

- (28) a. Plots by so many conspirators have been hatched that the government has jailed them.  
 b. \*Plots by many conspirators have been hatched who the government has jailed.

This property however follows from the hypothesis that the trace of LF  $\xi$ -operator movement is not regulated by the ECP (see G&M, 22, Safir (1982)).

The third property to be accounted for is the possibility of split antecedents for  $\xi$ -operator complements, illustrated in (29) (= G&M's (7)).

- (29) a. So many people liked so many pictures at the gallery that the exhibition was held over for two weeks.  
 b. \*Every man saw some woman last year who is similar.

This property follows from the possibility that the QP specifier of an XP can have an index distinct from the category that contains it (see G&M's (25)).

In G&M's theory, then, no matters of syntactic fact hinge crucially on the LF government requirement in (13). All that the requirement in (13) does in the theory is necessitate the syntactic movement of the  $\xi$ -operator so that it can govern its complement at LF. The above considerations suggest that there is little independent support for such movement.<sup>10</sup>

#### 4. The Status of LF

The main concern here, as in Williams's (1986) original proposal, has not been to "get rid of LF" but only to show that the constraints on a significant portion of phenomena that are usually associated with a separate level of LF can be stated on a properly annotated S-Structure. I have shown that the adjunction structures created by the mapping between S-Structure and LF are superfluous to the characterization of a certain kind of interaction between operators. This demonstration vitiates a correspondingly significant measure of the motivation for a separate LF level of representation. Put plainly, we may be able to make the LF theory work for these interactions, but we can't make the LF theory necessary for them.

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<sup>10</sup> Epstein (1989) reaches a similar conclusion with respect to LF in his discussion of pronominal variable binding. Epstein shows how LF can be "fixed" but notes that there is no independent motivation for the solution he proposes. A difference between Epstein's problem for LF and the problem for LF outlined here is that, whereas the Leftness Condition that Epstein uses to fix LF with respect to pronominal variable binding can be incorporated into LF virtually without consequence, the abandonment of (13) discussed in section 3.3.2 seems to have fairly deep, theory-internal consequences.

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#### Double Objects Revisited: Reply to Jackendoff

Richard K. Larson

Jackendoff (1990) discusses the analysis of double objects proposed in Larson (1988), taking issue with the general analysis and many of its specific claims. In this article I review Jackendoff's points concerning linear order and binding (section 1), structure projection (section 2), complement alternations (section 3), Dative Shift (section 4), and

I am grateful to Lisa Cheng and Michael Hegarty for helpful comments on an earlier version of this article.

modifiers and nonconstituent conjunction (section 5). I argue that the prospects of the analysis in Larson (1988) are not nearly so bleak as Jackendoff portrays them—that the questions he raises can be answered in natural ways, and that the counterproposals he makes are not superior to the views originally suggested.

### 1. Linear Order and Domain Asymmetry

Larson (1988) analyzes certain domain asymmetry facts observed by Barss and Lasnik (1986) in double object examples and proposes that they can be explained directly under a nonstandard theory of complement structure using a purely hierarchical definition of “syntactic domain.” Jackendoff argues that various additional facts necessitate a “mixed” definition of syntactic domain, involving hierarchy and linear order. He also suggests that linearity is natural in the account of intrasentential domains, since it is independently needed in the account of intersentential anaphora. Jackendoff is wrong on both counts, however. The data he cites do not establish the conclusion he draws. Although the facts are compatible with his position, they are also compatible with the configurational approach to domain asymmetry in Larson (1988). Moreover, Jackendoff’s argument from intersentential anaphora involves circular reasoning.

#### 1.1. Linearity versus Hierarchy

At the beginning of his article Jackendoff tries to establish the necessity of linear order on the basis of simple surface inspection of various paradigms. He reviews the behavior of domain-sensitive items in nonalternating double objects, alternating NP–PP complements, in double PP complements with free order, and in double PP complements in nominals, and he observes that, quite generally, complements that appear on the right can be in the domain of those on the left but not vice versa. He concludes, “The overwhelming generalization [is] that linear order plays a role in these phenomena” (p. 430). He presents the facts as “having shown that Larson has chosen the wrong way out of the apparent difficulties presented by Barss and Lasnik’s observations” (p. 436).

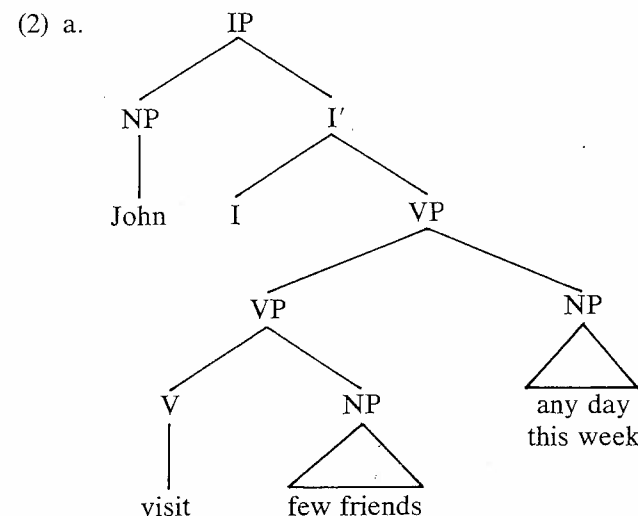
Jackendoff’s conclusion is not justified, however, and indeed cannot be reached by simple inspection. This is because there is another possible explanation for the facts. Granting the surface generalization that domain effects show left-right asymmetry, *two* major hypotheses are available: (a) domain effects reflect linear order, in which case the surface generalization is the true generalization, and phrase markers are potentially quite flat; or (b) domain effects reflect only structure, in which case the surface generalization is an illusion, and phrase markers are downward branching to the right. To establish his conclusion, Jackendoff must eliminate possibility (b), but this can only be done by a consideration of structure.

A rightward downward branching analysis is not an abstract possibility, but rep-

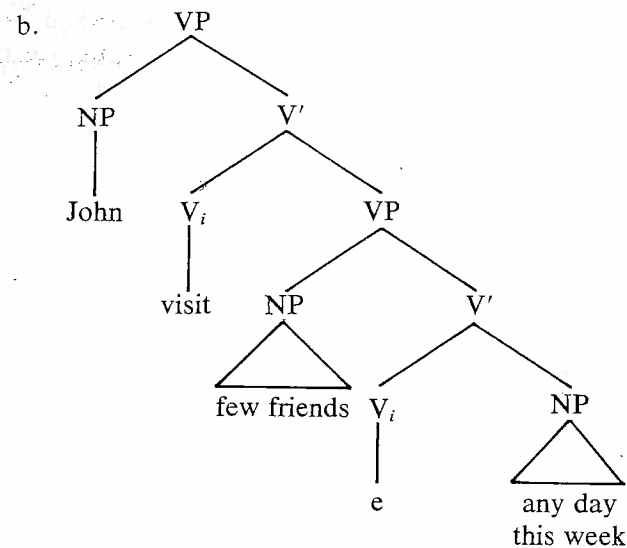
resents precisely the approach taken in Larson (1988). In that analysis, and in contrast to more standard views, elements appearing on the right—including obliques—are typically *lower* in the phrase marker than elements to their left. As a consequence, dependencies that superficially appear to be linear will also be describable in simple hierarchical terms. As an illustration, consider (1a,b), involving a negative polarity item (*any day this week*) and a potential trigger (*few friends*):<sup>1</sup>

- (1) a. John visited few friends any day this week.  
 b. \*John visited anyone few days this week.  
 (*compare* John visited someone few days this week.)

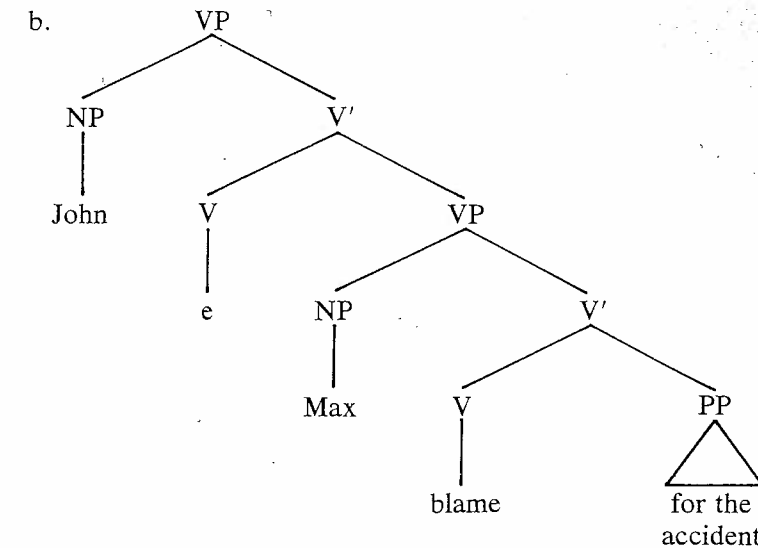
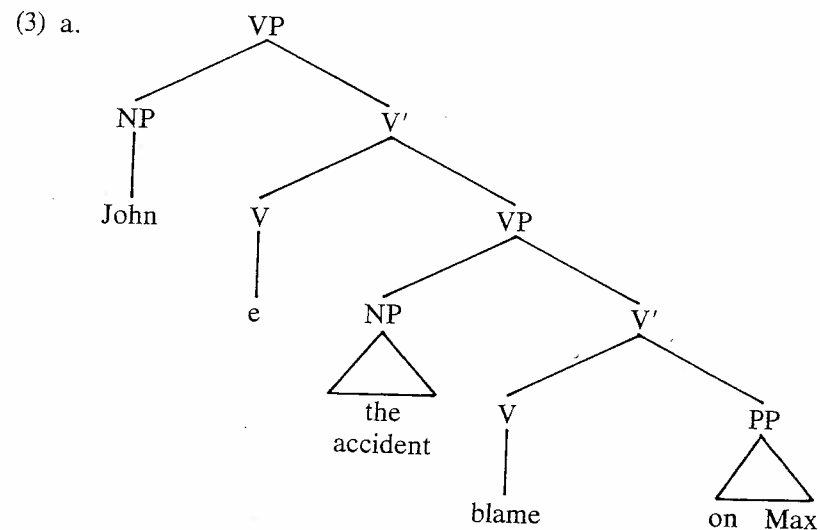
On a standard structure, in which adverbs are adjoined to VP and hence higher in the tree than the direct object (2a), this pair would support an ordering restriction on negative polarity licensing. Licensing would require some version of m-command by the trigger (that is, mutual containment in maximal projections), together with linear precedence. By contrast, on the sort of structure proposed in Larson (1988), with its uniform rightward downward branching (2b), these facts follow directly under a simple first branching node definition of c-command; the direct object c-commands the temporal adjunct, but not conversely. The apparent precedence restriction is merely apparent:



<sup>1</sup> I assume that *any day this week* is a bare NP adverb as discussed in Larson (1985). See Emonds (1987) and McCawley (1988) for alternative analyses.



The same general outcome holds with Jackendoff's own data, as we will see. Thus, in section 3.3 I argue that the alternation *blame X on Y/blame Y for X* involves two distinct D-Structure forms in which the PP is uniformly lower than the direct object. As a consequence, what appears to be a linear asymmetry is accounted for under first branching node c-command, even ignoring the structure introduced by PP:



Similar results obtain with other alternating NP-PP complements (for instance, *spray-load* verbs, as discussed in section 3.1), with double PPs (as discussed in sections 3.2 and 3.3), and with nonalternating double objects (as discussed in Larson (1988)). Despite Jackendoff's claims, *none* of the data he cites actually chooses between the pure structural and the mixed structural proposals. None of them forces the conclusion that the correct statement of syntactic domain must take account of linear order as well as hierarchy. To secure this claim, one must look at more than strings.

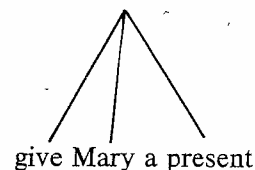
### 1.2. Restrictiveness

If the facts cited by Jackendoff do not decide between a pure structural and a 'mixed' approach to syntactic domains, the former nonetheless has an important methodological advantage over the latter, one that Jackendoff himself alludes to.

A purely hierarchical analysis of domain asymmetry assuming first branching node c-command rules out many initially plausible double object structures, as discussed by Barss and Lasnik (1986); and it compels a more complex branching configuration. In the analysis of Larson (1988), this more complex form has numerous further consequences for the analysis of conjunction, "Heavy NP Shift," and discontinuous idioms.

By contrast, a notion of domain involving both structure and order entails very few structural consequences and is in fact compatible with all possible structurings of V-NP1-NP2. For example, if the definition of syntactic domain involves both linear precedence and first branching node c-command, then Barss and Lasnik's results are compatible with both (4a) (Oehrle (1976)) and (4b) (Kayne (1983)). Similarly, if the definition of syntactic domain involves linear precedence and m-command, then Barss and Lasnik's results are compatible with (4a) and (4c) (Chomsky (1981)):

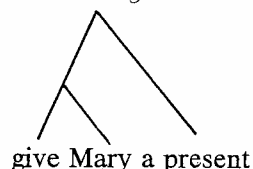
(4) a.



b.



c.



Thus, although the two approaches are equal on the data Jackendoff cites, they are not equal in more general terms. The pure hierarchical analysis appears to yield a more restrictive theory overall.

This is not a surprising result, but is in fact a rather familiar one in modern syntactic study, where the choice between elaborating the account of specific constructions and elaborating the content of general principles arises routinely. Although choice in such matters is ultimately an empirical issue, it has often proven useful as a research strategy to prefer complex structures to complex principles, simply because the former tends to yield a more restrictive theory overall, and hence one to be preferred under the usual logic of the language acquisition problem.<sup>2</sup>

### 1.3. Linearity in Discourse?

Jackendoff suggests that linearity is natural in the description of intrasentential binding since it is independently necessary for the description of intersentential anaphora in discourse (5), and in conjunctions (6). He rejects any strict separation of the domains of sentence and discourse grammar that would allow the apparent linearity effects in (5) and (6) to be dismissed as "mere pragmatics."

(5) a. John<sub>i</sub> came in. He<sub>i</sub> was tired.b. \*He<sub>i</sub> came in. John<sub>i</sub> was tired.(6) a. John<sub>i</sub> came in and he<sub>i</sub> was tired.b. \*He<sub>i</sub> came in and John<sub>i</sub> was tired.

Jackendoff's reasoning misses the mark in two important ways, however.

First, the syntactic domain phenomena at issue here—those discussed by Barss and Lasnik—are quite distinct from simple cross-sentential anaphora. Though the latter ex-

<sup>2</sup> This situation is also illustrated in formulations of the Empty Category Principle (ECP), where early versions contained a disjunctive condition mentioning both lexical and antecedent government. More recent versions (Chomsky (1986a)) have attempted to simplify the general principle by eliminating one of the disjuncts (lexical government). The result has been more complex structures involving traces, but a more restrictive theory overall.

tends across nonsubordinate clauses, the former—even those with very weak locality requirements like quantifier binding, *each . . . the other* dependencies, and negative polarity phenomena—do not:

(7) a. \*No one came in. Anyone was tired.

(negative polarity)

b. \*No boy came in. He was tired.

(quantifier binding)

c. \*Each man came in. The other nodded.

(each . . . the other)

Because of this difference, the relevance of (5)–(6) for the definition of syntactic domains is simply indeterminate. Even if the explanation of (5b) and (6b) must appeal to linear precedence, nothing is entailed about the phenomena discussed by Barss and Lasnik.<sup>3</sup>

Second, even if we accept that constraints on intra- and intersentential pronoun anaphora are not disparate phenomena, we are not obliged to accept what Jackendoff concludes from this. Indeed, it is equally plausible to draw a conclusion from (5b) and (6b) *opposite* to his. Rather than taking these data as evidence for linearity in sentence grammar, we could instead view them as evidence for hierarchy in discourse grammar. Such a view would not be absurd. Research in Discourse Representation Theory (Kamp (1981), Heim (1982)) and in the processing of discourse anaphors (Cohen (1987), Grosz (1978, 1981), Grosz and Sidner (1986), Grosz, Pollack, and Sidner (1989), Guindon and Sladsky (1986)) has argued precisely that discourses are structured objects whose hierarchical constituent relations condition discourse anaphora.

To illustrate a simple theory of discourse structure that yields these results, consider the following three proposals relating intra- and intersentential anaphoric processes:

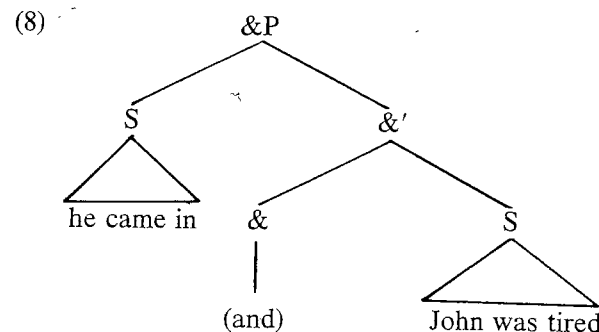
- (a) Intrasentential anaphora between elements  $\alpha$ ,  $\beta$  depends on the relative hierarchical relations of  $\alpha$ ,  $\beta$  themselves; intersentential anaphora between  $\alpha$ ,  $\beta$  depends on the relative hierarchical relations of the Ss containing  $\alpha$ ,  $\beta$ .
- (b) Coordination structures fall under X-bar theory and have conjunctions as their heads.
- (c) In their default form, discourses are extended coordinations.

Principle (a) says, in effect, that S-internal structure is inaccessible to discourse gram-

<sup>3</sup> Jackendoff's discussion of his (34)–(38) mixes together a number of phenomena and also fails to distinguish between command, locality, and levels. Simple anaphora (Principle B) requires c-command by an antecedent and the presence of the antecedent in the anaphor's governing category. As Belletti and Rizzi (1988) have argued, however, anaphora does not appear to require surface (S-Structure) c-command. The locality condition explains the ill-formedness of Jackendoff's (34b) and (37b). The possibility for D-Structure c-command (under Belletti and Rizzi's theory of psych-verbs) explains the well-formedness of (35b). By contrast, *each . . . the other* and quantifier binding appear to require (at least) LF c-command, but no strict locality for the bound item. This accounts for (34a), (36a), and (38b). The ill-formed (35a) and (36b) fall together as weak crossover violations under the assumption that *the other* is bound by the *each* phrase as *his*; is bound by *every boy*<sub>i</sub>. Finally, negative polarity items appear to demand S-Structure c-command and to resist factive environments. This accounts for (37a) and (38a), respectively.

The important point to note here is that these facts are all fully compatible with a definition of domain that uniformly requires what Jackendoff refers to as a "dominance-based condition." In particular, although these various items differ in how close a binder must be or at what level binding occurs, all depend on command.

mar—that anaphoric relations between elements in separate sentences (including separate sentences of a sentential conjunction) are determined by the relations of the sentences containing them. Principle (b) takes the view of Ross (1967) and Collins (1988) that coordinations are endocentric, are headed by their conjunctions, and fall under the familiar X-bar structure [<sub>XP</sub> YP [<sub>X'</sub> X ZP]]; (c) is self-explanatory. Under these proposals, (5b) and (6b) would receive the structure in (8) (borrowing the category label & from Hale (1989)):



The relevant coreference relations might then be blocked by the equivalent of Principle C of the binding theory: in parallel to the intrasentential case, we could say that an S containing an R-expression cannot be c-commanded by an S containing a coreferential phrase.

The point here is not, of course, to present and defend a full-fledged theory of discourse anaphora, but rather to observe that Jackendoff's argument rests on the premise that linearity is the right explanation for the phenomena in (5) and (6). This premise must be defended, not simply assumed. If discourses are in fact structured objects (as the work cited above strongly argues), then the premise is far from self-evident. As it stands, Jackendoff's argument is basically circular: it argues for linearity over structure (in intrasentential relations) under the assumption of linearity over structure (in intersentential relations).

## 2. The V-Raising Analysis

Jackendoff finds serious fault with the V-Raising analysis proposed in Larson (1988), questioning not only its empirical correctness, but its very coherence. He judges it to involve a radical departure from current views of  $\theta$ -assignment and D-Structure and to be unfaithful to one of its chief motivating principles: the Uniformity of Theta Assignment Hypothesis (UTAH). In reality, Jackendoff's claim of a radical departure is mistaken. Furthermore, the departure from UTAH in Larson (1988) is no greater than elsewhere in the Extended Standard Theory (EST), and the version of UTAH that it retains still suffices to motivate a derivational approach to double objects.

### 2.1. Structure Projection in Larson (1988)

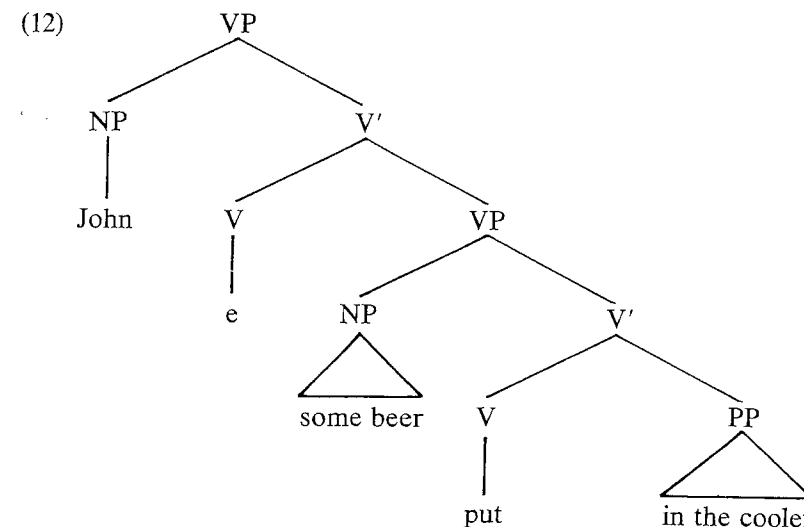
The account of structure projection in Larson (1988) makes use of three basic elements or principles: a principle of hierarchy (9), a principle of location (10), and a principle of direction (11):<sup>4</sup>

- (9) a.  $XP \rightarrow YP X'$   
 b.  $X' \rightarrow X ZP$

(10) If  $\beta$  is an argument of  $\alpha$ , then  $\beta$  must be realized within a projection of  $\alpha$ .

(11) Arguments of a predicate  $\alpha$  are projected according to the hierarchy AGENT > THEME > GOAL > OBLIQUE, such that if  $\theta_1 > \theta_2$  on the thematic hierarchy, then the recipient of  $\theta_1$  c-commands the recipient of  $\theta_2$ .

Illustrating with the verb *put*, these principles yield initial VP structures like (12), where the relative structural prominence of *John*, *some beer*, and *in the cooler* reflects the relative thematic prominence of agent, theme, and location:



The presence of the empty V head follows from the X-bar theory in (9). Since maximal phrases may contain at most one complement per projection, only two of *put*'s arguments can be fitted into the minimal VP that it heads; this forces an upward branching of X-

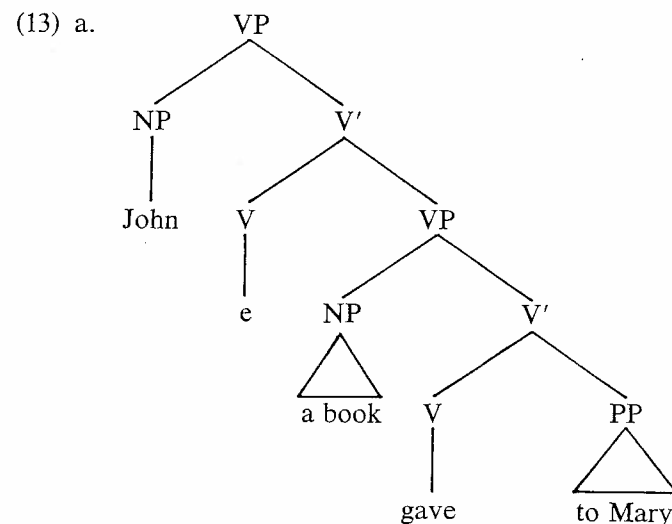
<sup>4</sup> The term *direction* is borrowed from Russell (1903); the X-bar principles in (10) embody a formal symmetry between subjects and complements, namely, that there can be only a single instance of either in a single maximal phrase. Contrary to what Jackendoff implies in the discussion of his (52), formal symmetry is nowhere advanced in Larson (1988) as a *reason* for accepting this version of X-bar theory. The reasons for accepting (or rejecting) this theory are the same as for any other scientific proposal: the understanding (or lack thereof) that it brings to the phenomena—in this case the range of phenomena discussed in Larson (1988).

bar structure to secure an argument position for the agent. This in turn brings along an empty head position as a pure consequence of X-bar theory.<sup>5,6</sup>

## 2.2. A "Radical Shift in Theory"?

Jackendoff labels this account "a radical shift in theory" (p. 451), claiming that it implicitly abandons the view that  $\theta$ -roles are assigned in D-Structure. His reasoning is as follows: since the subject of *put* lies outside the lower VP at D-Structure, it cannot be  $\theta$ -marked by the verb until the latter raises into the upper VP. Jackendoff deems this a serious departure from the  $\theta$ -Criterion of Chomsky (1981), whose intuitive content (according to him) is "to prevent NPs from acquiring  $\theta$ -roles in the course of a derivation" (p. 451).

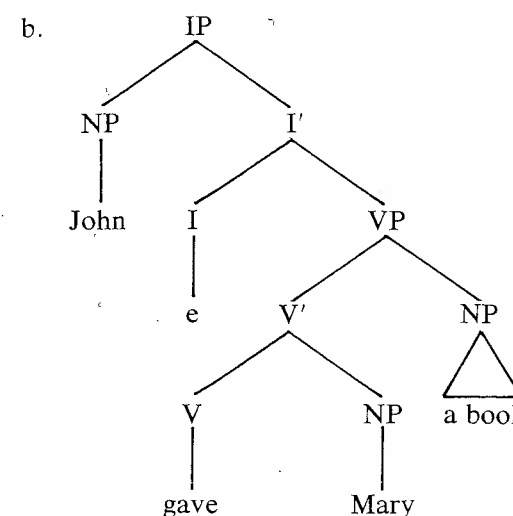
We can assess Jackendoff's claim of a major departure by simply comparing a representation from Larson (1988) with a more conventional structure, taking equivalent domains of  $\theta$ -assignment. (13a) is the D-Structure realization of a dative VP under the analysis in Larson (1988); (13b) is the D-Structure realization of a double object IP under the analysis in Chomsky (1981):<sup>7</sup>



<sup>5</sup> Given the account of thematic assignments in Larson (1988), the fact that *some beer* is structurally an "inner subject" (VP specifier) of *put* in no way entails that it must be understood as an agent. This (rather elementary) error is made by Aoun and Li (1989). The thematic role of *some beer* is determined by the relation between structural prominence and the thematic hierarchy, which in this case requires the NP to be the theme.

<sup>6</sup> The projection of empty head positions in Larson (1988) is analogous to the projection of empty argument positions under standard proposals. On the usual view, the presence of a functional head (such as Infl) compels a specifier position to be projected, even in the absence of a  $\theta$ -role to assign the latter. The compulsion is X-bar theory: heads require specifier positions. Similarly, on the view in Larson (1988), the presence of a specifier compels a head position to be projected, even when it receives no role from the latter.

<sup>7</sup> Structures containing an I' like (13b) do not actually occur in Chomsky (1981); thus, (13b) represents a slight "updating" of that work, incorporating the general X-bar theory for minor categories adopted in Chomsky (1986a,b). However, this point is irrelevant to the issue of  $\theta$ -assignment locality discussed in the text. The same issue of  $\theta$ -assignment outside the maximal projection headed by V arises under structures where NP, I, and VP directly depend from S, as in Chomsky (1981).



These structures differ in the domain of  $\theta$ -assignment (VP for Larson (1988), IP for Chomsky (1981)) and in the linear order of the object NP and V'. However, they do *not* differ in the respect Jackendoff draws attention to. Just as the agent lies outside the (smallest) VP in (13a), so it lies outside the VP in (13b). Contrary to what Jackendoff claims, then, we might expect accounts of  $\theta$ -assignment for the two phrase markers to be largely similar.

This expectation is correct. Chomsky (1981) distinguishes two basic cases in which an element  $\alpha$   $\theta$ -marks an element  $\beta$ : one involving structures of the general form [ $\alpha'$  . . .  $\alpha$  . . .  $\beta$  . . .], and one involving structures where  $\beta$  is the subject of  $\alpha$ . The former is referred to as *direct  $\theta$ -marking*, and the latter as *indirect  $\theta$ -marking* (see Chomsky (1981, 36–38)). Assuming that the goal phrase *Mary* is an argument in (13b), *Mary* is directly  $\theta$ -marked, and *John* is indirectly  $\theta$ -marked. The status of the theme argument *a book* is left somewhat indeterminate in Chomsky (1981); however, Chomsky later generalizes the definitions of subject and object to all NPs in the configurations [NP, XP] and [NP, X'], respectively (Chomsky (1986b, 161)). Under these criteria, *a book* is a subject in (13b) and hence counts as indirectly  $\theta$ -marked in this structure.

Given the homology of structure between (13a) and (13b), and given the category-neutral character of the definitions of  $\theta$ -marking and the grammatical functions, it is clear that the account of  $\theta$ -marking for (13b) will extend without modification to (13a). The object (*to*) *Mary* will be directly  $\theta$ -marked by *give*, whereas the two subjects *John* and *a book* will be indirectly  $\theta$ -marked.<sup>8</sup>

We see then that Jackendoff's claim that structures like (13a) mark a "radical shift in theory" is based on a misunderstanding of current theory. It is based on the assumption

<sup>8</sup> The addition of modifiers to dative structures like (13a) will change the assessment of direct and indirect  $\theta$ -marking. As discussed in section 2.3, modifiers are added below arguments; hence, what was previously a directly  $\theta$ -marked complement (here (*to*) *Mary*) will become an indirectly  $\theta$ -marked VP subject.

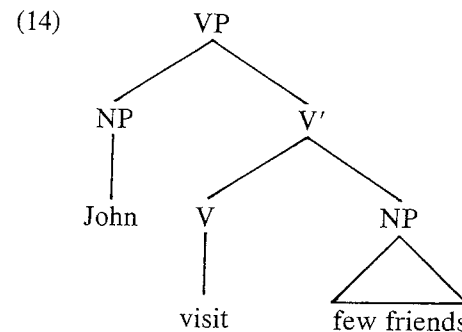


that all  $\theta$ -marking by  $\alpha$  is required to occur within the minimal maximal projection of  $\alpha$ . This principle is not part of current versions of the EST.

### 2.3. The Status of UTAH

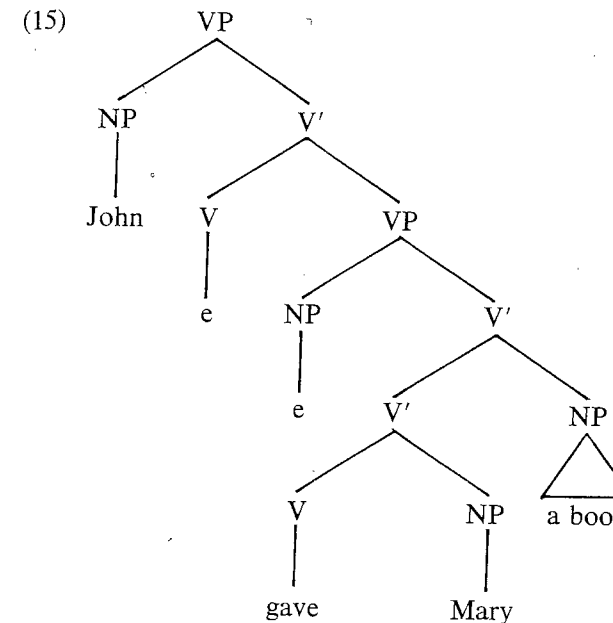
Jackendoff observes that although the derivational account of double objects in Larson (1988) is in part motivated by appeal to the Uniformity of Theta Assignment Hypothesis of Baker (1988), the analysis does not actually conform to UTAH strictly understood since, for example, dative and double object sentences receive distinct underlying structures despite their identical thematic relations. Jackendoff's point is, of course, quite correct and indeed holds much more generally. To my knowledge, *no* current EST analysis holds to the strict form of UTAH—including that of Baker (1988), the author of the hypothesis. This is clear, for example, from the fact that all recent analyses of Passive assume distinct structures for active-passive pairs, despite the identical thematic relations involved.

Departures from strict UTAH in Larson (1988) arise in two ways. The first involves the projection of optional oblique arguments. Compare the VP in (2b), where *visit* appears with an optional temporal phrase, with that in (14), where the temporal modifier is absent:



In (2b) the object *few friends* is realized structurally as a specifier of V'; in (14) it is realized as a complement of V. Such a departure from strict UTAH will occur whenever an optional argument is realized: a complement in one structure will be realized as a specifier in the other, despite bearing the same thematic relation in both.

A second departure from UTAH involves "passive" alternations in the general sense discussed in Larson (1988). Compare (13a), the D-Structure realization of *John gave a book to Mary*, with (15), the D-Structure realization of the counterpart double object form *John gave Mary a book*:



In (13a) the object *a book* is realized structurally as a specifier of V'; in (15) it is realized as an adjunct of V'. Again, this departure from strict UTAH will arise whenever an argument is demoted: a specifier in one structure will be realized as an adjunct in the other, despite bearing the same thematic relation in both.

It is natural to ask whether a modified form of UTAH is compatible with Larson (1988) given these results, and bearing in mind that *some* weakening of strict UTAH is required under any current version of the EST. The following is embodied implicitly in Larson (1988):

#### Relativized UTAH

Identical thematic relationships are represented by identical relative hierarchical relations between items at D-Structure.

Under Relativized UTAH a set of thematic relations may be realized in formally different D-Structure representations. However, the latter will all share an important property: the *relative* structural prominence relations between role-bearing elements will be the same.

It is easy to see informally that the D-Structure representations in Larson (1988) conform to Relativized UTAH. In (2b) the addition of an optional oblique has shifted the absolute position of the theme vis-à-vis the experiencer subject in (14); however, the relative structural prominence of the two is preserved across this difference. *John* asymmetrically c-commands *few friends* in both. Similarly, in (15) argument demotion has shifted the absolute position of the theme vis-à-vis the agent and goal in (13a).

However, their relative structural prominence is preserved: *John* asymmetrically c-commands *a book*, which in turn asymmetrically c-commands *(to) Mary*.

Relativized UTAH is not a formal principle of Larson (1988), but rather follows as a consequence of its principle of structure projection (11), taken together with argument demotion. The former requires the structural prominence of arguments to reflect the thematic hierarchy AGENT > THEME > GOAL > OBLIQUE. The latter allows a role assigned to a specifier of  $X^i$  to be assigned (up to optionality) to an adjunct of  $X^i$ . Principle (11) is sufficient to guarantee that optional argument alternations like those in (2b) and (14) meet Relativized UTAH: the two arguments found in both structures preserve their relative prominence in virtue of the thematic hierarchy. Alternations involving argument demotion like (13a) and (15) meet Relativized UTAH as a consequence of (11) taken together with the simple structural fact that all constituents of XP in the configuration (16) are asymmetrically c-commanded by both the specifier of  $V'$  ( $\alpha$ ) and an adjunct of  $V'$  ( $\beta$ ), and any constituent asymmetrically c-commanding such a VP asymmetrically c-commands both  $\alpha$  and  $\beta$ .

$$(16) [_{VP} \alpha [_{V'} [_{V'} V XP] \beta]]$$

We see then that although the strict form of UTAH is not upheld in Larson (1988) (or in any other recent version of the EST), a slightly weaker, more flexible version is available. The latter is not a principle of Larson (1988) but rather follows from its assumptions. Relativized UTAH preserves the basic motivation for a derivational account of double objects. As discussed in Larson (1988), S-Structure realizations for oblique dative and double object examples show inverse domain relations: the theme behaves as hierarchically superior to the goal in the former, but as hierarchically inferior in the latter. Given that the same thematic relations are involved in each, Relativized UTAH requires the underlying relative hierarchical relations in the two to be the same. It follows that one of the two forms—dative or double object—must be derived.<sup>9</sup>

### 3. Complement Alternations

Jackendoff brings up a number of alternations beyond those involving double objects and notes various questions they raise for the account in Larson (1988). I take up Jackendoff's points in considering the three ways that alternations in complement order and form may arise in that analysis.

<sup>9</sup> As noted in Larson (1988), UTAH does not itself settle the direction of derivation between oblique and double object structures. Several investigators, including Bowers (1981), Johns (1984), Dryer (1987), and Aoun and Li (1989), have advocated deriving the oblique from the double object form.

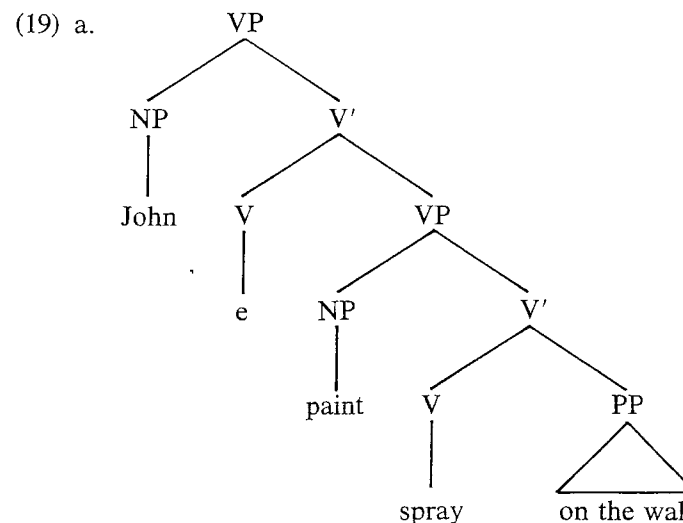
### 3.1. NP-Movement

One source of complement alternation is VP-internal NP-Movement. Pairs related this way involve identical underlying hierarchical relations but different surface grammatical relations. One instance is the dative-double object alternation discussed in Larson (1988). Another instance, I believe, is the well-known *spray-load* alternation noted by Jackendoff and discussed by Partee (1965), Anderson (1971), and many subsequent authors:

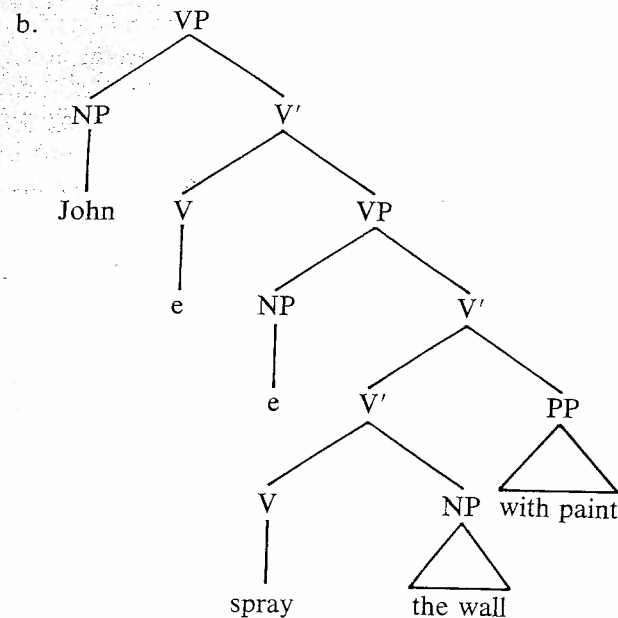
- (17) a. John sprayed paint on the wall.  
       b. John sprayed the wall with paint.  
 (18) a. John emptied water from the pail.  
       b. John emptied the pail of water.

I suggest that the first member of these pairs is analogous to an oblique dative, and the second is analogous to a double object form. Thus, (17a) involves the D-Structure form in (19a), and (17b), the D-Structure form in (19b). *The wall* raises to the empty VP specifier position by NP-Movement, and *spray* raises to empty head position, as in the case of double objects. Under this proposal, we predict the domain relations that Jackendoff observes: the outer PP object will always be in the domain of the direct object, but not conversely.

There is suggestive evidence from quantifier scope for the general parallel between double object forms and *spray-load* verbs proposed here. As noted (first, to my knowledge) by D. Lebeaux (personal communication), oblique dative-double object pairs such







as (20a,b) show an asymmetry in scope interpretation when the two complements are quantified. Specifically, although (20a) may be understood with either the theme or goal taking wide scope (ONE-EVERY versus EVERY-ONE), (20b) is not similarly ambiguous. The latter strongly selects the reading in which the scope of the quantifiers matches their surface order (ONE-EVERY); hence, (20b) is understood as asserting that some one particular student is assigned all the problems:

- (20) a. The teacher assigned one problem to every student.  
 b. The teacher assigned one student every problem.

Schneider-Zioga (1988) has noted the same asymmetry in *spray-load* pairs, with the locative variant patterning similarly to the oblique dative form and the *with* variant patterning similarly to the double object form:

- (21) a. The worker loaded one box on every truck.  
 b. The worker loaded one truck with every box.  
 (22) a. Max sprayed some slogan on every wall.  
 b. Max sprayed some wall with every slogan.  
 (23) a. I drained one chemical from every tank.  
 b. I drained one tank of every chemical.

Thus, (21a) is again ambiguous with either the theme or the locative taking wide scope. (21b) by contrast is not ambiguous, strongly selecting the reading in which the scope of the quantifiers matches their surface order (ONE-EVERY). And similarly for (22)–(23)

in my judgment. Dative–double object pairs thus pattern analogously to *spray-load* pairs in this respect.<sup>10</sup>

As noted by Jackendoff, *spray-load* alternations depart from double object structures in one obvious way. In the latter the “demoted” argument appears as a bare NP, whereas in the former it appears in a PP headed by *with* or *of*. In fact, this does not represent a “sharp” difference between dative and *spray-load* pairs. Dative alternations with *supply* and *provide* also require a preposition and do not allow for a bare outer NP (24), and for many speakers (including myself) dative alternations with *award* seem to allow either structure (25):

- (24) a. The teacher supplied one pencil to every student.  
 The teacher supplied one student \*(with) every pencil.

<sup>10</sup> I do not currently have an account of the “scope freezing” effect of double object alternations within the analysis of Larson (1988). Thus, at present these facts argue only for a general correlation between double object structures and the *with/of* variant of *spray-load* paradigms, and not for the specific analysis in Larson (1988). Schneider-Zioga (1988) and Aoun and Li (1989) propose an analysis of these scope facts based on the small clause analysis of Kayne (1983). Simplifying somewhat, they suggest that in double object structures, the two objects occur in a small clause (SC), and they propose that a quantified outer object is absolutely confined to the SC domain:

- (i) The teacher assigned [<sub>SC</sub>[some student] [every problem]].

There is evidence against the view that the scope limitations with double objects (and related constructions) involve absolute confinement of the outer quantifier. First, double object structures show Antecedent-Contained Deletion in an outer quantified object, as in (ii):

- (ii) a. John gave someone [everything that Bill did [<sub>VP</sub> e]].  
 b. Max wants to give someone [everything that you do [<sub>VP</sub> e]].

On the analysis proposed in Sag (1976), May (1985), and Larson and May (1990), correct reconstruction of the empty VP requires the quantified NP to receive scope at least as wide as the VP serving as reconstruction source. In (iia) this entails that *everything that Bill did* *e* must get scope at least as wide as the VP headed by *give*, that is, outside the putative small clause. In (iib) *everything that you do* *e* must receive scope at least as wide as the matrix VP headed by *want* in order to get the reading where the sentence is understood as ‘Max wants to give someone everything that you want to give them’. Again, this is outside the putative small clause.

Second, outer objects show de dicto/de re ambiguities with respect to higher predicates. Thus, (iii) is ambiguous between a reading where *every apartment in the building* is read opaquely and a reading where it is read transparently with respect to *promise*. (This sentence also shows the scope effect for quantified double objects, so that if *every apartment in the building* is de re, *someone* must be de re as well.)

- (iii) I promised to rent someone every apartment in the building.

On standard analyses of such ambiguities, a de re reading of *every apartment in the building* will involve assigning this NP scope beyond *promise*.

These results suggest that an outer quantified object is not absolutely confined in double object structures, but only confined *relative* to the inner object. James Higginbotham (personal communication) notes further evidence in support of this view from the following contrast:

- (iv) a. No one gave Bill anything.  
 b. ??No one gave someone anything.

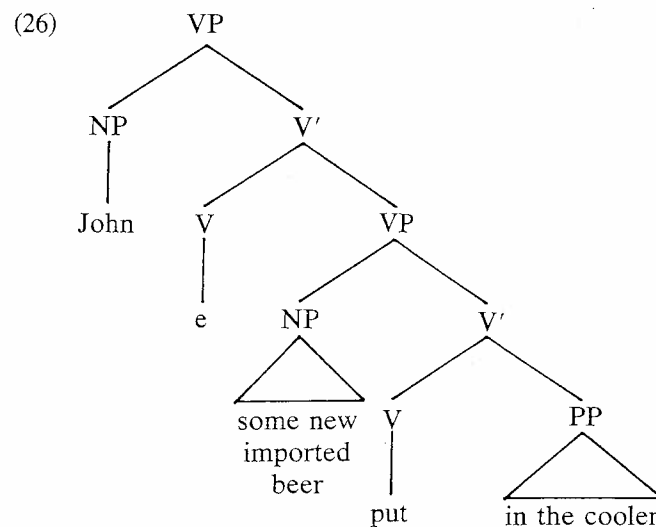
Higginbotham points out that if polarity items must occur at LF within the immediate scope of their triggers (as argued by Linebarger (1987)), and if an outer object is confined to take relative scope narrower than an inner object, then the contrast is explained. In (iva), where the inner object is unquantified, *anything* moves at LF into the immediate scope of its trigger *no one*. In (ivb), however, *anything* cannot move into the immediate scope of *no one* since it must stay within the scope of *someone*. Hence, the sentence is excluded. I hope to take up at a later date the issue of how the relative scope confinement of outer and inner quantifiers is obtained.

- b. The teacher provided one pencil to every student.  
The teacher provided one student \*(with) every pencil.
- (25) a. We awarded one prize to every contestant.  
b. We awarded one contestant (with) every prize.

Given these results, it is natural to ask what conditions the distribution in (17)–(25). Specifically, what requires presence of a preposition, and how is the particular choice of preposition determined? I suggest that the relevant factor in both cases is recoverability; however, I will postpone discussion of this point until section 4.3.

### 3.2. Light Predicate Raising

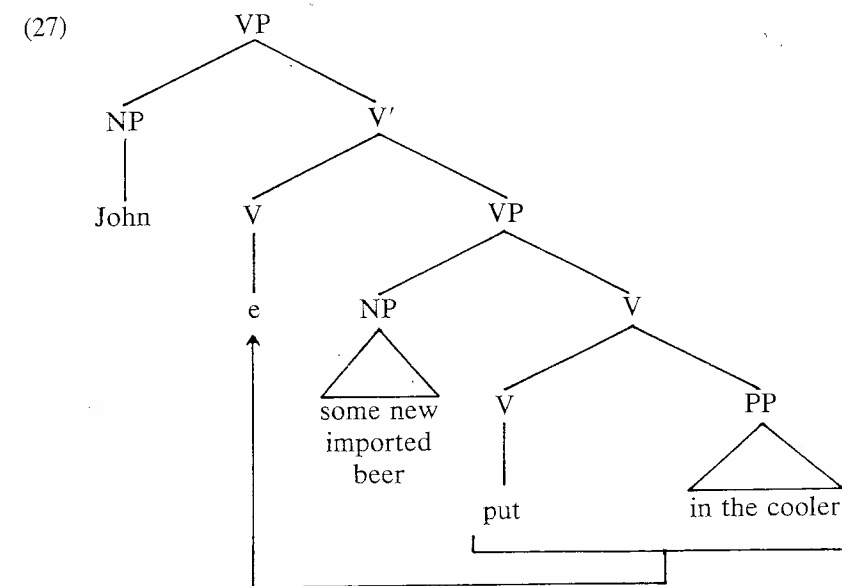
A second source of alternation is Light Predicate Raising (LPR), the operation responsible for so-called “Heavy NP Shift” phenomena in Larson (1988; forthcoming). Pairs related by LPR involve identical underlying structures and identical surface grammatical relations. As an example, consider structure (26):



If *put* is raised to empty V position directly, the result is the simple “nonshifted” version of this sentence, *John put some new imported beer in the cooler*. As an alternative, however, the lower V' may undergo a reanalysis operation open to any predicate projection that is thematically monotransitive.<sup>11</sup> When this occurs, the whole reanalyzed

<sup>11</sup> This thematic restriction on reanalysis is discussed in Larson (1988, sec. 7.4).

phrase raises around the object:



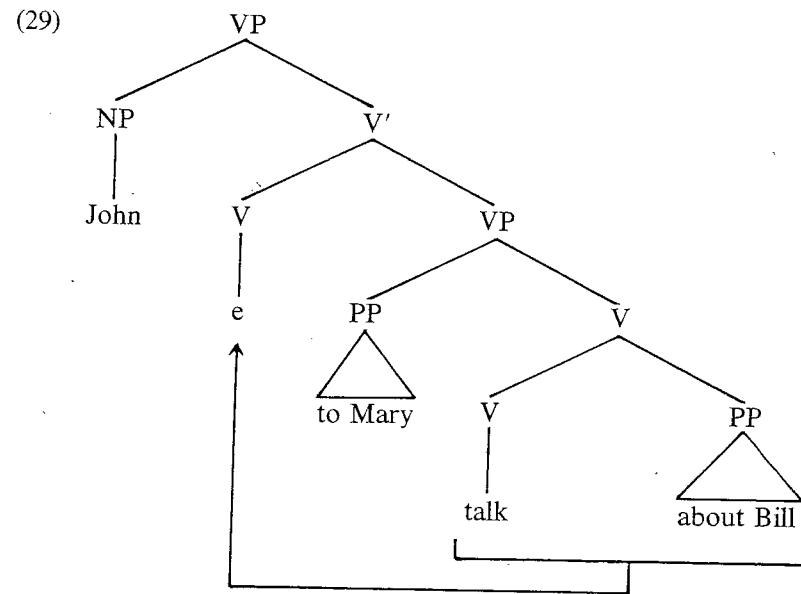
This yields the “NP-shifted” variant of this sentence, *John put in the cooler some new imported beer*, although the direct object does not actually move in producing it.

Since V'-Reanalysis mentions neither the categorial identity nor the role of the complement moved over, we predict a more general phenomenon of “XP Shift.” In Larson (forthcoming) it is suggested that double PP complement pairs, like those discussed by Jackendoff, may be an instance of this:

- (28) a. John talked to Mary about Bill.  
b. John talked about Bill to Mary.

Specifically, it is proposed that (28b) results by V'-Reanalysis and raising of [<sub>v</sub> talk about NP], as shown in (29) on page 608.

Contrary to what Jackendoff (1990) claims (see footnote 2), I myself do find a heaviness effect present in such examples in the form of relatively greater stress borne by *Mary* in (28b) than by *Bill* in (28a). This effect also shows up in the differential availability



of pronoun reduction in the outer PP, as pointed out to me by John Frampton:

- (30) a. John talked to Mary about him<sub>i</sub>'m.  
 b. John talked about Mary to him<sub>i</sub>\*'m.

A derivation of this form also accounts for an important difference in domain properties distinguishing (28a,b) in my judgment. For me, (31a-c) are considerably weaker than their counterparts in which *to* and *about* are inverted:

- (31) a. \*John talked about the men to each other.  
 (compare John talked to the men about each other.)  
 b. ?\*John talked about no man<sub>i</sub> to his<sub>i</sub> son.  
 (compare John talked to no man<sub>i</sub> about his<sub>i</sub> son.)  
 c. ?\*I talked about each man to the other.  
 (compare I talked to each man about the other.)  
 d. ??I talked about nothing to anyone.  
 e. \*Which man<sub>i</sub> did you talk about to his<sub>i</sub> son?  
 (compare Which man<sub>i</sub> did you talk to about his<sub>i</sub> son?)  
 f. \*Who did you talk about to which boy?  
 \*Which boy did you talk about to who?  
 (compare Who did you talk to about which boy?)

These results would follow under the structure in (29). Since the object of *about* fails to c-command that of *to* in the resulting structure, we correctly predict domain relations

to fail between them, as in (31a-d). We also predict weak crossover and superiority effects, as in (31e,f).

### 3.3. Alternative Projection

A last source of complement alternation is alternative projection. Pairs related in this way involve different underlying structures and different surface grammatical relations. Alternative projection may arise in two ways. The thematic roles borne by the complements may simply be different in the relevant cases, or else the roles in question might be unordered with respect to the thematic hierarchy.

A plausible case of the former is the alternation in (32), cited by Jackendoff (see his (54)):

- (32) a. John blamed the accident on Max.  
 b. John blamed Max for the accident.

Jackendoff takes the thematic relations in these sentences to be identical; however, a closer look reveals basic differences. Specifically, (32a) patterns as a locative construction in which the object is a theme and the PP a locative argument, whereas (32b) patterns as a dative construction in which the surface object is a goal and the PP an adjunct benefactive/malefactive phrase.

The locative character of (32a) is reflected in the close paraphrase relation it bears to the construction in (33a) with *put*, and in their shared subcategorization properties. Note that just as *put* requires both a theme and a location (33b), so does locative *blame* (33c):

- (33) a. i. John blamed the accident on Max.  
 ii. John put the blame for the accident on Max.  
 b. i. \*John put the blame for the accident.  
 ii. \*John put on Max.  
 c. i. \*John blamed the accident.  
 ii. \*John blamed on Max.

Locative *blame* also shares selectional properties with *put*. Just as the latter allows either animate or inanimate NPs in the locative, so does the former:

- (34) a. John put the blame for the accident on {Max.  
 the weather.}  
 b. John blamed the accident on {Max.  
 the weather.}

By contrast, (32b) appears to be notionally parallel to constructions involving *thank* and to the corresponding dative forms with *give* (35). Dative *blame* shares the subcategorization properties of these predicates. Just as the latter allow the benefactive phrase to be absent, so does the former (36):

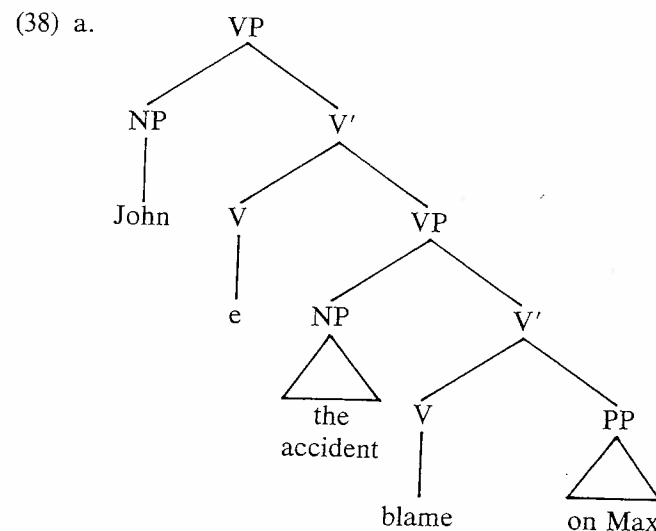
- (35) a. i. John blamed Max for the accident.  
 ii. John thanked Max for the gift.  
 b. i. ?John gave the blame for the accident to Max.  
 ii. John gave thanks for the gift to Max.
- (36) a. John blamed Max (for the accident).  
 b. John thanked Max (for the gift).

Dative *blame* also shares a selectional property of *thank* that distinguishes the two from locative *blame*. In the first case, unlike the second, it seems that the cause or object of blame/thanks must be animate:<sup>12</sup>

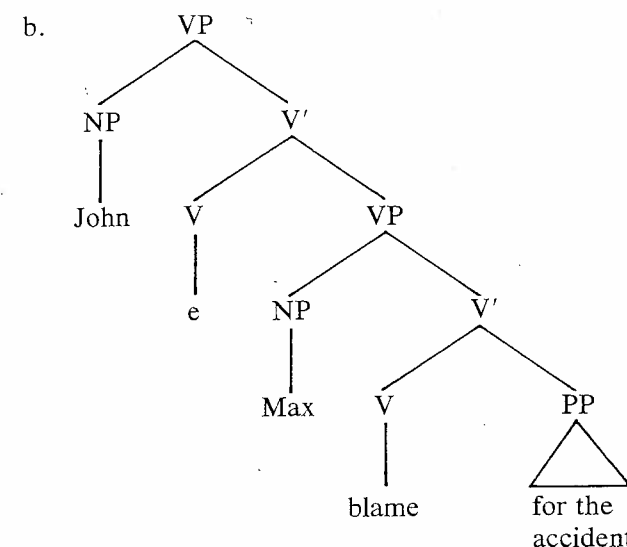
- (37) a. ??John blamed {the weather  
the temperature} for his bad luck.  
 b. ??John thanked {the weather  
the temperature} for his good luck.

This result is, of course, straightforward if *blame* is dative in this construction and its object is a goal; goals typically show an animacy restriction.

Given the different thematic relations involved with locative and dative *blame*, it follows that these verbs will involve different D-Structure representations. In particular, under the thematic hierarchy in (11) we derive the two structures for (32a) and (32b) given earlier in (3) (repeated in (38)):



<sup>12</sup> I am indebted to Mark Aronoff for pointing out these animacy contrasts, and to Mark Aronoff and Dan Finer for general discussion of dative versus locative *blame*. Aronoff points out that the anomaly in (37a,b) weakens precisely to the extent that one personifies or anthropomorphizes the weather or temperature.



These structures in turn predict the asymmetries of syntactic domain noted by Jackendoff.<sup>13</sup>

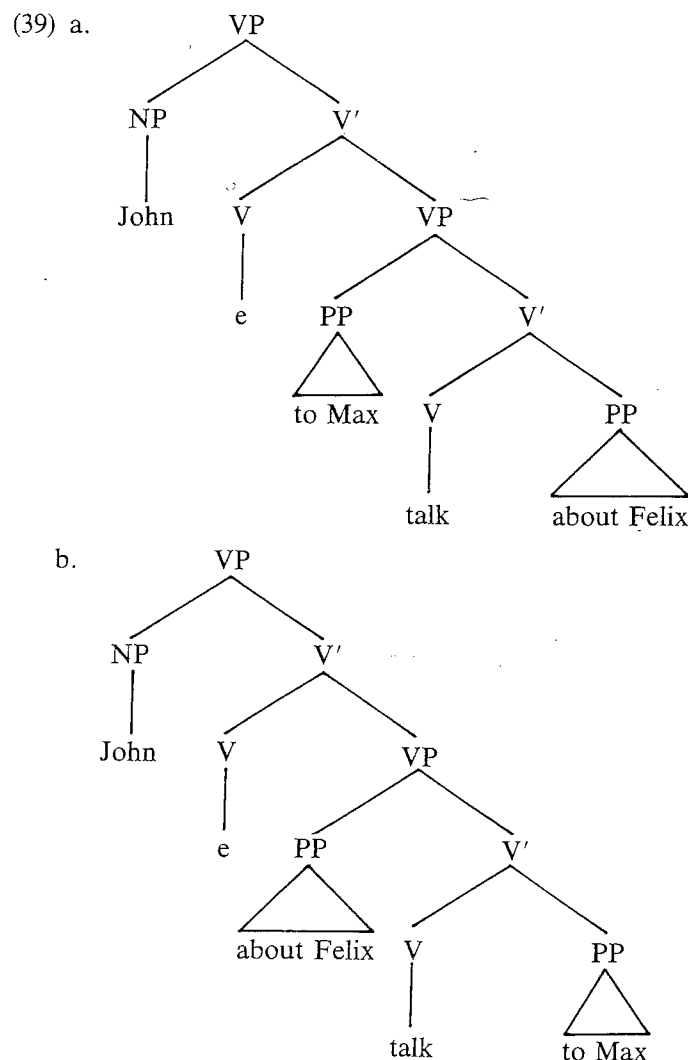
Locative and dative *blame* illustrate the case where alternative projection arises from different underlying thematic relations. However, alternative projection might also occur with *no* difference in underlying thematic relations. This is possible if the thematic hierarchy is not totally ordered, so that distinct roles  $\theta_1$  and  $\theta_2$  are unordered with respect to each other. In this circumstance the principle in (11) would be vacuously satisfied both when the argument bearing the first is projected in a superior position to the argument bearing the second, and in the converse case.

This is a possible alternative view of the double PP complements discussed above. Suppose that the roles borne by the two PPs are simply unordered with respect to each other in the thematic hierarchy. Then both of the structures in (39a,b) (page 612) satisfy principle (11). Assuming that subsequent reanalysis of P and V allows the object of the higher PP to c-command out (as discussed in Chomsky (1981, 225–226)), we then account for Jackendoff's domain judgments regarding double PPs—namely, that relations available with *to-about* are available with the converse ordering. Note that such cases would present the strongest *superficial* evidence for linear ordering, since the complements would appear to be distinguished only by linear order but nonetheless show domain asymmetry. We see again, however, that with rightward downward branching such evi-

<sup>13</sup> Note further that the constraint in relative quantifier scope observed with double objects and *spray-load* verbs does not arise in the dative/locative *blame* alternation. In my judgment both forms are equally ambiguous with quantified objects:

- (i) a. John blamed some mistake on every subordinate.  
 b. John blamed some subordinate for every mistake.

The contrast in scope ambiguities between this alternation and those analyzed as involving NP-Movement supports the general view that the alternations should be analyzed differently.



dence is merely apparent and that a purely structural analysis of the asymmetry remains available.

Jackendoff suggests that “free” projection of complements as in (39a,b) would represent a “lexical” analysis of the double PP alternation. On the view sketched above, however, this claim is false. Nothing particular to the verb in question would be involved in accounting for these facts. Rather, free projection would result from a universal property of the thematic hierarchy—namely, from the fact that certain roles are left unordered with respect to it.

In summary, then, this discussion confirms the judgment made in section 1.1 regarding Jackendoff’s double complement paradigms and their consequences for domain

asymmetry. We see that the alternations Jackendoff cites can be brought within the analysis of Larson (1988) and that under that analysis, domain asymmetries can be accounted for in purely structural terms—without appeal to the linear order of complements.

#### 4. Constraints on Dative Shift

Jackendoff discusses the analysis of Dative Shift in Larson (1988), faulting its account of why verbs like *donate* fail to undergo Dative Shift and noting apparent problems raised by *for*-dative and motional *to*-dative constructions. In fact, Jackendoff’s criticism of the former appears to be based on a mistaken view of his own counterevidence. Furthermore, *for*-datives and motional *to*-datives turn out to be easily incorporated into Larson (1988) under a proposal that Jackendoff himself suggests.

##### 4.1. Beneficiaries and Affectedness

Larson (1988) proposes that the oblique–double object alternation is constrained by two basic conditions:

- (a) The object of the oblique must be an argument of V—that is, it must be specified in V’s thematic grid.
- (b) The set of  $\theta$ -roles assigned by V must subsume the set assigned by the P in the oblique phrase.

Under these two conditions, the oblique preposition reduces to Case Marking and can be “absorbed” under the equivalent of Passive; this then triggers NP-Movement. Larson (1988) suggests that the verb *donate* fails as a double object verb by failing to meet the second requirement; the proposal is that although *donate* selects a third object, it assigns the latter the role of beneficiary, and not the role assigned by *to*, which is goal. Accordingly, any attempt to absorb or suppress *to* would violate the equivalent of recoverability of deletion.<sup>14</sup>

<sup>14</sup> Jackendoff finds the invocation of recoverability “curious” (p. 446), observing that recipients are notionally predictable with *donate* and that *donate* permits only the preposition *to* to mark this recipient. His view is thus that since the preposition and its role are as predictable with *donate* as they are with *give*, they should be equally recoverable. A similar concern is voiced in Pinker (1989). The response to this is that recoverability and predictability are simply not equivalent. Recoverability is a grammatical notion requiring a subset relation between sets of assigned roles. Predictability is an independent pragmatic or semantic notion. It seems to me that it is proper to distinguish such notions, and that their independence is familiar from other contexts. It is predictable on semantic grounds that arrivals involve arriving somewhere. It is also predictable that when *arrive* occurs with a locative PP specifying terminus of motion, the preposition will be *at*—no other P is allowed (compare *arrive at*, \**arrive to*, \**arrive on*, and so on). However, from this nothing follows regarding the roles *arrive* assigns. In particular, it does not follow that *arrive* assigns a locative role to the P-object in cases like *John arrived at the party*. Accordingly, it does not follow that *at* could be suppressed under the notion of recoverability discussed above. Thus, although Jackendoff’s point about the general predictability of *to* with *donate* may be correct, it does not jeopardize the proposal in Larson (1988). Recoverability and predictability are simply not equivalent under that account.

Jackendoff disputes the claim that *donate* marks a beneficiary but not a goal. He cites pseudocleft paradigms like (40a,b) (= his (62a,b)) as a test for beneficiary status and concludes from them that *it* is not a beneficiary with *donate*:

- (40) a. What Bill did for Harry was give *him* a book.  
b. ??What Bill did for the library was donate a book to *it*.

In fact, I think Jackendoff is mistaken about what the contrasts in (40) reveal. I suggest that acceptability in such paradigms is not a matter of what *role* the indicated pronominal element bears (beneficiary, goal, and so on) but rather its *position*. More precisely, I suggest that acceptability in such pseudocleft frames requires the pronominal element to be understood as “affected” (in the sense of Tenny (1987)), and that to obtain an affected reading an element must occur (at D- or S-Structure) in direct object position—the position of arguments governed by V when the latter is governed by I.<sup>15</sup>

This counterproposal predicts all the data Jackendoff cites. In (40a) *him* occurs as a direct object, whereas in (40b) *it* is object of P. Thus, under the alternative proposal, we expect the first to be good as compared with the second. This view also explains the otherwise curious reversal of judgments that Jackendoff notes when (40a) occurs in its oblique form:

- (41) ??What Bill did for Harry was give a book to *him*.

To account for this fact, Jackendoff is forced to split roles into “affected” and “unaffected” beneficiaries. But notice that similar results obtain in dative and *spray-load* alternations where the PP in the pseudocleft is headed by *to* instead of *for* (42):<sup>16</sup>

- (42) a. i. What Bill did to the book was send *it* to me.  
ii. ??What Bill did to the book was send me *it*.  
b. i. What Bill did to the hay was load *it* on the truck.  
ii. ??What Bill did to the hay was load the truck with *it*.  
c. i. ??What Bill did to the truck was load the hay on *it*.  
ii. What Bill did to the truck was load *it* with the hay.

<sup>15</sup> Here again I basically follow Tenny (1987). Note that under this view it is not necessary for an affected NP to occupy the direct object position at S-Structure; the latter may instead bind a trace there. This will accommodate familiar examples like (ia), under the analysis in (ib):

- (i) a. The garden swarmed with bees.  
b. [<sub>NP</sub> The garden] swarmed *t<sub>i</sub>* with bees.

Note that the claim here is not that an argument is affected if it is a direct object; the falsity of this is easily seen in cases like ??*What I did to John was hear him*. Rather, an argument is affected only if it is a direct object.

<sup>16</sup> It has been widely noted that double object structures do not freely tolerate outer pronominal objects; hence, the assessment of (42ai) versus (42aii) must control for this factor. We can do so by observing the relative acceptability of (i) versus (42aii):

- (i) John will send me *it*.

In general, the “outer pronoun effect” is ameliorated if the inner object is a pronoun as well. We see then that the anomaly of (42aii) does genuinely seem to issue from the pseudocleft structure.

Here the constructions involve goals, themes, and locations; hence, to maintain Jackendoff’s view we would have to split these roles into “affected” and “nonaffected” subroles. This misses the fact that in each well-formed example the pronoun occurs in direct object position. These results thus suggest that Jackendoff’s argument is based on a false assumption and that his pseudocleft paradigms test not for the beneficiary role but simply for affectedness. Contrasts like the one in (40) are thus not counterevidence to the claim that *donate* assigns a beneficiary role, and they do not refute the proposed analysis.

#### 4.2. For-Datives and Motional To-Datives

Jackendoff discusses the *for*-dative alternation and observes two apparent problems that the construction raises for the account in Larson (1988). First, benefactive *for*-phrases behave as adjuncts by various tests, that is, as unselected elements. But verbal selection is required on the analysis in Larson (1988). Second, only a semantically restricted class of oblique *for*-dative constructions can have corresponding double object forms. Roughly put, the verbs in question must denote events of preparation or creation, and the created or prepared objects must be intended for the benefit of the beneficiary. This lexical conditioning appears problematic for Larson (1988), which attempts to account for the alternation purely on the basis of the respective roles assigned by V and P.

Similar results apply with a class of verbs expressing causation of motion, among which Jackendoff lists *hit*, *throw*, *kick*, *shin*, and *send*. These predicates allow the dative alternation but do not intuitively require a recipient. Moreover, the verbs of this class allowing a double object form are semantically restricted: intuitively, the agent must set the theme in motion along a trajectory. Here again there is evidence of lexical conditioning.

Jackendoff considers how benefactive double object constructions might be analyzed under alternative approaches. He mentions approvingly the following proposal (citing Oehrle (1976), Grimshaw (1989), and Pinker (1989)): “a lexical rule optionally adds a beneficiary argument to transitive verbs of creation and preparation, so the indirect object comes to be θ-marked by the verb” (p. 448). Presumably Jackendoff would advocate a similar solution for the class of motional *to*-datives.

**4.2.1. Argument Augmentation.** The observations that Jackendoff makes about the semantic conditioning of *for*-datives and motional *to*-datives are convincing, and the questions they raise for the account in Larson (1988) are important ones. I would like to suggest, however, that these questions can be answered straightforwardly within Larson (1988) if we adopt the kind of solution Jackendoff recommends, but simply “uncouple” it from the dative alternation.

Suppose we assume, following Jackendoff and the authors he cites, that there are two lexical rules in English that augment the argument structure of transitive verbs. We may state them as in (43) and (44) for concreteness:

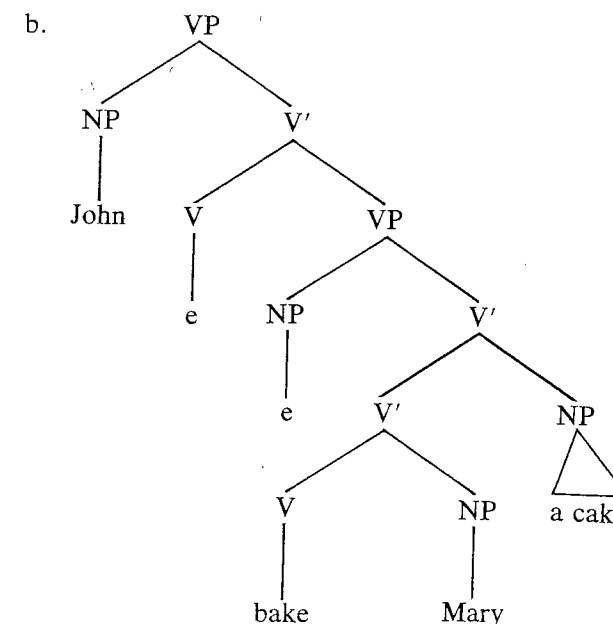
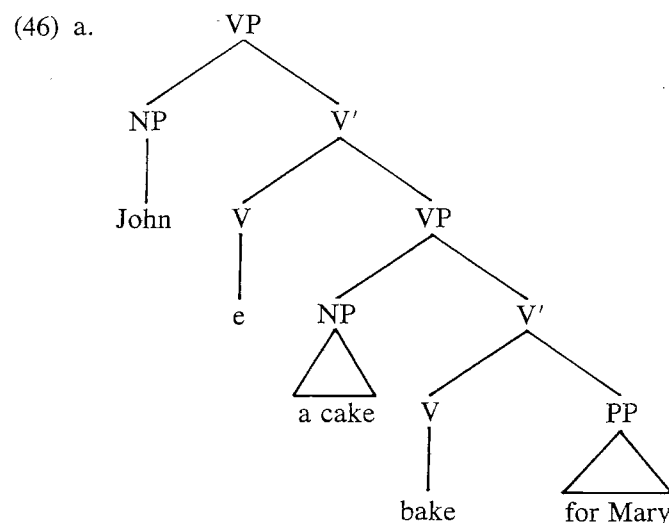


- (43) *Benefactive Augmentation (Optional)*: Add  $\theta_{\text{BENEF}}$  to the  $\theta$ -grid of  $\alpha$ .  
 Condition:  $\alpha$  denotes an event of creation or preparation.  
 Result: The theme is for the benefit of the beneficiary.
- (44) *Goal Augmentation (Optional)*: Add  $\theta_{\text{GOAL}}$  to the  $\theta$ -grid of  $\alpha$ .  
 Condition:  $\alpha$  denotes an event of motion in which the agent imparts a trajectory to the theme.

These rules apply to predicates that meet their conditioning clause. Thus, Benefactive Augmentation can apply to transitive *bake* (45a) to yield ditransitive *bake* (45b). And Goal Augmentation can apply to transitive *hit* (45c) to yield ditransitive *hit* (45d). Suppose also that *for* has the simple thematic grid in (45e):

- (45) a. *bake*:  $\{\theta_{\text{AGENT}}, \theta_{\text{THEME}}\}$   
 b. *bake*:  $\{\theta_{\text{AGENT}}, \theta_{\text{THEME}}, \theta_{\text{BENEF}}\}$   
 c. *hit*:  $\{\theta_{\text{AGENT}}, \theta_{\text{THEME}}\}$   
 d. *hit*:  $\{\theta_{\text{AGENT}}, \theta_{\text{THEME}}, \theta_{\text{GOAL}}\}$   
 e. *for*:  $\{\theta_{\text{BENEF}}\}$

We can now project the derived ditransitives similarly to the way *give* is projected in Larson (1988). Thus, ditransitive *bake* can be projected into the oblique structure (46a), with *for* Case-marking the benefactive argument and redundantly assigning it the benefactive role. This yields the oblique form *John baked a cake for Mary*. Alternatively, given its thematic redundancy, *for* can be “absorbed” as Case marking and the theme argument projected into an adjoined position (46b). After NP-Movement this yields the double object form *John baked Mary a cake*:



Analogously for derived ditransitive motion verbs such as *hit*, *throw*, and *send*.

This analysis directly answers the questions raised by Jackendoff. Thus, we see that although benefactive *for*-phrases are indeed generally adjuncts, with certain verbs they are able to become arguments—namely, with those undergoing Benefactive Augmentation. Since the latter is an optional rule, these verbs are also able to appear without a benefactive phrase, or to appear with a benefactive functioning as a pure adjunct. Similarly for directional *to*-phrases when they occur with motion verbs.

Furthermore, we capture the lexical conditioning observed in these constructions, and we explain why it presents itself superficially as a constraint on double object formation. Since the class of verbs undergoing Benefactive or Goal Augmentation is semantically constrained, and since only augmented verbs can undergo Dative Shift, the *appearance* is one of semantic constraints on the double object alternation. This is an illusion, however. On the proposed view, lexical conditioning is equally present in oblique dative/benefactive examples like *John baked a cake for Mary* and *John hit the ball to Mary* when the verb has been augmented. We simply aren't able to “see” the conditioning directly in such examples given their homophony with sentences involving a transitive verb + adjunct, unlike what we find in the double object case.

This proposal comports naturally with an attractive and highly restrictive view of the interaction between syntax and semantics—namely, that semantic information enters only into the projection of initial structures, and there only in the form of thematic roles. On this proposal, more complex semantic properties and more specific lexical information affect structure projection only insofar as they affect the number of roles a pred-

icate bears, and/or their identity. The analysis suggested above is faithful to this view: the fact that certain verbs denote events of creation, or denote events in which an object follows a ballistic trajectory, does not enter into the projection of oblique versus double object structures directly. Rather, these facts are relevant to argument augmentation, which adds roles of specific kinds. Structure projection then occurs according to the universal principles in (9)–(11). These lexical properties also do not constrain the operation of NP-Movement. Grammatical rules like Passive, Dative Shift, and the like (that is, Affect  $\alpha$ ) are left free of semantic constraints, up to completely general principles like recoverability.

4.2.2. *Donate Again*. This view of *for*-datives and motional *to*-datives suggests an approach to the failure of *donate* to dative shift different from that taken in Larson (1988). Instead of analyzing *donate* as a three-argument verb that violates prepositional recoverability with Dative Shift, we might instead take it as a two-argument verb that fails to undergo Goal Augmentation. Dative Shift would then be blocked by the nonargument status of goal NPs with *donate*.

Such a proposal has in fact been advanced by Randall (1987), and (in a somewhat different form) by Grimshaw (1989), and gains plausibility from the fact that unlike *give*, but like other verbs expressing (very roughly) events of dispersal, *donate* allows the dative to be optional without being implicitly presupposed:

- (47) a. John gave that money \*(to Mary).  
 b. John  $\left\{ \begin{array}{l} \text{donated} \\ \text{gave away} \\ \text{distributed} \\ \text{dispersed} \end{array} \right\}$  that money (to charities).

Since only arguments can undergo Dative Shift, the failure of *donate* (*give away*, *distribute*, *disperse*, and the like) to shift would then be straightforward.

This proposal has been challenged by Gropen et al. (1989) on the grounds that verbs that take an optional *to*- or *for*-phrase nonetheless can undergo the alternation. The challenge is not a decisive one, however. As we see, argument versus adjunct status cannot be judged simply by whether the goal and benefactive phrases are optional versus obligatory. Rather, the crucial issue is whether the predicates in question can undergo argument augmentation, which in turn depends on the conditions for application of the latter and the precise semantics of the former.<sup>17</sup>

<sup>17</sup> Assuming that *donate* fails to dative shift by virtue of failing to undergo Goal Augmentation, the natural question arises as to why *donate* falls outside the scope of this rule. I suggest the reason relates to an important constraint on recipients of *donate* versus *give*, namely, that recipients of *donate* must be organizations or groups and not persons. This proposal seems to be compromised by examples like (i):

(i) Felix just donated two million dollars to Jesse Jackson.

In fact, however, it seems that in cases like (i) we understand the person designated in the goal phrase (*Jesse Jackson*) qua representative of an organization (the Jackson political campaign).

#### 4.3. Recoverability Again

The general argument augmentation analysis suggested for *for*-datives and motional *to*-datives can, I believe, be extended to cover *spray-load* alternations as well. Thus, just as transitive *feed* undergoes Goal Augmentation yielding a three-argument dative that projects with an oblique (48a) or shows NP-Movement (48b), so *feed* might undergo an augmentation rule yielding a three-argument locative that projects with an oblique (48c) or shows NP-Movement (48d):

- (48) a. John fed data to the machine.  
 b. John fed the machine data.  
 c. John fed data into the machine.  
 d. John fed the machine with data.

Nonetheless, *spray-load* forms exhibit an interesting additional complexity.

*Spray-load* verbs differ from simple datives in two important (and, I believe, related) ways. As observed earlier, *spray-load* verbs show a *with* or *of* PP in their derived forms. They also differ significantly in the range of prepositions appearing in the oblique form. Oblique datives permit *to* but do not allow directional Ps with an explicit locative component (*in*, *on*, and so forth) (49). By contrast, oblique *spray-load* verbs require directional Ps with additional locative material and do not permit a bare *to* (50)–(51):

- (49) John gave the book  $\left\{ \begin{array}{l} \text{to} \\ * \text{onto} \\ * \text{into} \\ * \text{upon} \end{array} \right\}$  Bill.

This restriction on the goal argument of *donate* is codified to some extent in legal definition and practice. *Corpus Juris Secundum* distinguishes gifts and donations as follows: "The term 'donation' . . . is often used as equivalent in meaning to gift; but a donation, it has been held, need not have all of the essentials of a gift. . . . The term 'donation' is more aptly used to describe that which is given to a public cause or charity than to indicate a bounty to an individual" (Kiser (1943, vol. 38, 783–784)). This distinction between charitable contributions—that is, donations—and gifts is also embodied in federal tax law: "The contributions or gifts of any taxpayer must be made to *charitable organizations* [author's emphasis] in order to be deductible as charitable contributions. Except where a donation is made to an individual as an agent for charitable organizations, no deduction may be taken for amounts donated to individuals" (Res. Inst. Amer. (1978, vol. 15, 32,086)). Similarly: "Donations are deductible only if made to the organizations described in the statute as eligible for deductibility. . . . If the donor overly limits the class of beneficiaries for whom the charity may use his gift, it will be construed as a gift (or compensation or other payment) directly to those beneficiaries, not to the charitable organization . . ." (McNulty (1978, 187)).

This discussion appears largely commensurate with the suggestion in Larson (1988) that predicates like *donate*, *distribute*, *disperse*, *give away*, *give out* fail to undergo Dative Shift in virtue of being "verbs of dispersion," wherein the goal of the event is not a "point target" (an individual), but rather a "region" (a group). In present terms, the proposal would be that Goal Augmentation requires the third argument to be at least a potential individual recipient, but the inherent semantics of *donate*, *distribute*, *disperse*, *give away*, *give out* forbids this.

For recent discussion of the double object alternation adopting a different view of *donate* than that proposed here, see Hegarty (1989).

(50) John loaded the hay  $\left\{ \begin{array}{l} *to \\ in(to) \\ on(to) \\ upon \end{array} \right\}$  the truck.

(51) John cleared the dishes  $\left\{ \begin{array}{l} from \\ off of \end{array} \right\}$  the table.

One way of summarizing this situation intuitively is as follows: *spray-load* alternations are analogous to dative alternations, except that they show an additional prepositional component "at both ends." In their oblique forms, *spray-load* verbs show the directional component of datives, plus additional locative material. In their derived forms, *spray-load* verbs show additional prepositional material in the form of *with* or *of*.

I would like to suggest tentatively that the *with* and *of* found in the derived form of *spray-load* paradigms are actually (very general) locative prepositions in this usage and that they are in fact the counterparts of the locative component found in the oblique form of the *spray-load* paradigm. That is, intuitively, I suggest that *spray-load* alternations are in fact basically dative alternations, with a locative element "added on as a constant." This locative element is present in the oblique form as *on*, *in*, *off* ("not on"), and so forth, and present in the derived form as *with* or *of*. In terms of the proposals in Larson (1988), a simple way to view this is via recoverability: suppose that *spray-load* verbs are basically datives and that although they select a directional-locative as a third argument, their thematic grid subsumes only the goal role. Then "absorption" of *onto*, *into*, *off of*, and the like, would involve unrecoverable loss of the locative component. As a result, a locative must be present in the derived form as well.<sup>18</sup>

The particular choice between *with* and *of* appears to me to follow naturally under proposals by Hale (1985), who suggests that all locative notions rest upon a basic distinction between what he terms *central* and *noncentral coincidence*. Roughly, the former relation holds when the center of one object coincides (up to pragmatic limitations) with the center of another; and the latter relation holds when one object stands to another as its terminus (either initial or final) (see Hale (1985) for details). Hale suggests *of* as a preposition expressing noncentral coincidence, and I would like to propose *with* as its "central" counterpart. Thus, with *spray-load* verbs denoting processes that result in their object participants coming to spatially overlap (such as *spray* and *load*), the relevant locative preposition is *with*, expressing central coincidence. And with *spray-load* verbs denoting processes whose result is that their objects come to not-coincide (such as *empty*, *clear*, and *drain*), the relevant locative preposition is *of*, expressing noncentral coincidence. These remarks are sketchy, of course, but they do suggest an intuitively plausible

<sup>18</sup> Jackendoff (1983) notes that morphologically complex directionals like *into* and *onto* should be analyzed semantically as "to a point in" and "to a point on" (respectively), where the preposition that appears outermost corresponds to the inner complement. Given the discussion of *with* as the core locative, it is interesting to note the presence of forms like *within*, where once again what is morphologically outermost would correspond to an inner complement.

way of bringing the locative alternation within a derivational analysis involving NP-Movement, and a way of approaching the particular preposition choice involved.

## 5. Residual Issues

### 5.1. Modifiers

Jackendoff criticizes Larson (1988) for "neutraliz[ing] the structural distinction between arguments and modifiers" (p. 452). In support of this distinction, Jackendoff lists a number of analogous sentence pairs involving modifiers and arguments, in which the two diverge in grammatical behavior. But Jackendoff does not indicate how (or why) these differences could *only* follow from a structural distinction between arguments and modifiers in which the former is a complement and the latter is adjoined.<sup>19</sup>

It is dubious that a general argument of this kind could be given. On a theory in which modifiers and arguments project differently, such projection is presumably based on prior thematic differences—for example, on the fact that modifiers are not  $\theta$ -selected whereas arguments are. Conceptually, this allows the possibility of explaining the relevant facts directly in terms of the thematic property (here  $\theta$ -selection), without appeal to structure. Such a line has indeed been widely pursued. Huang (1982) argues for a Condition on Extraction Domains (CED) in which differences in extraction behavior from arguments versus adjuncts follow from the fact that the former are selected whereas the latter are not. Similarly, Chomsky (1986a) proposes a definition of barriers for movement in terms of the notion of L-marking, which in turn crucially involves the notion of  $\theta$ -government. The latter bounds movement out of adjuncts, not by the fact that they occur in adjoined position, but by the fact that they are not  $\theta$ -governed and hence not L-marked. The projection of modifiers into "complement position" (so-called) thus does not relinquish our grasp upon modifier-argument asymmetries a priori.<sup>20</sup>

There is some empirical evidence supporting the account of modifiers in Larson (1988)—in particular, for the idea that modifiers can be structurally subordinate to direct objects. One argument comes from examples like (1a) (repeated below as (52)). Negative polarity items typically require S-Structure c-command by their triggers. The fact that an affective object (*few friends*) can license a temporal negative polarity item (*any day this week*) thus implies that the former c-commands the latter:

(52) John visited few friends any day this week.

<sup>19</sup> This omission is nontrivial since examples similar to the ones Jackendoff cites show different grammaticality results. (For example, compare *It was the park that John wrote a letter to Mary in* with *It was the mailbox that John put a letter to Mary in*.)

<sup>20</sup> Jackendoff's facts about *each other* can be analyzed directly in these terms. Suppose that extraction is governed by the CED, as in Huang (1982); suppose further that the interpretation of *each other* involves movement of *each* to the local domain of its antecedent at LF (as argued by Lebeaux (1983), Chomsky (1986b), Heim, Lasnik, and May (1989)). Then we predict the unacceptability of Jackendoff's (72b) versus the acceptability of (72a). The former will involve LF extraction out of an unselected complement, contra the CED, whereas the latter will not.

A second argument is due to Contreras (1984), who notes obviation effects between the indicated NPs in examples like (53a–d):

- (53) a. \*John filed *them* [without reading *Mary's articles*].  
 b. ??Felix dismissed *her* [before consulting *Jane's mother*].  
 c. \*Criticize *her* [because *Eunice* arrived late]!  
 d. \*Max burned *it* [although Bill had given him *the present*].

As Contreras observes, obviation here is plausibly analyzed as a Principle C effect; however, such an account requires us to view the adjunct clause as within the c-command domain of the direct object.<sup>21</sup>

A final argument involves sloppy identity. Reinhart (1983) has argued that a sloppy reading is available in examples like (54a,b) but not in (54c) because the antecedent c-commands the pronoun in the first conjunct of (54a,b) but not in the first conjunct of (54c). The generalization is that sloppy identity requires c-command in the antecedent-pronoun relation.

<sup>21</sup> This argument is not entirely straightforward, encountering two important classes of counterevidence. First, Solan (1983) notes that the obviation effect in question appears to be substantially weaker with adverbial clauses than with complement clauses ((ia,b) record my judgments; Solan (1983, 94) actually finds (ia) fully acceptable):

- (i) a. ?They booed *him* before *the candidate* finished his speech.  
 b. \*They told *him* that *the candidate* would not finish the speech.

Second, and relatedly, Hornstein and Weinberg (1989) observe that Principle C effects manifested by bound epithets in complement clauses are entirely absent with bound epithets in modifying clauses:

- (ii) a. \*Every man<sub>i</sub> thinks [<sub>CP</sub> that Mary likes the idiot<sub>i</sub>].  
 b. Every contestant<sub>i</sub> was given a prize [<sub>PP</sub> before the idiot<sub>i</sub> could protest].

Although I have no secure explanation to offer for these facts, the contrasts in question may be explainable by reference to the level at which obviation must occur. As discussed in Larson (1987), a variety of clausal PP adverbials (including temporal *before*- and *after*-clauses) license Antecedent-Contained Deletion and show de dicto/de re ambiguities:

- (iii) a. I talked to everyone [<sub>PP</sub> before Bill did [<sub>VP</sub> e]].  
 b. John thinks Mary arrived [<sub>PP</sub> before she did arrive].

These facts suggest that such adverbials are quantificational, undergoing scope assignment at LF:

- (iv) a. [<sub>NP</sub> everyone]<sub>i</sub> [<sub>PP</sub> before Bill did [<sub>VP</sub> e]]<sub>i</sub> [<sub>IP</sub> I talked to <sub>t<sub>i</sub></sub> <sub>t<sub>j</sub></sub>]  
 b. [<sub>PP</sub> before she did arrive]<sub>i</sub> [<sub>IP</sub> John thinks Mary arrived <sub>t<sub>i</sub></sub>]

Suppose then that binding of epithets does not take place until LF, when scope assignment occurs. Then (iia) will involve a Principle C violation; because the clausal complement is not scopal, *the idiot<sub>i</sub>* will end up bound by <sub>t<sub>i</sub></sub>:

- (v) [<sub>NP</sub> every man]<sub>i</sub> [<sub>IP</sub> <sub>t<sub>i</sub></sub> thinks [<sub>PP</sub> that Mary likes the idiot<sub>i</sub>]]

On the other hand, scopal movement of the *before*-clause in (iib) will bring the epithet outside the domain of <sub>t<sub>i</sub></sub> at LF (under a first branching node definition of c-command) and remove the potential Principle C violation:

- (vi) [<sub>NP</sub> every contestant]<sub>i</sub> [<sub>PP</sub> before the idiot<sub>i</sub> could protest]<sub>j</sub> [<sub>IP</sub> <sub>t<sub>i</sub></sub> was given a prize <sub>t<sub>j</sub></sub>]

The distinction between Solan's and Contreras's examples might be explained in a similar way. If the former involve quantificational adverbials (*before* and *after*) whereas the latter (*without*) do not, the Principle C violation could be rescued in the former, as opposed to the latter, by the intervention of QR, which breaks up the illicit c-command relation. See Belletti and Rizzi (1988) for recent arguments that principles of the binding theory must be allowed to apply at different levels.

- (54) a. Zelda brought *Siegfried* a picture of *his* wedding day, and Felix too.  
 b. *Rosa* wore a pink dress to *her* bridal party, but not Zelda.  
 c. Felix persuaded [a friend of *Rosa*] to visit *her*, but not Zelda.  
 (≠ Felix persuaded a friend of Zelda to visit Zelda.)

Similar-looking contrasts in sloppy versus strict readings arise in examples like (55a–c), which involve Gapping rather than VP-Ellipsis:

- (55) a. I interviewed *Max* after Mary brought *him*, and you Felix.  
 ("I interviewed Max after Mary brought Max, and you interviewed Felix after Mary brought Max" (STRICT) or "I interviewed Max after Mary brought Max, and you interviewed Felix after Mary brought Felix" (SLOPPY))  
 b. I always visit *Max* without calling *him* first, and you Felix.  
 ("I always visit Max without calling Max first, and you always visit Felix without calling Max first" (STRICT) or "I always visit Max without calling Max first, and you always visit Felix without calling Felix first" (SLOPPY))  
 c. I interviewed [a friend of *Max*] after Mary brought *him*, and you Felix.  
 (≠ "I interviewed [a friend of Max] after Mary brought Max, and you interviewed Felix after Mary brought Felix" (SLOPPY))

If objects c-command adjuncts, the account of VP-Ellipsis and Gapping contrasts can be assimilated. We can say that a sloppy reading is available in (55a,b) but not in (55c) because only in the former pair does a c-command relation hold between the antecedent and the pronoun in the initial conjuncts.

The analysis of adjuncts in Larson (1988) also receives some conceptual motivation from work by Parsons (1985; forthcoming) and Davidson (1967). Parsons argues that verbs should be analyzed semantically as unary predicates of events, with thematic roles interpreted as relations that connect events to their participants, their time and place of occurrence, their manner of execution, and so on. On this analysis, (56a) has the logical form in (56b), according to which the sentence is true iff there is some event of giving *e*, of which John is the agent, of which Fido is the theme, of which Mary is the goal, which was on Boston Common, and which was at 3:00 p.m.:

- (56) a. John gave Fido to Mary on Boston Common at 3:00 p.m.  
 b.  $\exists e[\text{giving}(e) \ \& \ \text{AGENT}(e,j) \ \& \ \text{THEME}(e,f) \ \& \ \text{GOAL}(e,m) \ \& \ \text{ON}(e,BC) \ \& \ \text{AT}(e,3pm)]$

Observe that argument and adjunct phrases are not distinguished semantically here; indeed, the only "true argument" of V is the event argument *e*, all other participants being linked to *e* by binary thematic relations.

The event analysis suggests a natural rationale for the view of complement structure in Larson (1988): arguments and adjuncts are projected analogously in syntax because



Such a Verb-Second derivation is directly analogous to what is urged for the parallel English cases in Larson (1988).<sup>26</sup>

Second, Jackendoff's claim to the contrary, there is in fact additional evidence for the constituency of phrases like *a letter to Mary*, *the cat in the closet*, *Alice intelligent* in examples like (58a–c). Early in the history of discussions of Right Node Raising (RNR), it was observed that although RNR is in general a strong test for constituency, there is a class of cases for which it seems to fail. Thus, Grosu (1976) and Abbott (1976) cite (60a–c) and (61a–e) (respectively) as exhibiting right node raised elements that are not phrases (examples from Erteschik-Shir (1987)):

- (60) a. John has sliced, and Mary also seems to have sliced, [a large piece of cake with a shining new knife].  
 b. Bill may present, and Mary certainly will present, [a series of papers at tomorrow's linguistic meetings].  
 c. Mary may have conducted, and Bob certainly will conduct, [a large number of tests in the large oval laboratory].
- (61) a. Smith loaned, and his widow later donated, [a valuable collection of manuscripts to the library].  
 b. I borrowed, and my sisters stole, [large sums of money from the Chase Manhattan Bank].  
 c. Leslie played, and Mary sang, [some C&W songs at George's party].  
 d. Mary baked, and George frosted, [twenty cakes in less than an hour].

<sup>26</sup> Neijt (1979) herself rejects an across-the-board extraction analysis of the English cases on the basis of data involving English *both* and Dutch *én* 'both'. Neijt claims the acceptability contrast between the Dutch and English examples recorded in (i) and (ii). She argues that this contrast can be explained by appeal to the independent fact that *both* and *én* are licensed with phrasal conjunction, but not with S conjunction. If the Dutch cases involve VP conjunction plus across-the-board raising, then *én* will join phrases—VPs—as desired. On the other hand, if the English cases involve S conjunction and Gapping, then we predict that *both* will be unable to appear—a correct prediction, according to Neijt's judgments:

- (i) a. \*John gave both Mary an apple and Peter a pear.  
 b. Jan gaf *én* Marie een appel *én* Piet een peer.  
 (ii) a. \*John gave either an apple to Mary or a pear.  
 b. Jan gaf of een appel aan Marie of een peer aan Piet.

As a nonspeaker of Dutch, I am unable to evaluate the Dutch/English contrast fully. Nonetheless, I observe that if Neijt's argument is correct, we predict a strong contrast in acceptability between (ia)/(iia) and (iiaa,b), where overt VP conjunction is involved and the question of S conjunction does not arise. The latter pair should be much better:

- (iii) a. John both gave Mary an apple and gave Peter a pear.  
 b. John either gave an apple to Mary or a pear.

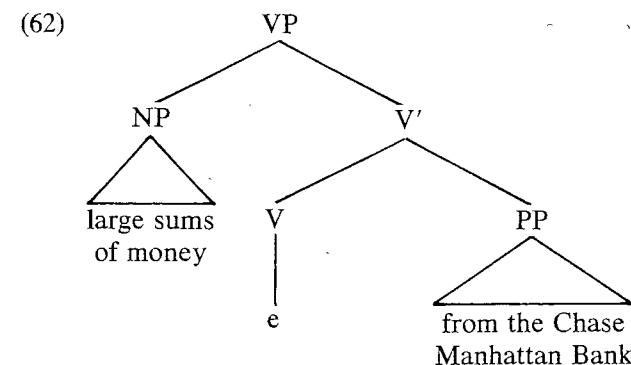
I myself find no such contrast. In my speech, (ia), (iia), and (iiaa,b) are equally acceptable. And in certain cases, such as (iva,b), I judge the nonconstituent coordination with *both* to be better than its counterpart with full VPs:

- (iv) a. John considers both Mary intelligent and Peter hardworking.  
 b. John both considers Mary intelligent and considers Peter hardworking.

Hence, Neijt's argument for a fundamental difference between English and Dutch appears unconvincing. The behavior of *both* does not seem to distinguish overt VP coordination and "nonconstituent coordination" in any significant way.

- e. John offered, and Mary actually gave, [a solid gold Cadillac to Billy Schwartz].

Under the analysis suggested here, the bracketed expressions are all constituents—indeed, they are all VPs. The right-peripheral expression in (61b), for example, has the structure in (62):



These data, which are problematic under other accounts and are not readily assimilated to Gapping, provide additional evidence for the V-Raising constituency.<sup>27,28</sup>

<sup>27</sup> A number of authors have argued plausibly that RNR involves a form of discontinuous constituency in which the "raised" expression is a simultaneous daughter of two mother nodes. Thus, McCawley (1982) analyzes RNR as involving trees with "crossing branches," and Erteschik-Shir (1987) develops a related view using the analysis of across-the-board extractions in Williams (1978) (see also Levine (1985) and McCloskey (1986)). These proposals, if correct, do not prejudice the point made here—namely, that the right-peripheral element is a constituent.

<sup>28</sup> In unpublished work, Bowers and Williams have suggested that examples like (i), showing both "non-constituent conjunction" and Light Predicate Raising, create problems for Larson (1988):

- (i) a. ?You left on the shelf all the shirts and in the suitcase all the socks.  
 b. I consider intelligent anyone who can add and ambitious anyone who can subtract.

I believe such data can be accommodated under the recent proposal by Pollock (1989) and Chomsky (1989) that English has verb movement to functional head positions. Suppose that (ia) involves an underlying structure like (ii), with a V' conjunction and a functional head position [<sub>α</sub> e] above VP:

- (ii) [<sub>α</sub> e [<sub>VP</sub> you [<sub>V'</sub> [<sub>V'</sub> e [<sub>VP</sub> all the shirts [<sub>V'</sub> leave on the shelf]]] and [<sub>V'</sub> e [<sub>VP</sub> all the socks [<sub>V'</sub> leave in the suitcase]]]]]

First the two instances of *leave* raise separately to the empty verb positions in the V' conjuncts, and then they extract across-the-board to [<sub>α</sub> e]:

- (iii) [<sub>α</sub> leave [<sub>VP</sub> you [<sub>V'</sub> [<sub>V'</sub> t [<sub>VP</sub> all the shirts [<sub>V'</sub> t on the shelf]]] and [<sub>V'</sub> t [<sub>VP</sub> all the socks [<sub>V'</sub> t in the suitcase]]]]]

Next there is V' Reanalysis in the separate conjuncts and raising around the object NPs:

- (iv) [<sub>α</sub> leave [<sub>VP</sub> you [<sub>V'</sub> [<sub>V'</sub> [<sub>V</sub> t on the shelf] [<sub>VP</sub> all the shirts t]]] and [<sub>V'</sub> [<sub>V</sub> t in the suitcase] [<sub>VP</sub> all the socks t]]]]]

Finally *you* raises around *leave* to subject position (not shown), deriving the surface order of (ib). Interesting technical questions arise in this analysis regarding the identity of <sub>α</sub> and its precise position. But such examples seem to pose no insuperable difficulty for LPR and the V-Raising account of nonconstituent conjunction taken together.



## 5.3. On Gapping

Structures of the kind in Larson (1988) suggest an interesting approach to many cases of ellipsis usually attributed to Gapping. Under standard views of constituency, Gapping examples like (63) involve removing a discontinuous sequence, consisting of the verb together with an oblique complement, a modifier, or a secondary predicate. The result is a stranded direct object:

- (63) a. John gave a record to Mary, and Bill a tape. (give to Mary)  
 b. Alec put a dollar in the machine and Max fifty cents. (put in the machine)  
 c. John worded the letter carefully, and Mary the memo. (word carefully)  
 d. Alice saw you in the park yesterday, and I Doris. (see in the park yesterday)  
 e. Max painted the barn red, and Bill the house. (paint red)  
 f. Eunice hammered the metal flat, and Gertrude the tin. (hammer flat)  
 g. Hector ate the beef raw, and Alonzo the fish. (eat raw)

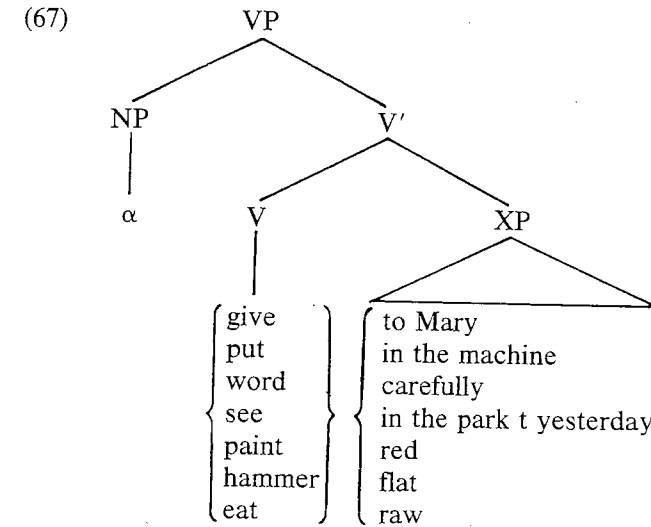
As noted by Hoeksema (1987), such examples contrast in acceptability with cases like (64), where Gapping attempts to take out the verb and direct object, stranding the oblique complement, modifier, or secondary predicate (in each case the initial NP in the second conjunct is to be understood as its subject):

- (64) a. \*John gave a record to Mary, and Bill to Alice.  
 b. \*Alec put a dollar in the machine and Max in the collection plate.  
 c. \*John worded the letter carefully, and Mary tactlessly.  
 d. \*Alice saw you in the park yesterday, and I in the museum.  
 e. \*Max painted the barn red, and Bill pink.  
 f. \*Eunice hammered the metal flat, and Gertrude smooth.  
 g. \*Hector are the beef raw, and Alonzo marinated.

Hoeksema observes a similar result with Pseudogapping, which replaces the verb by the auxiliary *do* in contexts involving (primarily) comparatives of equality and inequality (65). Once again, attempts to affect the verb and direct object yield less acceptable results (66):

- (65) a. Max painted more barns red than he did houses.  
 b. Eunice hammered as much zinc flat as she did tin.  
 c. Hector ate less beef raw than he did fish.  
 d. Felix painted the barn red the same way that he did the house.  
 (66) a. ??Max painted more barns red than he did pink.  
 b. ??Eunice hammered as much zinc flat as she did smooth.  
 c. ??Hector ate less beef raw than he did marinated.  
 d. \*Felix painted the barn red the same way that he did blue.

If branching VP structures of the kind suggested in Larson (1988) are correct, then we can provide a relatively tidy configurational account of all of these facts by saying that in the gapped and pseudogapped examples, it is precisely a (thematically mono-transitive) V' constituent that is elided or replaced with *do*.<sup>29</sup>



On more conventional views of phrase structure, no simple configurational account of these facts is forthcoming.

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<sup>29</sup> Hoeksema (1987) also uses these facts to argue for the general constituency in secondary predication adopted here. Note that this account suggests the intriguing possibility of unifying standard VP-Deletion and a large number of Gapping cases as alternative forms of V'-Ellipsis. The former would correspond to *Intransitive V'-Ellipsis*, where the largest V' not containing the subject is elided; the latter would correspond to *Transitive V'-Ellipsis*, where the largest V' not containing the direct object is elided.

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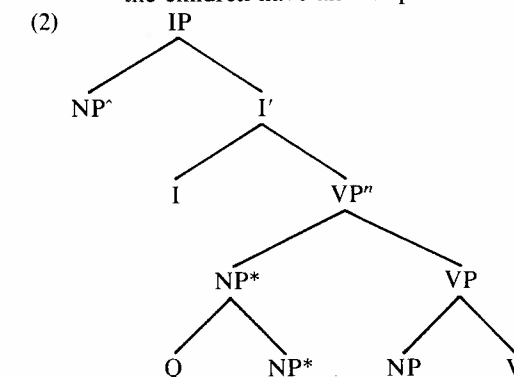
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## Squibs and Discussion

FLOATING QUANTIFIERS,  
SCRAMBLING, AND  
CONFIGURATIONALITY  
Giuliana Giusti,  
University of Venice

Sportiche (1988) proposes a theory of floating quantifiers for French that relies on two independently motivated assumptions: (a) modifiers (including quantifiers) are generated adjacent to the maximal projection they modify; and (b) the NP subject is generated adjoined to VP but must move to Spec IP in order to receive nominative Case. Therefore, (1a-b) both have the D-Structure representation in (2):

- (1) a. Tous les enfants ont dormi.  
all the children have slept  
b. Les enfants ont tous dormi.  
the children have all slept



In (1a) the entire NP\* is moved to NP<sup>^</sup>, where nominative Case is assigned in French. In (1b) only the internal NP\* is moved; *tous* remains in place. In this framework, it is possible to account for some well-known properties of floating quantifiers

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