *characterize*, however, will never be able to check more than two theta features and a single feature. This rules out the possibility of either verb allowing a double DP variant.

Before concluding this section, it is worth noting that the above analysis has implications for languages other than English. Many languages do not permit alternations like those discussed above. For example, French does not permit the double object variant of the dative alternation. This is shown in (62) for the French verb *donné* 'give'.

(62) a. Jean a donné le livre à Marie.

John PERF give the book to Mary

'John gave the book to Mary'

b. \*Jean a donné Marie le livre.

John PERF give Mary the book

'John gave Mary the book'

French *donné* in (62) patterns with English *transfer*, as do all 'dative' verbs in French. Extending our analysis to this case, we are led to the conclusion that verbs like *donné* are deficient in the same manner that *transfer* is. In other words, *donné* has one less external theta feature and one less case feature than does its English counterpart *give*. The relevant specifications are shown in (63).

(63) a. give { $\bar{\theta}$ ,  $\bar{\theta}$ ,  $\theta$ , C, C, ... }

b. donné { $\bar{\theta}$ ,  $\theta$ , C, ... }

The feature array for *donné* in (63) is sufficient to force Passive to apply in the lower vP. Note that like English *transfer*, *donné* still permits Passive to apply within the higher vP, as is the case in (64).

- (64) Le livre a été donnée a Marie par Jean.  
the book PERF has been given to Mary by John  
'The book has been given to Mary by John'

Ojibwa (Algonquin) shows the opposite pattern, permitting only the double object variant, as the following example from Dryer (1986), suggests.

- (65) n-gi:-mi:n-A: mzinhigan ža:bdi:s.  
I-PAST-give-3.ANIM book John  
'I gave John a book'

Ojibwa *mi:n* in (65) patterns with the English verb *deny*. It follows that the goal argument in Ojibwa can never be an external argument. The thematic contrast between English *give* and Ojibwa *mi:n* is shown in (66).

- (66) a. give <agent, goal, theme>  
b. Mi:n <agent, goal, theme>

The specifications in (66b) are sufficient to rule out the possibility of an oblique variant for *give* type verbs in languages like Ojibwa. In other words, by de-externalizing the goal argument of *mi:n*, we produce the effect of blocking Passive from applying within the lower vP in Ojibwa.

#### 4.4 Morphology and Prepositions

In this section, I discuss two important issues raised by the proposed analysis: (i) the absence of overt passive morphology in the dative alternation, and (ii) the status of the preposition *to*, which heads the PP in the oblique variant of the dative alternation.

##### 4.4.1 *The dative Alternation and Applicatives*

Earlier in this chapter, it was argued that the oblique variant of the dative alternation is derived by VP-internal passivization. Unlike regular passivization in English, which produces overt passive morphology on the verb, dative verbs are unmarked. There are two additional differences between regular passivization and VP-internal passivization: (i) the forms of the prepositions which license the demoted arguments are distinct (*to* in the case of the dative shift and *by* in the case of regular passives), and (ii) there is no auxiliary verb in the case of dative shift, whereas the auxiliary *be* is obligatory in the case of regular passives in English. The absence of an auxiliary



verb in the dative shift was addressed in section 4.3.2. Differences in form between the prepositions *by* and *to* will be addressed in section 4.4.2. This section will focus on the lack of overt passive morphology with dative verbs.

The most significant problem for the claim that the oblique variant of the dative alternation is derived via VP-internal passivization is the fact that, as far as I am aware, the alternation produces no overt passive morphology in any language in which it occurs (although see below for some possible exceptions). Syntactically, however, the dative alternation exhibits the same pattern as the active-passive alternation, as the examples in (67) and (68) clearly demonstrate.

- (67) a. John received the book.  
      b. The book was received (by John).

- (68) a. Mary gave John the book  
      b. Mary gave the book (to John).

In both alternations, the theme argument is promoted and the goal/agent argument is demoted to oblique status (introduced by the preposition *by* in the case of the active-passive alternation and by the preposition *to* in the case of the dative alternation). The same pattern (and same lack of passive morphology with dative shift

verbs) is found in Chichewa, as the examples in (69) and (70) illustrate (Baker, 1988a).

- (69) a. Kalulu a-na-wa-b-a                      mkazi wa njovu  
hare SP-PAST-OP-steal-ASP wife of elephant  
'The hare stole the elephant's wife'
- b. Mkazi wa njovu a-na-b-**edw**-a                      ndi kalulu  
wife of elephant SP-PAST-steal-PASS-ASP by hare  
'The elephant's wife was stolen by the hare'
- (70) a. Joni a-na-pats-a                      amai ake nthochi  
John SP-PAST-give-ASP mother his bananas  
'John gave his mother the bananas'
- b. Johi a-na-pats-a                      nthochi kwa mai wake  
John SP-PAST-give-ASP bananas to mother his  
'John gave bananas to his mother'

As these examples show, passive verbs in Chichewa, like passive verbs in English, are inflected with overt passive morphology (*edw*). Dative verbs appearing in the oblique variant of the dative alternation, however, are uninflected.

If, as I have claimed, the oblique variant of the dative alternation is derived via (VP-internal) passivization, then why is there never any overt passive morphology with dative verbs? Later in this chapter, I will suggest a possible answer to this question. It is important to note, however, that dative verbs in many languages do exhibit overt morphological marking in one of the variants. Alternations of this type are referred to as applicative alternations. (71) illustrates this alternation for Chichewa (Baker, 1988a).

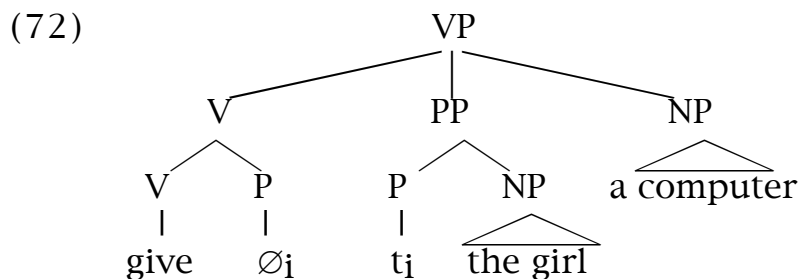
- (71) a. Ngombe zi-na-tumiz-a                      mitolo    ya udzu    kwa mbuzi.  
          cows    SP-PAST-send-ASP    bundles of grass    to    goats  
          'The cows sent bundles of grass to goats.'
- b. Ngombe zi-na-tumiz-**ir**-a                      mbuzi    mitolo    ya udzu.  
          cows    SP-PAST-send-**APPL**-ASP    goats    bundles of grass  
          'The cows sent the goats bundles of grass.'

The oblique variant of this alternation (71a) is unmarked. The double DP variant, however, is characterized by the addition of an applied suffix (*ir*) to the verb stem.

Applicativization is usually thought of as a valency increasing operation. The oblique variant is taken to be basic and the double DP variant is taken to be derived. This is the approach taken by Baker (1988a, 1988c, 1996), who argues that applicatives are

formed via preposition incorporation. In Baker (1988a) the applied suffix is generated as a preposition which appears inside a PP with the goal DP as its complement. Since the applied suffix is a bound morpheme, the Stray Affix Filter requires it to be attached to a host (i.e., the main verb) at PF. Incorporation of the applied suffix into the verb stem produces the double DP variant (71a). Adpositions, on the other hand, are free morphemes and may remain in situ at PF. This has the effect of generating the oblique variant.

Baker (1988a) claims that the dative alternation is also derived via preposition incorporation. In this case, however, the preposition is null. (72) shows the result of this derivation for English (Baker 1988: 286).



Baker's (1988a) preposition incorporation account of the dative alternation encounters a number of significant problems. First, Baker's theory, like the theory of Larson (1988, 1990), assumes that the oblique variant is the basic variant of the alternation. In section 4.2.2, arguments were presented which suggest that the double DP variant, and not the oblique variant, is

basic. Second, the goal DP in (72) is still structurally oblique, in spite of the fact that it behaves like an object of the verb. As noted by Baker, it can trigger object agreement. Moreover, when regular passivization occurs, it may become the subject. This is demonstrated for English in (73).

- (73) a. John gave the girl a computer.  
b. The girl was given a computer by John.

On Baker's theory, the alternation in (73) is parallel to cases of pseudo-passivization of the type discussed in chapter 2. The only difference is that preposition is overt in the case of pseudo-passives and null in the case of dative shift. As pointed out in chapter 2, however, adverbs may intervene between the verb and its PP complement in the case of pseudo-passives. Such is not the case with dative verbs, as the following examples show:

- (74) a. The committee voted eagerly [PP for John]  
b. John<sub>i</sub> was voted eagerly [PP for t<sub>i</sub> ] by the committee.

- (75) a. \*John gave reluctantly [PP Ø the girl ] a computer.  
b. \*The girl<sub>i</sub> was given reluctantly [PP Ø for t<sub>i</sub> ] a computer by John.

A third problem involves the position of the PP relative to the direct object in (75). Direct DP arguments generally must occur 'closer' to the verb than obliques. The only exception to this in English involves cases of heavy NP shift (i.e., extraposition). The direct object in (75b), however, is not sufficiently 'heavy' enough, as the examples in (76) illustrate. Note that when the goal argument is syntactically realized as a direct DP argument, the weight of the direct object DP is irrelevant (77).

- (76) a. \*John gave to the girl [a computer ]  
b. John gave to the girl [a computer that belonged to his mother ]
- (77) a. John gave the girl [a computer ]  
b. John gave the girl [a computer that belonged to his mother ]

In order to circumvent these problems, Baker assumes a restructuring rule whereby the PP is reanalyzed as a direct DP argument of the verb. This is the same type of analysis that has been proposed to account for pseudo-passivization. As pointed out in chapter 2, there are a number of problems with this approach (See Baltin and Postal (1996) for a number of arguments against reanalysis.).<sup>7</sup>

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<sup>7</sup>Reanalysis is also problematic for a different reason. Compared with dative shift, pseudo-passivization is extremely rare in the languages of the

Finally, even if we assume that reanalysis is involved in cases of applicativization and dative shift, we are left with the problem of explaining why applicativization can sometimes apply to intransitive verbs. This fact is exemplified in (78) for unaccusatives and (79) for unergatives in Chichewa (Baker, 1988a).

(78) a. Mlenje a-na-gon-a

hunter SP-PAST-sleep-ASP

'The hunter slept'

b. Mlenje a-na-gon-**er**-a kalulu

hunter SP-PAST-sleep-**APPL**-ASP hare

'The hunter slept on the hare'

(79) a. Kalulu a-na-sek-a

hare SP-PAST-laugh-ASP

'The hare laughed'

b. Kalulu a-na-sek-**er**-a atsikana

hare SP-PAST-laugh-**APPL**-ASP girls

'The hare laughed for the girls'

---

world. Assuming that both alternations involved reanalysis, one might ask why are there not more languages with pseudo-passive constructions.

Baker argues that cases like those in (78b) and (79b) are not true applicatives since they are not exact semantic paraphrases of their respective intransitive variants in (78a) and (79a). But this could also be said about the two variants of the dative alternation. If applicativization applies to intransitive verbs, then how can it involve preposition incorporation? The only way to maintain this account is to assume that the intransitive verbs in (78a) and (79a) take PPs with null prepositions and null DPs.

Given the data in (78) and (79), it appears as though the applied affix is functioning like a transitivity marker. A number of languages have alternations in which transitive verbs are derived from intransitive verbs via affixation. In Jiwarli (a language of Western Australia), for example, the verbal suffix *-jipa* attaches to intransitive verb roots to form transitive verbs (Austin, 1985, 2003).<sup>8</sup> In Minangkabau (a Western-Malayo-Polynesian language), transitive verbs are derived from intransitive verbs via addition of the verbal prefix *man-*, as shown by the example in (80) from Fortin (2002).

- (80) ambo **mam**-bacho boku  
1PS TRANS- read book  
'I read the book'

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<sup>8</sup>Jiwarli also has a detransitivizing suffix, *rri-a*, which attaches to transitive verb stems to form intransitive verbs (Austin, 1985, 2003).



The major difference between transitivity affixes like *man-* and applied affixes like *-ir* is that applied affixes may also be used to mark VP-internal transitivity (i.e., ditransitivity). Based on the above evidence, I will interpret the applied affix as a marker of (di)transitivity (in some languages) and not as a reflex of preposition incorporation, as Baker (1988a, 1988c, 1996) does.

The antipassive affix discussed in the previous chapter has exactly opposite function as the applied affix. It is a marker of intransitivity. In chapter 3, it was argued that the presence of antipassive morphology is a consequence of the feature OBL, which I take to be a semantic feature assigned to the main verb as a result of the operation Antipassive. If OBL is strong in a language, that language will have overt antipassive morphology, either via preposition incorporation (e.g., WGE) or via the insertion of a verbal suffix as a last resort operation (e.g., Yucatec). If OBL is weak or absent in a language, that language will not have overt antipassive morphology (e.g., English).

Given that the antipassive affix and the applied affix are bipolar opposites of one another, I will assume that their presence is triggered by distinct (semantic) features: OBL in the case of antipassives and DIR (i.e., direct) in the case of applicatives. OBL is assigned to verbs which have been detransitivized by the operation

Antipassive. DIR, on the other hand, is assigned to verbs which are transitive (or VP-internally transitive, i.e., ditransitive). I assume that this feature, unlike the feature OBL, is assigned to a verb directly out of the numeration, rather than being a consequence of a valency changing operation like Antipassive. Furthermore, unlike the feature OBL, DIR can be assigned to a main verb and a verbal affix, but not to a preposition or auxiliary verb. Since DIR, like OBL, is never assigned to a lexical category like V or v, the checking operation must involve movement of the substitution type. The detransitivizing operations Passive and Antipassive delete this feature from the feature matrix of any verb to which they apply. The modified Passive rule is given in (81). The parentheses around DIR indicate that it is not necessary for this feature to be present for Passive to apply. If it is present, however, Passive will delete it.

(81) Passive:  $\text{verb}(\theta, C, \pi, (\text{DIR})) \Rightarrow \text{verb}()$

Like OBL, DIR, if present, may be either strong or weak. If DIR is strong in a given language (Chichewa), that language will have overt applicative morphology. If DIR is weak or absent in a given language (English), that language will have no overt applicative morphology. If the feature is weak, DIR will be eliminated at LF.

Turning once again to the Chichewa applicative alternation in (71), repeated below as (82), I assume that the applicative variant in (82b) is basic.

(82) a. Ngombe zi-na-tumiz-a                      mitolo    ya udzu    kwa mbuzi.  
          cows    SP-PAST-send-ASP   bundles of grass   to   goats  
          'The cows sent bundles of grass to goats.'

         b. Ngombe zi-na-tumiz-ir-a                      mbuzi    mitolo    ya udzu.  
          cows    SP-PAST-send-**APPL**-ASP   goats   bundles of grass  
          'The cows sent the goats bundles of grass.'

The verb *tumiz* 'send' is assigned the following set of features from the numeration:

(83) *tumiz*    { $\theta$ ,  $\theta$ ,  $\theta$ , C, C,  $\pi$ ,  $\pi$ , CAUSE, POSS, DIR}

All of the features given in (83) are checked against linguistic items (or categories) introduced at various points in the derivation. The theta features are checked against the theta features of the three arguments (agent, goal, and theme), the case features are checked against the case features of the direct and indirect objects, the [ $\pi$ ] features are checked against the [ $\pi$ ] features of the lower and higher v, and the POSS and CAUSE features are checked against the POSS feature of the lower V and the CAUSE feature of the higher V,

respectively. The strong DIR feature, however, remains unchecked. As a result, the applied affix, which has a strong DIR feature, must be selected from the numeration and introduced into the derivation as a last resort to save the derivation from crashing at PF.

To derive the oblique variant in (82a), Passive first applies to the feature matrix of *tumiz*, eliminating one of its external theta features, one of its case features, one of its  $[\pi]$  features, and its DIR feature.

(84) Pass:  $\text{tumiz}(\underline{\theta}, \underline{\theta}, \theta, C, C, \pi, \pi, \text{CAUSE}, \text{POSS}, \text{DIR}) \Rightarrow$   
 $\text{tumiz}(\underline{\theta}, \theta, C, \pi, \text{CAUSE}, \text{POSS})$

After Passive has applied, the derivation of (82b) proceeds in the identical manner as the derivation of the oblique variant of English *give* discussed in section 4.3.1. *Give* and *tumiz* have the identical set of features after passivization.

The only difference between languages with applicative alternations like Chichewa and languages with dative alternations like English is that DIR is strong in the case of the applicative languages and weak or absent in the case of the dative languages. In either case (weak or absent), there will be no overt applicative morphology.

As mentioned above, I assume that DIR, like CAUSE, POSS, PRED, and OBL, is a semantic feature. There are two pieces of evidence which appear to support this claim. First, in many languages whether or not an applied affix appears on the verb depends on the specific verb selected. This is true for Chichewa, as the following examples show (Baker, 1988a).

- (85) a. Ngombe zi-na-tumiz-a            mitolo ya udzu kwa mbuzi.  
          cows    SP-PAST-send-ASP bundles of grass to goats  
          'The cows sent bundles of grass to goats.'
- b. Ngombe zi-na-tumiz-ir-a            mbuzi mitolo ya udzu.  
          cows    SP-PAST-send-**APPL**-ASP goats bundles of grass  
          'The cows sent the goats bundles of grass.'
- (86) a. Joni a-na-pats-a            nthochi kwa amai ake.  
          John SP-PAST-give-ASP bananas to mother his  
          'John gave bananas to his mother.'
- b. Joni a-na-pats-a            amai ake nthochi.  
          John SP-PAST-give-ASP mother his bananas  
          'John gave his mother bananas.'

As the above examples illustrate, *tumiz* 'send' permits applicative morphology whereas *pats* 'give' does not. Thus, it appears that the

presence of an applicative morpheme is dependent to some degree on the meaning of the predicate. This is a characteristic feature of meaning based derivational morphology, not inflectional morphology, suggesting that the applied suffix in Chichewa is derivational (or semantic).<sup>9</sup>

A second, and more compelling, piece of evidence that DIR is a semantic feature comes from Minangkabau (Fortin, 2002). In Minangkabau, the presence of the transitivity prefix *man-* appears to depend on semantic transitivity of the predicate rather than syntactic transitivity.<sup>10</sup> This can be illustrated by considering the following examples (Fortin, 2002).

(87) a. ambo **mam**-bacho boku

1PS TRANS- read book

'I read the book'

b. ambo **mam**-bacho

1PS TRANS- read

'I read the something'

---

<sup>9</sup> These facts suggest that the strength of DIR is contingent on the particular verb to which it is assigned in Chichewa. In the case of *tumiz*, DIR is strong; in the case of *pats*, DIR is weak. Consequently, the DIR feature of *pats*, like the DIR feature of the English verb *give*, must be checked at LF.

<sup>10</sup> The prefix *man-* is generally not considered to be an applied affix. Rather, it is taken to be a simple transitivity affix. On the current theory, the applied affix is considered to be a special type of transitivity affix. Transitivity affixes are associated with the feature DIR, whether they denote monotransitivity or ditransitivity.

- (88) \*Bungu bungu **man**-gambang  
flower REDUP TRANS-bloom  
'The flowers bloomed'

The verb *bacho* 'read' is syntactically transitive in (87a) and syntactically intransitive in (87b). Semantically, however, *bacho* is always transitive. The fact that the transitivity prefix *man-* may appear with both the syntactically transitive and intransitive variants of *bacho* suggests that its use is dependent on the semantic transitivity of the verb to which it attaches, as opposed to the syntactic transitivity. Note that if a verb is both syntactically intransitive and semantically intransitive, as is the case with the verb *gambang* 'bloom' in (88), it can never appear with the prefix *man-*.

#### 4.4.2 *By-Phrases and To-Phrases*

The final issue to address in this section involves the status of the preposition *to*, which licenses the goal argument in the oblique variant of the dative alternation. In this thesis, I have argued that *to* serves the same function as the preposition *by* commonly found in passive constructions. This function is to license the DP which has been demoted as a consequence of passivization (i.e., the external argument). As the following examples show, *to*-phrases and *by*-phrases resemble one another in a number of important respects:

- (89) a. John gave **Mary** a book.  
b. John gave a book *to Mary*.

- (90) a. **John** received a book.  
b. A book was received *by John*.

First, both phrases are derived as a result of operations which demote a less oblique argument of the verb and promote a more oblique one. In the active/passive alternation, the demoted argument is introduced by the proposition *by*. In the dative alternation, it is introduced by *to*. A second major similarity involves the property of optionality. With passives, the *by*-phrase is generally optional. This is true for many English verbs, as the following examples show:

- (91) a. The painting was stolen (by Mary).  
b. John was arrested (by the police).

There are, however, a number of verbs in English which seem to require an obligatory *by*-phrase when passivized (Grimshaw and Vikner, 1990).<sup>11</sup> Examples are given below:

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<sup>11</sup>Grimshaw (1992) notes that a number of additional expressions, such as adverbs, can substitute for the *by*-phrase with grammatical results (e.g., *The house was built yesterday*).



- (92) a. That new house was built \*(by John).  
b. That blue dress was designed \*(by Mary).

With respect to the preposition *to* in dative constructions, the same range of possibilities is attested, as the examples in (93) illustrate.

- (93) a. John sent the letter (to Mary).  
b. John handed the letter \*(to Mary).

In spite of these similarities, the tendency among researchers has been to treat the dative alternation and the active/passive alternation as distinct. There are a number of reasons for this, the two most salient being (i) that passivization results in overt morphology being added to the verb whereas the dative alternation does not, and (ii) that the form of the preposition is different across the two alternation types. In this section, I will address issue (ii) in detail.

The theory proposed in this thesis, namely, that the dative alternation involves VP-internal passivization, raises important questions about the form of the preposition in question. Given that suppressed or demoted arguments resulting from passivization in English are always introduced by the preposition *by* when they are expressed, why is it that the goal is introduced by *to* when it is

expressed in the oblique variant of the dative alternation? In other words, why don't we get sentences like the following:

- (94) a. \*John gave the ball by Mary.  
b. \*The ball was given by Mary by John.

As pointed out earlier, the semantic relationship between the two post verbal arguments of *give* is identical to the relationship between the two arguments of *receive*. However, when *receive* passivizes, the external argument, when expressed, is introduced by the preposition *by*, not *to*, as the following examples demonstrate:

- (95) a. Our office received the package.  
b. The package was received by/\*to our office.

The first thing to notice about the examples in (94) and (95) is that the external argument of *receive* and the most prominent of the postverbal arguments of *give* have the same semantic role (recipient/goal). Given this fact, it is clear that the form of the preposition is not related to the semantic role of the argument it licenses. As has been pointed out by numerous researchers (e.g., Baker, 1988a), virtually any type of external argument can appear in a *by*-phrase.

- (96) a. John saw Mary.

b. Mary was seen by John.

(97) a. The police approached the passenger.

b. The passenger was approached by the police.

(98) a. Trees surrounded the house.

b. The house was surrounded by trees.

The argument contained in the *by*-phrase in (96b) is an experiencer. In (97b), it is a theme, and in (98b) it is something else.

If the form of the preposition is not conditioned by thematic role type, then what, if anything, determines it? In the previous section, it was suggested that the presence/absence of overt passive morphology on the verb is a consequence of the type of preposition used to license the demoted argument. Since *by* has no OBL feature, the only way to check the OBL feature assigned to the main verb by the operation Passive is to select -EN from the numeration as a last resort operation. Given that -EN is obligatorily strong in English, it follows that English will always have overt passive morphology when *by* is used. *To*, on the other hand, is assigned a weak OBL feature from the numeration. Since the OBL feature of the verb is also weak, movement before Spell-Out will violate Procrastinate. If -EN is used to check the OBL feature of the main verb, the derivation will crash at LF since the weak OBL feature of *to* will remain unchecked.

Consequently, it follows that *to* will always be impossible with morphological passives.

Baker (1988a) makes a similar argument (for different reasons), reporting that in many languages (e.g., Chichewa, Chamorro, and Southern Tiwa) the appearance of a *by*-phrase (or oblique *by*-phrase type nominal) is dependent on the form of the passive morphology on the verb. He specifically cites the case of Italian, shown in (99) below from Beletti (1982).

(99) a. I dolci al cioccolato sono stati mangiati (da Mario).  
the sweets to chocolate have been eaten by Mario  
'Chocolate cookies have been eaten by Mario'

b. I dolci al cioccolato si mangiano in questa pasticceria (\*da Mario).  
the sweets to chocolate REFL eaten in this confectioners by Mario  
'Chocolate cookies are eaten in this store by Mario'

Italian has both a morphological passive (99a) and a reflexive passive (99b). In morphological passives, a *da*-phrase is possible, whereas in reflexive passives, it is not. This is a fact which seems to hold across the Romance languages generally, with reflexive passives tending to disallow *by*-phrase equivalents. Note that the obligatory

absence of a *by*-phrase is not a characteristic feature of reflexive passives in general since some languages have morphological passives which disallow them (e.g., Latvian). Moreover, there are languages where a reflexive passive may co-occur with a *by*-phrase or *by*-phrase type nominal (e.g., Russian).

If, as Baker (1988a) suggests, the form of the preposition which licenses the demoted argument in the passive is tied to the type of passive morphology which appears on the verb, then differences in form between the English prepositions *to* and *by* can be explained. *By* can appear only with morphological passives, whereas *to* can appear only with non-morphological passives (i.e., dative shift). This argument becomes even more plausible when one considers the fact that in some languages the same adposition or oblique case morpheme which is used to mark dative case can also be used to mark the external argument of a passive.

In Japanese, the form of the dative case particle *ni* is the same as the postposition which licenses the external argument in passive constructions. Examples are given in (100) and (101) below. The Japanese data in this section are taken primarily from Tsujimura (1996).

(100) Taroo-ga Yosio-ni ringo-o age-ta.

Taro-NOM Yosio-DAT apple-ACC give-past

'Taro gave an apple to Yasio'

(101) a. Doroboo-ga e-o                      nusunda.

thief-NOM painting-ACC stole

'The thief stole the painting'

b. E-ga                      doroboo-ni nusum-are-ta.

painting-NOM thief-by steal-PASS-past

'The painting was stolen by the thief'

(100) illustrates the dative construction in Japanese. The goal argument *Yosio* is marked with the dative case particle *ni*. (Note that dative verbs in Japanese only permit the double DP variant.) (101) illustrates one type of active/passive alternation in Japanese. Japanese has three distinct types of passives: direct passives, exemplified in (101b), indirect passives, and *ni yotte* passives. In direct passives, the external argument, when expressed, is licensed by the postposition *ni*.

The classification of *ni* as a case particle in (100) and as a postposition in (101b) is supported by the behavior of each of these elements with numeral quantifiers. In Japanese, postpositions cannot appear between a numeral and a quantified noun. This is not the case with case particles, which may freely intervene (Miyagawa, 1989). As the examples in (102) illustrate, the DP marked by *ni* in

the dative construction behaves quite differently than the DP marked by *ni* in direct passives under numeral quantification.

- (102) a. Taro-ga inu-ni sanbiki esa-o yat-ta.  
Taro-NOM dog-DAT three food-ACC give-past  
'Taro gave food to three dogs'
- b. \*E-ga doroboo-ni sannin nusum-are-ta.  
painting-NOM thief-by three steal-PASS-past  
'The painting was stolen by three thieves'

As the above examples show, a numeral may appear to the right of a dative case particle and quantify over the goal argument in the dative construction (102a). In a direct passive, however, this is not possible (102b). Miyagawa (1989) argues that numeral quantifiers and quantified nominals must c-command each other, a requirement he refers to as the mutual c-command condition. In (102a), where *ni* is an inflectional suffix on the noun, this condition holds (i.e., the inflected nominal *inu-ni* and the numeral *sanbiki* c-command each other). In (102b), however, the nominal *doroboo* is embedded within a PP headed by the postposition *ni*. In this case the numeral *sannin* c-commands *doroboo* but *doroboo* does not c-command it. Since mutual c-command does not hold in this case, (102b) is ill-formed.

Unlike direct passives, which may only be formed on the basis of transitive verbs in Japanese, indirect passives (or adversative passives) may be formed from intransitive verbs, including unaccusatives. This type of passive is exemplified in (103).

(103) a. Kodomo-ga sinda.

child-NOM died

'A child died'

b. Hahaoya-ga kodomo-ni sin-are-ta.

mother-NOM child-DAT die-PASS-past

'A mother is adversely affected by the death of her child'

As is the case with direct passives, the demoted agent is marked with *ni* in indirect passives and the verb is inflected with the passive morpheme *are*. Indirect passives, however, have a number of additional properties which distinguish them from direct passives. First, the subject of an indirect passive does not correspond to an object argument in the active variant. It appears as a new argument (i.e., it is not promoted from object position). Second, the subject is interpreted as being adversely affected by the event denoted by the verb. Thus, in (103b), the subject *Hahaoya-ga* is interpreted as being adversely affected by the death of a child. Finally, the argument marked with *ni* is obligatory in indirect passives, unlike the *ni* marked argument of direct passives, which is optional.



What is particularly interesting to note here is that with indirect passives, *ni* seems to have the status of a dative case particle and not a postposition. This is confirmed by the example in (104) from Miyagawa (1989).

(104) Hahaoya-ga kodomo-ni hutari sin-are-ta.

mother-NOM child-DAT two die-PASS-past

'A mother is adversely affected by the death of her two children'

In (102b), it was shown that it is impossible for *ni* to appear between a numeral quantifier and a quantified noun in direct passives. This was explained on the assumption that *ni* in (102b) is a postposition contained within a projection of PP which blocks the quantified noun from c-commanding the numeral quantifier and thus satisfying the mutual c-command condition of Miyagawa (1989). In (104), *ni* behaves more like the dative case particle which licenses the goal argument in the dative construction.

If we take the *ni* of indirect passives to be a dative case particle, then Japanese has two distinct ways of licensing the argument demoted as a result of passivization: (i) as a PP headed by a postposition (the direct passive case) or (ii) as an oblique dative marked DP (the indirect passive case). If English had an indirect

passive of the Japanese type, the most obvious candidate to license the demoted argument would be the preposition *to*, which assigns dative case in English. If such a passive existed, we might expect exemplars like the following:

(105) \*\*Mary was adversely affected to the child's death.

Of course, (105) is hopelessly ill-formed in English. Nevertheless, the Japanese facts above seem to provide motivation for treating the PP headed by *to* in the oblique variant of the dative alternation as a special type of *by*-phrase in English. Note that under the present theory, one would not expect a sentence like (105) to be acceptable anyway since the verb in this case has overt passive morphology (i.e., *to* has an unchecked weak OBL feature). In the oblique variant of the dative alternation, no morphology is involved.

Italian is another language which appears to provide support for the theory being advanced here. Unlike French, Italian permits dative shift. When the oblique variant is used, the preposition *a* licenses the goal argument. This case is shown in (106).

(106) Noi regaliamo la penna a te  
      we gave       the pen to you  
      'We gave the pen to you'

As discussed in Burzio (1986), the causative verb *fare* 'make' may appear in two superficially similar types of constructions in Italian. Examples of each are given below:

(107) a. Maria ha fatto riparare la macchina da Giovanni.

Maria has made repair the car by Giovanni.

'Maria had the car repaired by Giovanni'

b. Maria ha fatto riparare la macchina a Giovanni.

Maria has made repair the car to Giovanni.

'Maria had the car repaired by Giovanni'

(107a) illustrates what has been referred to as the *Faire-Par* (FP) construction, while (107b) illustrates the *Faire-Infinitive* (FI) construction (Kayne, 1975). The only difference between the two involves the form of the preposition used to license the 'semantic' subject of *riparare*. In (106a) the preposition is *da*, the same preposition used to license the external argument in passive constructions (see (100a) above). In (107b) the preposition *a* is used. As (106) shows, this is the same preposition used to assign dative case in the oblique variant of the dative alternation in Italian.

The important thing to note about the examples in (107) is that the complement of *fare* is headed by a verb which appears to be passive in nature, although it has no overt passive morphology. This

fact is more dramatically exemplified by (107b), which contains a *da*-phrase. As Burzio (1986) points out, *Giovanni* is interpreted as the 'semantic' subject of both constructions and there is no distinction in meaning between the two. Thus, *da* and *a* appear to serve the same function in (107).

In chapter 2, the English causative verbs *make* and *let*, the former being the counterpart of Italian *fare*, were discussed. Based on data like that in (108), it was argued that *make* does not subcategorize for bare VP complements. Rather, it must subcategorize for at least a vP.

- (108) a. Mary made [vP John repair the car ]  
      b. Mary made [vP the car be repaired by John ]  
      c. \*Mary made [VP the car repaired by John ]

As the above data illustrate, *make* allows complements headed by active verbs or by the passive auxiliary *be*, both of which were argued to occupy v at PF, but does not permit complements headed by passive verbs, which were argued to occupy V at PF. Assuming that *riparare*, as used in these examples, is in fact a non-morphological passive verb, (107) suggests that *fare* does permit bare VP complements. Note that unlike English *make*, *fare* does not permit complements headed by active verbs, as the following example from Burzio (1986) shows:

(109) \*Maria ha fatto Giovanni riparare la macchina.

Maria has made Giovanni repair the car

'Maria had Giovanni repair the car'

Taken together, the data in (107) and (109) suggest that *fare* subcategorizes for VP complements only, which is what I will assume here. In this respect they are analogous to the English verbs *want* and *need*, both of which were argued to subcategorize for bare lexical categories. The relevant data for *want* is given in (110).

(110) a. \*Mary wants [vP John repair the car ]

b. \*Mary wants [vP the car be repaired by John ]

c. Mary wants [VP the car repaired by John ]

In Burzio (1986), FP constructions and FI constructions are assigned two distinct d-structure representations. In the case of FI constructions, *fare* is assumed to subcategorize for an S' complement. The subject of the embedded S' is taken to be the dative marked DP, *a Giovanni* in the case of (107b). The embedded VP then raises to a position under the matrix VP to derive the s-structure representation. The d-structure and s-structure representations of (107b) are given in (111).

(111) a. Maria ha fatto [S' a Giovanni [vP riparare la macchina ]]

b. Maria ha fatto [VP riparare la macchina ]<sub>i</sub> [S' a Giovanni t<sub>i</sub> ]

FP constructions, on the other hand, are not assumed to involve any kind of movement of the embedded VP. In this case, *fare* is assumed to subcategorize for a bare VP complement. This case is shown in (112).

(112) Maria ha fatto [VP riparare la macchina da Giovanni ]]

As the representations in (111) and (112) suggest, the DP introduced by *da* in the FP construction is not assumed to be a syntactic subject at any level of representation. On the other hand, the DP introduced by *a* in the FI construction is taken to be a syntactic subject.

There are a number of problems, both of an empirical and theory internal nature, with Burzio's analysis. First, if *fare* subcategorizes for an S' in the case of FI constructions, what accounts for the impossibility of (109)? Second, Italian does allow dative subjects with psych verbs (Belletti and Rizzi, 1988). *Riparare*, however, is not a psych verb and does not otherwise permit dative subjects.

I contend that a much simpler account of the Italian facts is available if one simply assumes that complement of *fare* is a VP in

both instances. The fact that *riparare* must be passive follows from the theory that active verbs have  $[\pi]$  features and require a projection of vP in order to check them before PF. The lone difference between the two constructions is the form of the preposition used to license the demoted argument. Non-morphological passives in Italian permit either *da* or *a* as a licensing preposition, whereas morphological (and reflexive) passives permit only *da*.

These facts can be explained if we assume that the OBL feature of *da* is either weak (like English *to*) or absent (like English *by*), the OBL feature of *a* is always weak, the passive morpheme in Italian is obligatorily strong, and the operation Passive assigns weak OBL features to passive verbs by default. When the OBL feature of *da* is absent, it must remain in situ and the passive morpheme must be selected from the numeration to check the OBL feature of the verb. This option will give us morphological passives in Italian. When *da* is weak, checking must take place at LF. If the passive morpheme is used to check the OBL feature of the verb in this case, the weak OBL feature of *da* will go unchecked at LF, resulting in a non-convergent derivation. This will produce non-morphological passives in Italian. Because *a* is obligatorily weak in Italian, we predict that it will never appear with a morphologically inflected passive verb. Moreover, since *a* is the preposition used to license the demoted goal in the

dative alternation, we predict that dative shift in Italian will never produce overt passive morphology.

If the FI construction in Italian does involve obligatory passivization of the embedded verb, as I suggest above, then the facts in (107) provide additional motivation for the claim made here with respect to the English dative preposition *to*. There is, however, one final problem with the Italian data. If, as has been suggested above, non-morphological passives in Italian permit either *da* or *a* to license the demoted argument, why then don't we ever find *da* in the dative construction?

- (113) \*Noi regaliamo la penna da te  
          we gave       the pen by you  
          ' We gave the pen to you'

Since the dative alternation in Italian does not involve the affixation of passive morphology onto the verb stem, one might expect a case like (113) to be possible under the present theory. It is not, however, as the example above clearly shows. While I have no explanation for this fact, it is important to note that the semantic properties of a verb play a key role in determining the kinds of prepositions it may or may not co-occur with. Thus, it may simply be the case that *da* is semantically compatible with *riparare* and semantically incompatible with *regaliamo*.



While not conclusive in any sense, the Japanese and Italian facts above, if interpreted correctly, provide a plausible basis for interpreting the *to*-phrase in dative constructions as a special type of *by*-phrase. In both languages, it was shown that the same adposition or oblique case morpheme found in the dative construction can also be used in certain situations to license the external argument in the passive. If this is true for Japanese and Italian, then it does not seem unreasonable to claim the same for English.

#### 4.4.3 *Summary*

In this section, two major issues raised by the proposed analysis were addressed. In 4.4.1, the lack of overt passive morphology in the dative alternation was discussed. This was explained on the assumption that dative prepositions like English *to* and Italian *a* have obligatorily weak OBL features which prevent them from incorporating into the verb stem prior to Spell-Out. If the passive morpheme checks the OBL feature of the dative shifted verb in either language, the weak OBL feature of the preposition will remain unchecked at LF and the derivation will crash. Consequently, the OBL features of the verb in these languages must always be weak. As a result, a dative shifted verb in English or Italian will never appear with overt passive morphology. The obligatory weakness of dative

prepositions in the world's languages was seen as nearly universal, particularly in light of the fact that so few of them permit dative shifted verbs to appear with overt passive morphology. Two exceptions were noted, however. Turkish and Lithuanian both allow double passives with some dative verbs. The verb in each case appears with two passive affixes (and two overt *by*-phrases in Lithuanian). These facts were taken to support the claim that dative shift involves VP-internal passivization.

In section 4.4.2, the status of *to*-phrases in the oblique variant of the English dative alternation was discussed. It was shown that in some languages (specifically Japanese and Italian) the dative case particle or adposition used in the dative construction may also be used to license the external argument in the passive in certain situations. Given the dual function of '*to*-phrases' in these languages, it was concluded that ascribing a similar function to *to*-phrases in English was not unreasonable.

## 4.5 Meaning Differences

In this thesis, I have taken the position that the two variants of the dative alternation, the double object variant and the dative (or oblique) variant, are transformationally related, following Larson (1988, 1990), Aoun and Li (1989), and others. There are, however, differences of opinions among scholars on this issue. Citing a number of significant semantic differences between the two variants

(e.g., Green 1974; Oehrle 1976), some researchers have suggested that they are not syntactically (or semantically) related to one another (e.g., Krifka 2001). These researchers note the fact that a number of verbs fail to participate in this alternation (e.g., *transfer*, *deny*).

Theories which take the transformational approach generally assume that the dative and double object variants are semantic paraphrases of one another. This is not necessarily the case, however. For example, double object verbs imply a clear change of possession meaning. Dative verbs, on the other hand, denote a movement from one entity to another, without necessarily implying that a change of possession has taken place. This can be seen in the following examples.

- (114) a. \*?John threw Bill the ball, but he never received it.  
b. John threw the ball to Bill, but he never received it.

The subordinate clause in each of the above examples specifies that no final change of possession has taken place. In (114a), the double object variant, this clause produces an apparent contradiction. Such is not the case in (114b), the dative variant. This is due to the fact that the main clause implies only that movement has taken place, not a change of possession. John has thrown the ball in Bill's direction, perhaps intending that Bill receive it. Bill may have received the ball, or he may not have received it. We don't know.

Hence, the meaning implied by the addition of the subordinate clause in (114b) is a possible interpretation.

In this thesis, I have suggested that the lowest VP in the dative alternation licenses a 'movement with change of possession' interpretation. The relevant semantic feature is POSS (POSS incorporates movement here). This works well for the 'movement with change of possession' interpretation of the dative variant of the alternation, but is problematic for the 'movement only' interpretation. This problem can be overcome by replacing the POSS feature with a feature which denotes 'movement' alone. Let's call this feature MOVE. The two variants of *throw* will have the following feature matrices.

- (115) a. *throw* { $\bar{\theta}$ ,  $\bar{\theta}$ ,  $\theta$ , C, C,  $\pi$ , CAUSE, POSS}  
b. *throw* { $\bar{\theta}$ ,  $\theta$ , C,  $\pi$ , CAUSE, MOVE}

The 'movement' variant of *throw* in (115b) has the same set of features (with the addition of the feature MOVE) as the lexical verb *transfer*. Earlier it was argued that verbs like *transfer* do not permit double object variants because they are assigned only a subset of the features that are assigned to alternating verbs (i.e., exactly one less external theta feature and exactly one less case feature). *Throw* in (115b) falls into this class. 'Movement with change of possession' *throw* in (115a) may undergo passivization. This is evidenced by the fact that both the active (i.e., double object) and passive (i.e.,

dative) variants permit the 'change of possession' interpretation. 'Movement' *throw*, on the other hand, can only appear in the passive (i.e., dative) variant of the alternation. The double object variant does not permit the 'movement' interpretation, only the change of possession interpretation.

#### 4.6 Conclusions

The major goal of this chapter was to provide motivation for treating the dative/applicative alternation as a type of passivization and the *as* alternation as a type of antipassivization. Both of these valency reducing operations were discussed extensively in the earlier chapters. It was shown that syntactically, the dative alternation and the active-passive alternation produce the identical range of effects: the lower argument is promoted and the higher argument is demoted to oblique status and is introduced by a preposition. The only differences between these alternations are morphological (e.g., verb form differences and differences with respect to the type of preposition used (*by* for the passive and *to* for the dative)). Like the dative and active-passive alternations, the *as* alternation and the active-antipassive alternation are syntactically identical, producing the same range of effects: the lower argument is demoted to oblique status and the higher argument remains unchanged. Again, the only differences between these two alternations are morphological in nature. One of the major advantages in treating the alternations in this manner is that we now

have fewer valency reducing operations in UG (e.g., dative shift and applicativization being subsumed under passive).

## Chapter 5: Concluding Remarks

The central goal of this thesis was to develop a concise feature-based theory of head movement which incorporates the constraints imposed by the valency reducing operations Passive and Antipassive. To that end, it was necessary to develop a corresponding feature-based theory of these operations. Both Passive and Antipassive were taken to be post-lexical operations which affect the feature matrices of the main verbs to which they apply, essentially by adding and/or deleting features. Head movement is driven by the necessity of heads to check (i.e., delete) these features in the syntax. Two types of movement were proposed: (1) movement of the substitution type, which does not produce overt morphology (e.g., V to *v* movement; V to V movement), and (2) movement of the adjunction type, which does produce overt morphology (e.g., Preposition Incorporation).

One of the major implications of this work is that the valency reducing operations Passive and Antipassive are much more common among the languages of the world than otherwise thought. The antipassive construction has been associated with ergative-absolutive languages. However, as we have seen, this association is largely morphological in nature. Syntactically, many nominative-accusative languages, like English, exhibit transitivity alternations which are identical to the active-antipassive alternations of ergative-

absolute languages. In this thesis, I have argued that these similarities evolve from the same underlying processes of UG. The dative/applicative alternation is likewise syntactically identical to (albeit morphologically distinct from) the active-passive alternation, which is far more common among the world's languages. In chapter 4, it was argued that, given these similarities, the dative/applicative alternation should be subsumed under the active/passive alternation. A welcomed advantage resulting from the proposals made in this thesis is that while the architecture of UG now includes fewer operations, the operations which remain exhibit a far greater distribution across languages.



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## Vita

Ralph Charles Blight was born on September 12, 1961 in London, Ontario, Canada, the son of Albert and Margery Blight. After completing his work at Lake Shore High School in St. Clair Shores, Michigan, in 1979, he entered Macomb Community College for one semester, then transferred to the Western Kentucky University in 1980 for two years. In 1989, he entered Wayne State University in Detroit, Michigan, where he received the degree of Bachelor of Arts in Psychology and the degree of Bachelor of Arts in Linguistics. In the spring of 1993, he entered the Graduate School of the University of Texas at Austin.

Permanent Address: 1700 Seaspray Ct, #1125, Houston, Texas 77008

This dissertation was typed by the author.