

HOW SOME SO-CALLED "THEMATIC ROLES"  
THAT SELECT ANIMATE ARGUMENTS ARE GENERATED,  
AND HOW THESE ROLES INFORM CONTROL

by

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Submitted to the Department of  
Linguistics and Philosophy  
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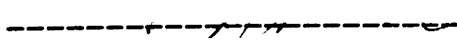
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ABSTRACT

This thesis presents a theory of how the shape of lexical syntax constrains the generation of those thematic relations that require animacy in the argument to which they are attributed. The thesis also shows how these relations, termed "logophoric roles," license logophoric dependencies.

First, I show that all logophoric roles are licensed by a single syntactic relation: Given any two coarguments X and Y, a logophoric role can be assigned to X only if X occupies the highest theta-position within some maximal projection, and there is no logophoric role assigned to Y. This finding lends support to a modified version of Hale and Keyser's hypothesis that all thematic relations ultimately reduce to configurations in lexical syntax.

Next, I show that the relations of reflexive-binding and control divide themselves into two classes of dependencies: local and logophoric.

Local reflexive binding holds whenever a binder and reflexive are coarguments of each other. Local control holds whenever a controller and the relevant infinitival clause are attached within the same maximal projection. I argue that control, properly understood, holds between the controller and the entire infinitival clause. Therefore, I conclude that a single notion of locality ultimately underlies both reflexive binding and control: A dependency of either kind is local only when it holds between two constituents attached within the same maximal projection.

A logophoric control or (reflexive) binding dependency is one whose acceptability requires the assignment of a logophoric role to its antecedent argument. Since all the dependencies at issue are either local or logophoric, the creation of non-local dependencies effectively "forces" the assignment of a

logophoric role. Hence the formulation of locality, with its implicit revision of standard notions of Condition A, accounts for the distribution of dependencies whose antecedents appear to require the assignment of a logophoric role.

Finally, I argue that so-called "backwards binding" dependencies are logophoric, not licensed by the satisfaction of locality (Condition A) at d-structure as other researchers have claimed. There are cases of backwards binding that cannot realistically be held to satisfy locality at d-structure or anywhere else. And moreover, in these cases and all others, the "backwards antecedent" (i.e. binder) displays the hallmark trait of a logophoric dependency, namely the appearance of requiring a logophoric role.

Thesis Supervisor: Noam Chomsky  
Title: Institute Professor

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Local and Logophoric Dependencies.

One of the fundamental claims of this thesis is that relations of control and reflexive binding divide themselves into two classes of dependencies: local and logophoric. Local dependencies, as their name suggests, are required to observe a form of syntactic locality. Such dependencies are licensed by purely structural factors, and therefore they impose no additional semantic requirements of any note. Examples of local reflexive-binding dependencies appear in (1) - (4). (1) and (4) are acceptable because their binder and reflexive are within the same "local domain," a notion that I will be concerned to define. (3) is unacceptable because its binder and reflexive are not within the same local domain.

- (1) The Sun destroyed itself.
- (3) \*The Sun caused the planets to destroy itself.
- (4) The Sun caused the planets to destroy themselves.

Logophoric dependencies, on the other hand, will transcend the local domain. The licensing of any logophoric dependency will require the assignment of a certain type of "thematic role" to the antecedent position. The defining property of this type of role, which I will call a "logophoric role" will be that it requires its referent to be animate (though, as will become apparent, in certain instances this animacy may be metaphoric). Examples of logophoric reflexive-binding dependencies appear in (5) - (8). Each of these dependencies oversteps the local domain adhered to in (1) - (4). (5) and (7) are acceptable because their binders are assigned the role of AGENT, a nearly a logophoric role since it requires its referent to be animate. (6) and (8), on the other hand, are unacceptable because their binders are inanimate and therefore cannot be assigned the role of AGENT. (But see Chapter 4, Section ? concerning the licensing of logophoric binding by assignment of a logophoric role to an inanimate argument via metaphor.)

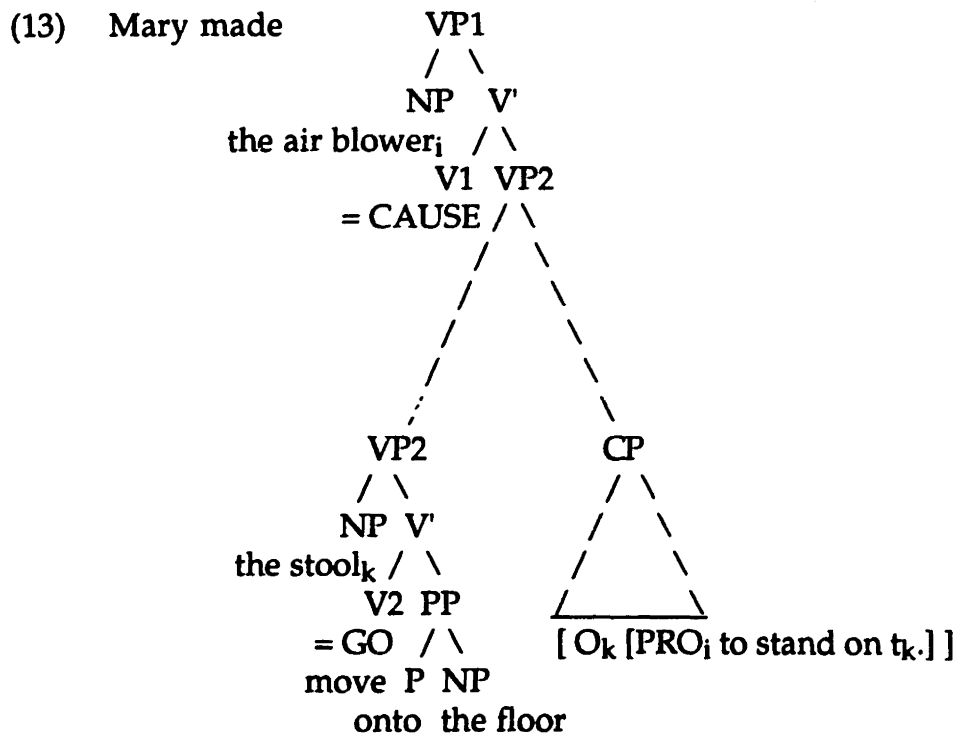
- (5) (Wishing to die), the women caused lightening to strike themselves.
- (6) \*Jupiter caused lightening to strike itself.
- (7) Mary and John pulled the rope toward themselves.
- (8) \*The planets pulled the spaceship toward themselves (by gravity).

The distinction between local and logophoric dependencies also shows up in the realm of control, and here, if anything, it is more pronounced here than it is in reflexive binding.

Examples of local control dependencies appear in (9) - (12). (9) - (10) are acceptable because their controller and controllee are within the same "local domain," a notion which is less familiar for control theory than it is for reflexive binding, and one to which I return directly. (12) is unacceptable because the controller "the air blower" and the controllee are not within the same local domain.

- (9) The wind<sub>i</sub> blew hail all morning, only PRO<sub>i</sub> to subside later in the day.
- (10) Mary left the shelf<sub>i</sub> in the yard [ O<sub>i</sub> [ for the wind to destroy t<sub>i</sub>.] ].
- (12) \*Mary made the air blower<sub>i</sub> move the stool<sub>k</sub> onto the floor [ [ O<sub>k</sub> PRO<sub>i</sub> to stand on t<sub>k</sub>.] ]  
(Note that on the intended reading the airblower, not Mary, would stand on the stool.)

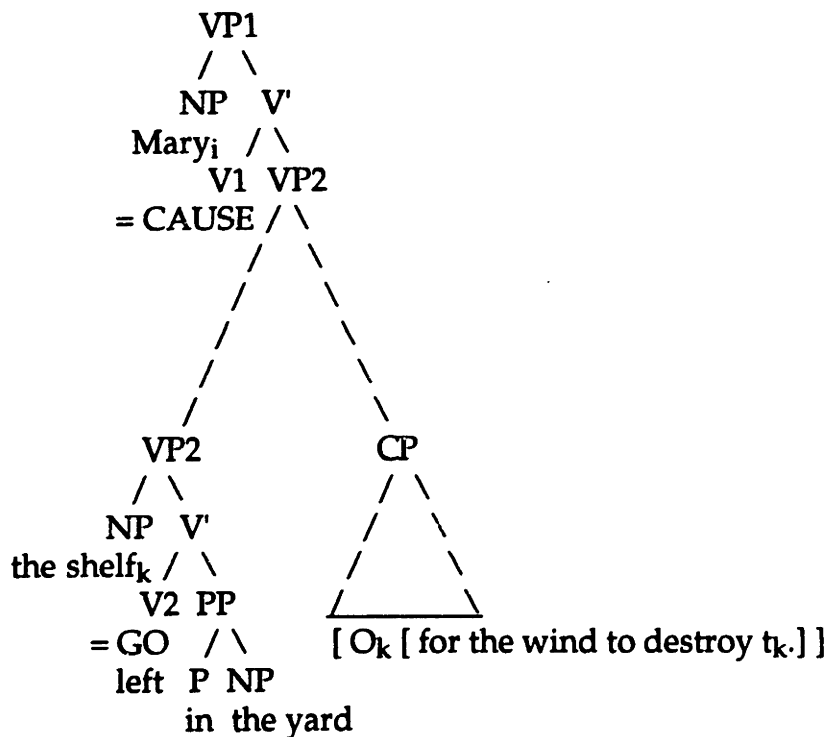
My notion of "local domain" for control theory assumes that branching is limited to binary (cf. Larson (1988); Kayne 1984). And, I argue based upon certain semantic entailments that the infinitival clause in a case like (12) is attached to the embedded VP. Consequently, (12) has a d-structure along the lines of (13) (irrelevant details aside).



Now, I argue that a controller and controllee are within the same local domain only if the controller and infinitival clause are within the same maximal projection.

So, for example, (12) (=13) is unacceptable because the controller "the air blower" is not within the same maximal projection as the infinitival clause "[ O [ PRO to stand on t. ] ]," and hence locality is violated. And, on the other hand, an example like (10), having a d-structure along the lines of (14), will be acceptable because its controller "the shelf" will be within the same maximal projection (namely VP2) as the infinitival clause "[ O [ for the wind to destroy t. ] ]," and hence locality is respected.

(14)



So, roughly speaking, the locality domain for control will be the maximal projection.

Now, whenever a control relation would overreach the local domain it will be acceptable only if it is logophoric, and so it will be subject to the same licensing requirement as that seen in reflexive binding: Namely, the assignment of a logophoric role to the antecedent position.

The behavior of logophoric control dependencies is illustrated in (15) - (25).

- (15) Mary made John<sub>i</sub> move the stool<sub>k</sub> onto the floor [ [ O<sub>k</sub> PRO<sub>i</sub> to stand on t<sub>k</sub>. ] ]
- (22) Thinking ahead, Mary<sub>i</sub> made [ John cause [Frank to put a washcloth<sub>m</sub> in the room [ O<sub>m</sub> [PRO<sub>i</sub> to clean herself with t<sub>m</sub> after the game.] ] ] ]
- (23) \*The approaching storm<sub>i</sub> had [the drought-stricken farmers making [ their kids put buckets<sub>m</sub> in the yard [ O<sub>m</sub> [PRO<sub>i</sub> to fill t<sub>m</sub> with rainwater.] ] ] ]
- (24) (?)The approaching storm had [the drought-stricken farmers making [ their kids put buckets<sub>m</sub> in the yard [ O<sub>m</sub> [ for it to fill t<sub>m</sub> with rainwater.] ] ] ]

(25) The approaching storm had [the drought-stricken farmers making [ their kids put buckets<sub>m</sub> in the yard [ O<sub>m</sub> [ for the rain to fill t<sub>m</sub>]]]]

Each of these dependencies oversteps the local domain adhered to by examples like (9) - (10).

(15) is structurally identical to (12) but, unlike (12), it is acceptable since its controller (indexed by "i") is assigned the logophoric role of AGENT. Note that the AGENT role is made possible here by the animacy of the substituted NP.

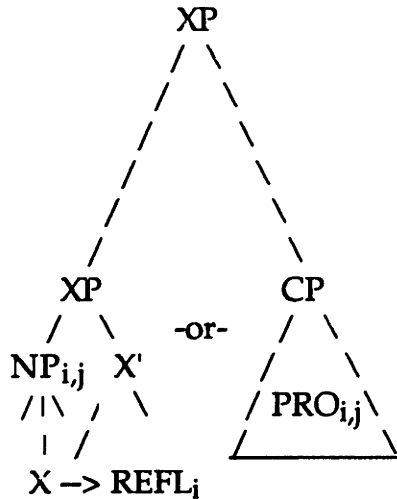
(22) oversteps the local domain by a distance of several clauses; but again it is acceptable since its controller "Mary" is assigned the logophoric role of AGENT.

(23), in contrast, is structurally parallel to (22), yet is unacceptable since its controller, "the approaching storm," is inanimate and therefore cannot be assigned a logophoric role (AGENT or otherwise).

Finally (24) - (25) demonstrate that, absent a control violation, there is nothing inherently problematic about the particular distribution of thematic roles that appears in (23). (But see section ? concerning the somewhat degraded status of (24).

Finally, I claim that control and reflexive binding respect the same notion of locality. Roughly speaking, I will argue that both kinds of dependencies are local just if the relevant constituents are attached with sufficient locality to the same theta assigner. In the case of reflexive binding, the "relevant constituents" are the binder and reflexive. In the case of control, they will turn out to be the controller and the infinitival clause. An intuitive illustration of this point appears in (28). The "i" indexing indicates reflexive binding, the "j" indexing indicates control, and the arrows indicate theta role assignment.

(28) .



## 1.2. Logophoric Roles.

Another fundamental claim of this thesis is that the assignment of logophoric roles is constrained by general principles of syntax. I argue that logophoric roles—i.e. just those thematic relations that attribute animacy to their referent—are optionally chosen interpretations on certain argument structures.

On the one hand, the choice between a logophoric and a non-logophoric interpretation is a semantic one. At the same time, however, the factors that determine whether the logophoric option can be chosen are syntactic.

For example, it is possible, though not obligatory, to interpret (29) so that its direct object goes volitionally to the person named by the oblique. I will claim that, on this reading, the direct object is assigned the logophoric role of VOLUNTEER.

(29) Mary sent her son to Sarah.

The presence of the logophoric role can be made obligatory by making its bearer the antecedent of a logophoric dependency as in (31).

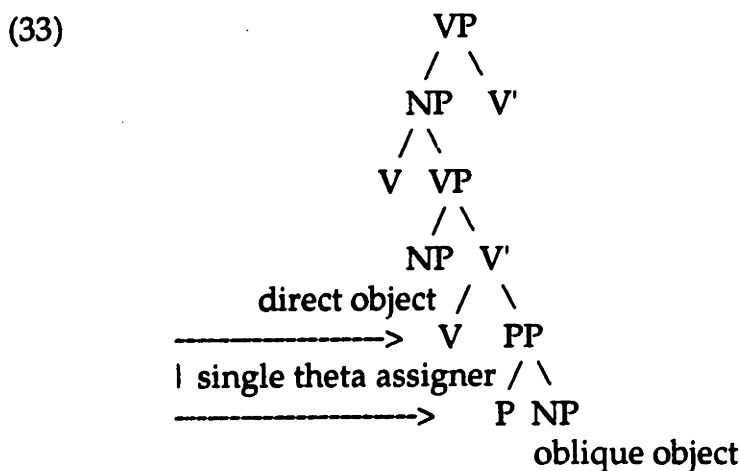
(31) PRO<sub>i</sub> to get a good wax treatment, Mary sent her son<sub>i</sub> to Mary.

The fact that logophoricity is obligatory in this example is confirmed by the unacceptability of the structurally parallel (32), in which the assignment of the logophoric role is blocked by the substitution of an inanimate NP.

(32) \*PRO<sub>i</sub> to get a good wax treatment, Mary sent her car<sub>i</sub> to the shop.  
 (Cf. "Mary sent her car<sub>i</sub> to the shop PRO<sub>i</sub> to get a good wax treatment.")

Now, the choice of whether to assign a logophoric role in (29) (or (31)) is a semantic one. However, I will argue that the fact that such a choice is available follows from syntax. In particular, it will turn out that a logophoric role can be assigned to an argument "X" only if X occupies the highest theta position within some maximal projection, and also has a coargument. In other words, to receive a logophoric role, X must be the subject of a transitive theta assigner.

So, for the example (29), I claim that the direct object can be assigned a logophoric role because, as illustrated in (33), it is the subject of a transitive theta assigner composed jointly of the embedded verbal and prepositional heads.



Now consider the behavior of a double object construction like (34).

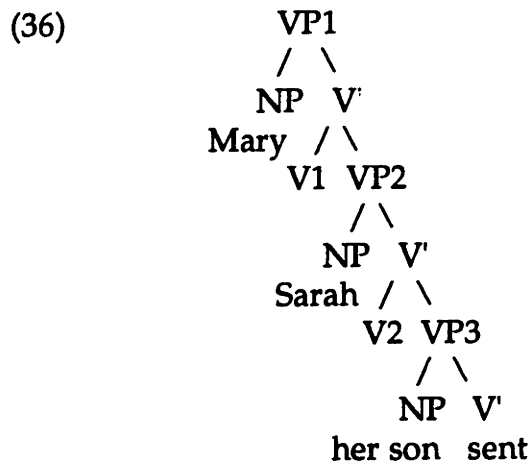
(34) Mary sent Sarah her son.

Here, it is impossible to assign a logophoric role (VOLUNTEER) to the direct object. In other words, (34) cannot be interpreted so that Mary's son goes volitionally to Sarah. This point is brought out by the unacceptability produced when the direct object is made the antecedent of a (would-be) logophoric dependency as in (35).

(35) \*PRO<sub>i</sub> to get a good wax treatment, Mary sent Sarah her son<sub>i</sub>.

This dependency is rendered inadmissible because its antecedent cannot be assigned a logophoric role.

I argue that the reason that the logophoric role is unavailable to the direct object of (34) - (35) is that, as illustrated in (36), this argument fails to be the subject of a transitive theta assigner. Here the direct object is the subject of the theta assigner V3, but V3 is intransitive. ((36) is the structure proposed in Marantz (19??) in all the crucial respects.)



The theory of logophoric roles will show that a significant aspect of so-called "thematic relations"—namely the distribution of those roles that demand some notion of animacy in their referent—is constrained by abstract principles applying on lexical syntax. This finding will lend support to a revised version of the hypothesis of Hale and Keyser (19??) that all thematic relations ultimately reduce to configurations in lexical syntax.

## CHAPTER TWO

### A RESTRICTION ON LOGOPHORIC ROLES

#### Introduction.

In this Chapter I want to further the project, suggested by the work of Hale and Keyser, of reducing thematic relations to configurations in Lexical Relational Structure (LRS). I will argue that certain syntactic principles applying on LRS distinguish from among the larger family of thematic roles that subset whose members attribute animacy to their arguments. These roles, which I henceforth refer to as "logophoric roles",<sup>1</sup> include AGENT (i.e. an intentional causer of an event), BENEFICIARY,<sup>2</sup> and "VOLUNTEER" (where this term refers to a volitional THEME—see Section 2).

Section 1 defines logophoric roles, and points out that certain positions can accommodate logophoric roles while other positions cannot.

I argue that the permissible patterns of distribution of logophoric roles are restricted in ways that constrain the range of possible interpretations on sentences.

First, I claim that logophoric roles can be assigned to specifier positions, but not to complement positions.

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<sup>1</sup> I will use the term "logophoric role" to refer to just those thematic roles that require an animate argument. My use of this terminology may seem odd in the context of this chapter; but I believe it is justified by the discussion in Chapter 3, where I argue that logophoric roles are crucial to the licensing of certain binding and control dependencies that have been referred to in the literature as "logophoric."

<sup>2</sup> I use the term "BENEFICIARY" to refer specifically to a certain kind of GOAL. So, for example, the underlined argument in (i) is a BENEFICIARY, but the underlined arguments in (ii) are not.

- (i) Mary gave John \$100.
- (ii) Mary sent John to the fair PRO to enjoy himself.

For example, as I show in Section 2, in a "simple" transitive clause (i.e. a transitive clause lacking any dative or locative complement) the subject may bear a logophoric role but the object cannot.

The possibility of a logophoric role on the subject is demonstrated by (1), in which the army is necessarily an AGENT.

- (1a) PRO<sub>i</sub> to upset the doctor, Sue<sub>i</sub> knocked Mary and John down.
- (1b) PRO<sub>i</sub> to upset the doctor, Mary<sub>i</sub> killed John.
- (1c) PRO<sub>i</sub> to pick up some money, the army<sub>i</sub> took Mary and John.

Before proceeding further, I should mention that some readers may find (1c) slightly odd. However, given that presumably no one will object to (1a-b), any oddness in (1c) is immaterial to my point. I argue that, independently of the choice of particular lexical items, syntax permits a logophoric role on the subject of a simple transitive; therefore, my point is made as long as I show merely that there are some simple transitives whose subjects bear logophoric roles.

This kind of situation may arise elsewhere in this work: At different points, some readers may find certain putatively well-formed sentences odd to one degree or another. In each case in which I anticipate this might occur, I have provided multiple examples, all parallel in the relevant respects. The point will always be to demonstrate that syntax permits a logophoric role in a certain syntactic position, and hence any oddness will be immaterial as long as at least one sentence in the data set is acceptable.

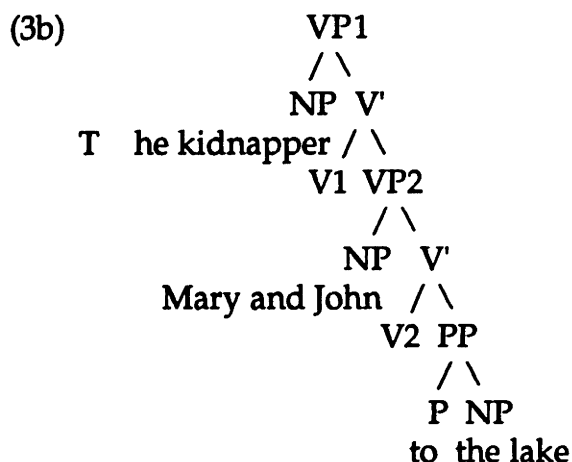
Turning back to my discussion, a logophoric role cannot be borne by the object of a simple transitive, as is demonstrated by the unacceptability of (2), in which the infinitival would denote Mary and John's motivation for participating in the event denoted by the matrix verb.

- (2a) \*(In order) PRO<sub>i</sub> to get washed, the kidnapper took Mary and John<sub>i</sub>.
- (2b) \*(In order) PRO<sub>i</sub> to get washed, the thief took the creature<sub>i</sub>.
- (2c) \*(In order) PRO<sub>i</sub> to get washed, Mary got the creature<sub>i</sub>.

(Any objection that (2)'s ill-formedness could be due to a failure of control between the matrix object and the infinitival-clause subject should be allayed by the discussion of example (60) in Section 2.)

Moreover, when the object is in specifier position, as it is in (3a), which I assume to have a d-structure along the lines of (3b), it too becomes capable of bearing a logophoric role.

(3a) The kidnapper took Mary and John to the lake.



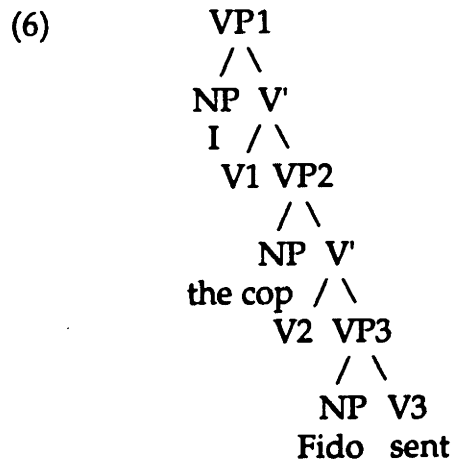
This result is demonstrated by (4), in which the infinitival denotes Mary and John's motivation for participating in the event denoted by the matrix verb, making them into a "VOLUNTEER," i.e. a THEME that acts volitionally. (Note here and throughout this work that the well-formedness of certain examples may vary somewhat with the addition or subtraction of the parenthesized material, a point more or less anticipated in the discussion following (1).)

- (4a) (In order) PRO<sub>i</sub> to get washed, the kidnapper took Mary and John<sub>i</sub> to the lake.
- (4b) (In order) PRO<sub>i</sub> to get washed, Mary took the creature<sub>i</sub> to the lake.
- (4c) (In order) PRO<sub>i</sub> to wash, the kidnapper took Mary and John<sub>i</sub> to the lake.
- (4d) (In order) PRO<sub>i</sub> to wash, Mary took the creature<sub>i</sub> to the lake.

In Section 3 I argue that, modulo appropriate modifications to the generalization, the observed pattern of permissibility of logophoric roles also extends to double object constructions like (5).

- (5) I sent the cop Fido.

I assume that the d-structure of such sentences is along the lines of (6), essentially as proposed by Marantz (19??)<sup>3</sup> and incorporating the VP-internal subject hypothesis [REFS], (and suppressing irrelevant details).

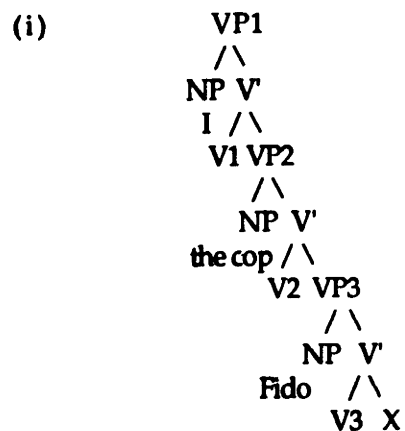


It turns out that the double object cases permit a logophoric role in the indirect object, and forbid any logophoric role in the direct object.

That the indirect object can bear a logophoric role is demonstrated by (7), in which the indirect object must be interpreted as the BENEFICIARY,<sup>4</sup> of the direct object.

---

<sup>3</sup> My structure differs from Marantz's in that he argues that the double object construction is structured as in (i), so that the lowest V<sup>0</sup> in fact has a complement.



<sup>4</sup> See note 2.

- (7a) I sent the veterinarian<sub>i</sub> this (a foot stool) PRO<sub>i</sub> to stand on.<sup>5</sup>  
 (7b) I got the veterinarian<sub>i</sub> this (a foot stool) PRO<sub>i</sub> to stand on.  
 (7c) I sent the cop<sub>i</sub> Fido PRO<sub>i</sub> to remain quiet.  
 (Where Fido represents a form of payment to the cop in return for the latter's silence.)

The possibility of assigning a logophoric role to the indirect object supports my claim that logophoric roles can be assigned to specifier positions since, given the structure in (6), the indirect object is a specifier.

That the direct object cannot bear a logophoric role is demonstrated by (8), in which the infinitival would denote Fido's motivation for participating in the event denoted by the matrix verb.

- (8a) \*I sent the veterinarian Fido<sub>i</sub> PRO<sub>i</sub> to get dinner.<sup>6</sup>  
 (8b) \*I sent the veterinarian Fido<sub>i</sub> PRO<sub>i</sub> to get washed.  
 (8c) \*I sent the veterinarian the creature<sub>i</sub> PRO<sub>i</sub> to get washed.  
 (8d) \*I got Mary a dog<sub>i</sub> PRO<sub>i</sub> to get washed.  
 (Cf. (4e-h) and "I sent Fido<sub>i</sub> to the veterinarian PRO<sub>i</sub> to get dinner.")

The impossibility of assigning a logophoric role to the direct object calls for a modification of the generalization about the potential sites for logophoric roles.

Roughly speaking, I propose that a logophoric role can be assigned to a given theta position just if that theta position happens to be a specifier of a verbal head that has a complement. Thus, in the double object construction, a logophoric role can be assigned to the indirect object since that argument occupies a theta position that happens to be the specifier of a head (V2 in the structure (6)) that has a

---

<sup>5</sup> As pointed out in Faraci (1974), use of the demonstrative in place of the full NP insures against an interpretation in which the (matrix) direct object, together with the infinitival forms an infinitival relative.

<sup>6</sup> Of course there is an interpretation, irrelevant for current purposes, in which the examples in this group are well-formed. For example, suppose for the "a" example that the veterinarian is an invalid, and therefore in need of a dog he can rely on to get his dinners for him. In this case, the matrix direct object would not be a VOLUNTEER, and the sentence would be acceptable. Similar interpretations can be concocted for all of the examples in this group.

complement (VP3 in (6)). On the other hand, again in the double object construction, it is impossible to assign a logophoric role to the direct object, since that argument occupies a theta position that happens not to be the specifier of a head that has a complement. (In the case in point, (6), the direct object "???" is the specifier of V3, but V3 has no complement.)

Note that this modification in the generalization still permits the assignment of a logophoric role to the subject of any simple transitive since, obviously, any such subject will be the specifier of a verbal head that has a complement (namely the direct object). Also, it permits the assignment of a logophoric role to the subject of any transitive like (3) since, I assume, in all such cases the subject will be the specifier of a verbal head (e.g. V1 in (3b)), which will have a complement (VP2 in (3b)). And similar remarks will hold for the subject of any double object construction.

In Section 4 I argue that the behavior of sentences like (9) - (10) will necessitate a refinement of the generalization that logophoric roles can be assigned just on the specifier of any verbal head that has a complement.

- (9a) (For a good treatment), I sent the patient to the doctor (to be operated on).
- (9b) (For a good treatment), I brought the patient to the doctor (to be operated on).
- (9c) (For a good treatment), I took the patient to the doctor (to be operated on).
- (9d) (For a good treatment), I got the patient to the doctor (to be operated on).
- (9e) (?) (For a good treatment), I ordered the patient to the doctor (to be operated on).
- (9f) (For a good treatment), I remanded the patient to the doctor (to be operated on).
  
- (10a) I sent the platform to the doctor (to stand on).
- (10b) I brought the platform to the doctor (to stand on).
- (10c) I took the platform to the doctor (to stand on).
- (10d) I gave the platform to the doctor (to stand on).

(10e) (?)I got the platform to the doctor (to stand on).

Here the direct object, a specifier, may bear a logophoric role (VOLUNTEER) as in (9), or the oblique object, a complement, may bear one (BENEFICIARY) as in (10). However, it is impossible for logophoric roles (VOLUNTEER and BENEFICIARY) to be borne by both of these arguments simultaneously, as in (11).

- (11a) \*For a good treatment, I sent the patient to the doctor<sub>i</sub> PRO<sub>i</sub> to operate on.
- (11b) \*For a good treatment, I brought the patient to the doctor<sub>i</sub> PRO<sub>i</sub> to operate on.
- (11c) \*For a good treatment, I took the patient to the doctor<sub>i</sub> PRO<sub>i</sub> to operate on.
- (11d) \*For a good treatment, I got the patient to the doctor<sub>i</sub> PRO<sub>i</sub> to operate on.
- (11e) \*For a good treatment, I ordered the patient to the doctor<sub>i</sub> PRO<sub>i</sub> to operate on.
- (11f) \*For a good treatment, I remanded the patient to the doctor<sub>i</sub> PRO<sub>i</sub> to operate on.

In Section 5 this result, together with those seen above, leads to the formulation of the "Logophoric Role Constraint," which generates the proper restrictions on logophoric roles in all of the sentences considered. Roughly speaking, this constraint applies to any two theta positions if they are within a certain syntactic proximity to each other. From among these two positions, it picks out one as a suitable site for a logophoric role on the basis of its being the highest theta position within the maximal projection by which it is (most immediately) dominated. The remaining position is then deemed incapable of bearing a logophoric role.

An important consequence of the Logophoric Role Constraint will be that the potential sites for logophoric roles are determined by abstract principles applying on Lexical Relational Structure more or less in the sense in which this term is employed by Hale and Keyser (19??). This will support the idea that the possible positions for logophoric

roles ultimately are determined configurationally in a manner fitting closely with the spirit of Hale and Keyser's conception of thematic roles.

In conclusion, my analysis suggests that each logophoric role is a kind of optional subcase of a corresponding non-logophoric role: AGENT a subcase of CAUSER, BENEFICIARY a subcase of GOAL, VOLUNTEER a subcase of THEME. The Logophoric Role Constraint ties the distribution of these "subcase" roles to abstract properties of lexical syntax. If this work is on the right track, it contributes to the project of reducing "thematic relations" to configurations in LRS.

## 2.1. Logophoric Roles.

Central to my thesis is the notion that logophoric roles constitute a coherent subclass within the broader family of "thematic roles." However, the problem of isolating precisely which roles should qualify as "logophoric" turns out to be a subtle matter. (Note here that I use the term "thematic role" as a shorthand to refer to the familiar semantic intuitions regarding various arguments. Ultimately, however, I assume with Hale and Keyser that thematic roles have no genuine theoretical status but, rather, reduce to configurational relations in LRS.)

I have suggested that the logophoric roles are those which attribute animacy to arguments. But this notion, without further refinement, is too imprecise. For example, one might argue that (12) has logophoric roles on both subject and object.

(12) The kidnapper abducted me.

After all, it seems clear that (12) requires both its arguments to be animate, as indicated by the ill-oddness of (13) and (14).

- (13) \*The kidnapper abducted the rock.
- (14) \*The wind abducted me.

This notion of logophoric role would be based in the patterns of selection restrictions that heads impose on their arguments. In other words, the subject and object of (12) would be deemed logophoric roles because the verb "abduct" stipulates as a lexical idiosyncrasy that both its subject and object must be animate.

However, this cannot be the notion of "logophoric role" I require. Recall, for example, that I will argue that a logophoric role is unacceptable on the object of a simple transitive sentence as in (2), repeated.

- (2a) \*(In order) PRO<sub>i</sub> to get washed, the kidnapper took Mary and John<sub>i</sub>.
- (2b) \*(In order) PRO<sub>i</sub> to get washed, the thief took the creature<sub>i</sub>.
- (2c) \*(In order) PRO<sub>i</sub> to get washed, Mary got the creature<sub>i</sub>.

This notion of "logophoric role," the one I am after, has (in this particular case) to do with the issue of the referent of the (matrix) direct object's being ascribed a motivation for participating in the event denoted by the matrix verb. (Cf. the well-formed example (60) in Section 2.) Moreover, it has nothing to do with the selection restrictions of a head. To clarify this point further, notice that in (15), parallel to (2), the logophoric role remains unacceptable on the (matrix) direct object despite the fact that, as a lexical idiosyncrasy, the verb selects animacy in this argument.

- (15) \*(In order) PRO<sub>i</sub> to get washed, the army abducted Mary and John<sub>i</sub>.

The defining properties of any logophoric role are given in (16).

- (16) A thematic role is a logophoric role if and only if
- (a) it requires that the referent to which it is attributed be animate; and
  - (b) its assignment to any given argument results from a choice of interpretation, and not from the selection restrictions associated with a lexical item.

As an illustration, consider the examples in (17).

- (17a) They knocked Mary and John down.  
(17b) They killed John.  
(17c) They took Mary.

For each of these cases, it is possible to choose an interpretation in which the subject is assigned the role of AGENT. In other words, (17a) can denote an intentional act of knocking down; (17b) an intentional act of killing; and (17c) an intentional act of taking.

In each case, the AGENT role, when it is present, is a logophoric role.

First of all, this AGENT role satisfies the first property of definition (16) since, obviously, such readings require that the referent of the subject be animate.

Also, this AGENT role satisfies the second property of definition (16) since each of these readings is generated as an interpretational choice, and is not selected by the verb in question. This is demonstrated by the fact that, in each case, a non-agentive reading is available. For example, (17a) can refer to a situation in which Mary and John are knocked down by falling rocks; (17b) can refer to a situation in which John is killed by falling rocks; and (17c) can refer to a situation in

which Mary is taken by ocean waves, for example if she has been swimming.<sup>7</sup>

Now, it turns out that logophoric roles license certain kinds of control relations. For example, in each of the examples in (18), the control relation is acceptable only if the matrix subject is assigned the logophoric role of AGENT.

- (18a) (In order) PRO<sub>i</sub> to pick up some money, the army<sub>i</sub> took Mary and John.
- (18b) (In order) PRO<sub>i</sub> to upset the doctor, Sue<sub>i</sub> knocked Mary and John down.
- (18c) (In order) PRO<sub>i</sub> to upset the doctor, Mary<sub>i</sub> killed John.

This point is demonstrated by the unacceptable result produced by replacing the matrix subject with an argument that is inanimate, and so cannot be an AGENT, as in (19).

- (19a) \*(In order) PRO<sub>i</sub> to pick up some money, the tornado<sub>i</sub> took Mary and John.
- (19b) \*(In order) PRO<sub>i</sub> to upset the doctor, the tornado<sub>i</sub> knocked Mary and John down.
- (19c) \*(In order) PRO<sub>i</sub> to upset the doctor, the tornado<sub>i</sub> killed John.

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<sup>7</sup> An obvious question is whether the AGENT is a logophoric role when it actually does appear to be selected by the verb, as in cases like (i) - (ii), which seemingly cannot be interpreted non-agentively.

- (i) Mary kissed John.
- (ii) Mary bought the farm.

I would argue that, in these cases, the AGENT role remains a matter of the choice of interpretation, and so is a logophoric role. However, it happens that the verbs in these cases select an AGENT role as well. Hence, the sentences will be acceptable only when an interpretation happens to be adopted in which the subjects are assigned the logophoric role of AGENT. In other words, the verbs "kiss" and "buy" happen to be compatible just with that interpretation that assigns the logophoric role to the subject argument.

And it is clear from the acceptability of (20) that the problem in (19) is not due to the violation of the selection restriction of any particular lexical item.

- (20a) The tornado picked up some money.<sup>8</sup>  
(20b) The tornado upset the doctor.

So, (19) demonstrates that a logophoric role can play a role in determining whether or not a sentence is acceptable. Specifically, as I will demonstrate throughout this chapter, there are certain control relations that are permissible only if a logophoric role happens to be assigned to the antecedent argument. It will be possible to use such control relations to diagnose the permissibility of logophoric roles in various syntactic positions. For example, the behavior of the control relations in (18) - (19) shows that a logophoric role is permissible in the subject position. I now formulate the diagnostic tool (21) for the general case.

- (21) A controller has a logophoric role if it is required to be animate in order for the control relation in question to be acceptable.<sup>9</sup>

(21) holds, for example, that the controllers in (18) have logophoric roles since, (as demonstrated by (19)), they are required to be animate in order for the control relations in question to be acceptable.

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<sup>8</sup> It may be noted here that this example employs a different sense of "pick up" than that which is most likely to be attributed to the verb "pick up" in (i), with which this example is being compared.

- (i) (In order) PRO<sub>i</sub> to pick up some money, the army<sub>j</sub> took Mary and John.

However, it is in fact possible to read (i) with the same sense of "pick up" as that in the footnoted example, especially when the parenthesized "in order" is included. And, in any case, even if different senses of "pick up" were to be assumed, I do not believe this would ultimately detract from the point being made.

<sup>9</sup> Control relations whose acceptability requires a logophoric role are related to the notion of "logophoric control" of Williams 19???. Cf. Chapter 2 of this thesis.

Now, it will turn out that the distribution of logophoric roles is restricted by certain syntactic principles.

For example, the direct object of a simple transitive clause, such as (22), never can accommodate a logophoric role.

- (22a) The army took Mary and John.
- (22b) The army took the creature.
- (22c) Mary hit the creature.
- (22d) Mary got the creature.

The impossibility of a logophoric role in this position is demonstrated by the ill-formedness of (2), repeated.

- (2a) \*(In order) PRO<sub>i</sub> to get washed, the kidnapper took Mary and John<sub>i</sub>.
- (2b) \*(In order) PRO<sub>i</sub> to get washed, the thief took the creature<sub>i</sub>.
- (2c) \*(In order) PRO<sub>i</sub> to get washed, Mary got the creature<sub>i</sub>.

I assume that the problem with (2) arises because the direct object position in any simple transitive is unable to accommodate a logophoric role, and this conflicts with the fact that, in (2), this position has to have a logophoric role (VOLUNTEER) if the control relation is to be acceptable.

So, it has been seen from the discussion of (18) - (20) that a subject position can be assigned a logophoric role, that of AGENT as in (18). And it has been seen from the discussion of (2), assuming (2) to be a representative case, that the object position in a simple transitive cannot be assigned a logophoric role. (Note that the discovery of any simple transitive having a logophoric role in its object would falsify this latter generalization.)

The next Section begins a closer examination of the distribution of potential sites for logophoric roles in LRS.

## 2. 2. The Distribution of Permissible Logophoric Roles in Subject and Direct Object Positions.

I take from the discussion of (18) - (20) the generalization that the subject of a transitive clause can be assigned a logophoric role.

I would like to pause here to note that the thematic identity of this particular argument alternates between that of CAUSER (i.e. an unintentional actor as in (20) - (55)) and AGENT (i.e. intentional as in (18)), the latter role being in effect the logophoric subcase of the former. A priori, one might well question whether an AGENT/CAUSER distinction deserves a place within linguistic theory.<sup>10</sup> However, given my basic thesis—that certain syntactic principles constrain the distribution of logophoric roles, as distinct from thematic roles in general—this distinction has to have genuine theoretical status.

Now, as regards the direct object, one may be left with a certain doubt as to how definitively (2) shows this position to be incapable of being assigned a logophoric role.<sup>11</sup> The problem is that it could be that what is wrong with (2) is not that there is some conflict between, on the one hand, a logophoric role demanded by the control relation and, on the other hand, a requirement that objects of simple transitives bear no logophoric role. It could be, instead, that some other violation results from some other aspect of this example's syntax; for example from the control relation between the matrix object and infinitival subject. (Also see note ?.)

However, there are other sentences that show that a direct object must indeed be assigned a logophoric role in order to successfully control the subject of a fronted infinitival. For example, a logophoric role is demanded in the direct object of (23), as is made clear by the ill-

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<sup>10</sup> This question is discussed briefly by H. Lasnik in "Subjects and the Theta-Criterion" (19??).

<sup>11</sup> In fact, it is impossible to prove that a given position cannot be assigned a logophoric role since, in theory, a sentence might be found in the future in which a logophoric role is assigned to the position in question.

formedness resulting from the substitution of an inanimate argument in (24).

- (23a) (In order) PRO<sub>i</sub> to get washed, Bill took Mary and John<sub>i</sub> to the lake.
- (23b) (In order) PRO<sub>i</sub> to get washed, Bill took Mary and John<sub>i</sub> to the lake.
- (23c) (In order) PRO<sub>i</sub> to get washed, Bill sent Mary and John<sub>i</sub> to the lake.
- (23d) (In order) PRO<sub>i</sub> to get washed, Mary brought the creature<sub>i</sub> to the lake.
- (23e) (?) (In order) PRO<sub>i</sub> to get washed, Mary got the creature<sub>i</sub> to the lake.
- (23f) (?) (In order) PRO<sub>i</sub> to get washed, Bill ordered Mary and John<sub>i</sub> to the lake.
  
- (24a) \*(In order) PRO<sub>i</sub> to get washed, Mary took the cars<sub>i</sub> to the lake.
- (24b) \*(In order) PRO<sub>i</sub> to get washed, Mary sent the cars<sub>i</sub> to the lake.
- (24c) \*(In order) PRO<sub>i</sub> to get washed, Mary brought the the car<sub>i</sub> to the lake.
- (24d) \*(In order) PRO<sub>i</sub> to get washed, Mary got the the car<sub>i</sub> to the lake.

Moreover, perhaps surprisingly, there are sentences that have control relations identical to those in (2), but which are perfectly acceptable. Such cases appear in (25). (Note the controller in each case in (25) has to be "... shelf ...," not "Mary and John," since the latter controller would induce a Condition B violation.)

- (25a) PRO<sub>i</sub> to hold their books for them<sub>j</sub>, [Mary and John]<sub>j</sub> took a shelf<sub>i</sub>.
- (25b) PRO<sub>i</sub> to hold their books for them<sub>j</sub>, [Mary and John]<sub>j</sub> found a great big shelf made of maple<sub>i</sub>.
- (25c) PRO<sub>i</sub> to hold their books for them<sub>j</sub>, [Mary and John]<sub>j</sub> built a great big shelf of maple<sub>i</sub>.
- (25d) PRO<sub>i</sub> to hold their books for them<sub>j</sub>, [Mary and John]<sub>j</sub> got a great big shelf made of maple<sub>i</sub>.

The acceptability of these cases seems to turn on the fact that they are interpreted so that the infinitival, understood as a FOR-clause, is predicated of the controlling argument. In other words, for example, (25a) is acceptable because it expresses that the shelf is for holding their books for them; (25b) is acceptable because it expresses that the great big shelf made of maple is for holding their books for them; and so forth. Apparently, this kind of interpretation is required in order for fronting of the infinitival to be acceptable.

Consider that, as already noted, fronting the infinitival yields unacceptability in the structurally parallel (2), repeated here for convenience.

- (2a) \*(In order) PRO<sub>i</sub> to get washed, the kidnapper took Mary and John<sub>i</sub>.
- (2b) \*(In order) PRO<sub>i</sub> to get washed, the thief took the creature<sub>i</sub>.
- (2c) \*(In order) PRO<sub>i</sub> to get washed, Mary got the creature<sub>i</sub>.

I claim that the problem with (2) arises because, on a normal reading, these sentences do not yield a predicative reading like that associated with (25). In other words, (2a) is unacceptable because it doesn't express that Mary and John are for getting washed; (2b) is unacceptable because it doesn't express that the creature is for getting washed; and so forth.

Now, though it stretches pragmatic credulity, one could in fact interpret (2) with the relevant predicative readings. For example, for (2a), suppose that the kidnapper's favorite activity is to watch people get washed, and that she has brought Mary and John to the lake in order for them to fulfill her desire. Then, weird as it seems, it indeed is possible to interpret (2a) so that it expresses that Mary and John are for getting washed. And, on this reading, (2a) does indeed become acceptable. Similar remarks hold for (2b-c).

So, with this matter now straightened out, though admittedly not explained, the observation can be made that, when the infinitival clause is given the predicative reading typical of (25) (and pragmatically strange for (2)), the infinitival can be fronted without the requirement a logophoric role, and hence of animacy, that would ordinarily be

expected in order to make the control relation permissible. This is made plain by the acceptability of (25) (and of (2) on the "wierd" interpretation), in which, though the infinitival clause is fronted, it is obvious that no logophoric role is assigned to the controller, the shelf.

Now, finally, I return to the main discussion for whose purposes I had introduced (25) in the first place.

The significance of the sentences in (25) is that they show that, when the fronting of an infinitival in a simple transitive sentence happens not to cause the control relation to require a logophoric role (i.e. when the fronted infinitival receives a predicative reading), no violation is produced, even though the control relations are the same as those in the unacceptable cases in (2). This means that the problem with (2) cannot be due to the fact of the control relation. I claim that, instead, the unacceptability of (2) arises because these sentences assign a logophoric role to the direct object (except on the pragmatically wierd predicative reading), and the assignment of this role conflicts with the fact that it is indeed impossible to assign a logophoric role to the direct object of a simple transitive.

Consider now the fact, noted above, that the control relation in (23) requires the presence of a logophoric role in the direct object if it is to be acceptable. Roughly speaking, this logophoric role imputes a sense of volition to what is otherwise the matrix THEME. As far as I know, no previous research on thematic relations distinguishes between volitional and non-volitional THEMES. However, like the distinction drawn above between AGENT and CAUSER, this distinction also must be theoretically genuine given, as above, my thesis that certain syntactic principles constrain the distribution of logophoric roles, as distinct from thematic roles in general. Thus I will use the term "VOLUNTEER" to refer to the logophoric subcase of the THEME, in other words to any THEME that is volitional, such as occurs in the (direct) object of (23).

The occurrence of a logophoric role in (23)'s direct object indicates that, when a transitive clause is augmented with a locative

complement, it becomes possible to assign a logophoric role to the (direct) object. In other words, the direct object can be assigned a logophoric role in any sentence whose matrix is like (26).<sup>12</sup>

(26a) The kidnapper took Mary and John to the lake.

(26b) The kidnapper brought Mary and John to the lake.

Now, if the discussion so far is on the right track, potential sites for logophoric roles are distributed in the following way:

- a) The subject can be assigned a logophoric role.
- b) The direct object of a simple transitive cannot be assigned a logophoric role.
- c) The direct object of a transitive with a locative complement can be assigned a logophoric role.

Given standard renditions of binary branching structures, it follows that both any subject of any clause, and any direct object of a transitive clause having a locative complement, will occupy specifier positions; while any direct object of a simple transitive clause will occupy a

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<sup>12</sup> For another illustration of this point, consider (i) - (iv). The contrast between (ii) and (iv) is due to the fact that (iv) has a logophoric role (VOLUNTEER) on the direct object (so that "winding down" is understood to be motivation for John, as well as me), hence the control relation is licensed; while in (ii) the inanimacy of the direct object makes it impossible to assign a logophoric role to the direct object, hence the control relation cannot be licensed.

(i) I put my clock on the mantel to wind down.

(ii) \*To wind down, I put my clock on the mantel.

(iii) I put John in the bathtub to wind down.

(iv) To wind down, I put John in the bathtub.

(v) I put John in a cold bath to wake up.

(vi) To wake up, I put John in a cold bath.

Also, interesting in this regard is the behavior of (v) and (vi). The control relation in (vi) is acceptable since it is possible to assign a logophoric role (VOLUNTEER) to John, thus licensing the control relation. However, note the effect produced if one assumes that (vi) describes a situation in which John is asleep. In this case, the sentence takes on a patronizing or condescending tone, since it requires the attribution to John of a motivation of which he himself is unaware.

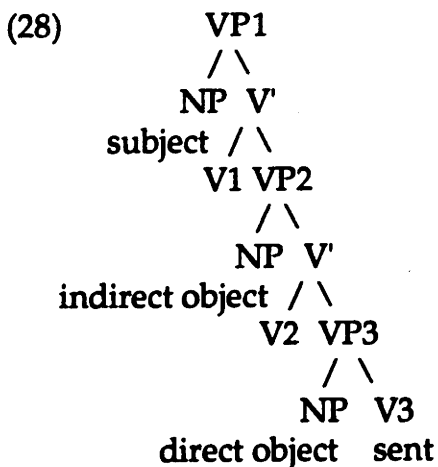
complement position. Therefore, the full range of distribution of the potential sites for logophoric roles observed in subject and object positions falls under the constraint in (27):

- (27) **Logophoric Role Constraint (non-final version):** A logophoric role can be assigned to the specifier, but not the complement, of a verbal head.

In the next section I extend this generalization to the double object construction.

### 2.3. Double Object Constructions.

I assume that the d-structure of a double object construction is along the lines of (28), essentially like the structure proposed by Marantz (1992), but incorporating the VP-internal subject hypothesis,<sup>13</sup> (and suppressing irrelevant details).




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<sup>13</sup> Note that this structure contradicts important aspects of the analysis of Hale and Keyser. I assume that the intuition behind their work—that is, the notion that thematic relations should reduce to configurations in lexical relational structure—is on the right track, but I differ with them on various aspects of its implementation.

If this is on the right track then, modulo certain modifications, it can be claimed that the distribution of potential sites for logophoric roles in the double object clause is the same as that in the transitive clauses examined in the last section.

First, the subject of a double object clause clearly can be assigned a logophoric role.

For example, animacy, hence a logophoric role, is required in the (matrix) subject in order to license the control relation in (29).

- (29a) In order PRO<sub>i</sub> to impress my cousin, Mary<sub>i</sub> gave John a flat tire.<sup>14</sup>  
(29b) In order to annoy John, Mary gave him a cold.

That animacy is required here is made clear by the unacceptability of (30).

- (30a) \*In order PRO<sub>i</sub> to impress my cousin, the bumpy road<sub>i</sub> gave the car a flat tire.  
(30b) \*In order to annoy John, the cold weather gave him a cold.

And the acceptability of (31) - (32) implies that this animacy is required in order to license the control relations, and not by the selection restrictions of the relevant lexical items.

- (31a) The bumpy road gave the car a flat tire.  
(31b) The cold weather gave John a cold.  
(32a) The bumpy road impressed my cousin.  
(32b) The cold weather annoyed John.

Under the diagnostic (21), repeated here for convenience, these results entail that the subject of (29) has a logophoric role.

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<sup>14</sup> Note that in the examples in this group it is not clear that the PRO is controlled by the matrix subject. True, subject control does seem to be one possible reading, but there also seems to be another reading in which the controller is presumably identified with the entire matrix clause. In other words, for example, it is possible to read the "a" case as meaning that the event of Mary's giving John a flat tire, as opposed to Mary herself, is what is supposed to impress my cousin. Similar remarks hold for the other examples in this group.

- (21) A controller has a logophoric role if and only if it is required to be animate in order for the control relation in question to be acceptable.

Hence, the subject position in a double object clause clearly can be assigned a logophoric role.

Note here that the thematic identity of this argument, like that of the transitive subject considered in Section 2, alternates between CAUSER and AGENT, with the latter role being in effect the logophoric subcase of the former. For the same reasons as in Section 2, I assume this distinction has to have genuine theoretical status.

In addition to the subject, it turns out that the indirect object of a double object sentence can be assigned a logophoric role.

For example, animacy, and hence a logophoric role, is required in this position in order to license the control relation in (33).

- (33a) Mary gave John<sub>i</sub> a flat tire PRO<sub>i</sub> to remain where he was.  
(Assume a context in which John likes flat tires, and thus accepts one as payment for his remaining in place.)  
(33b) Mary gave John<sub>i</sub> this (a stone foundation) PRO<sub>i</sub> to stand on.

That animacy is required here is made clear by the ill-formedness of (34).

- (34a) \*Mary gave the car<sub>i</sub> a flat tire PRO<sub>i</sub> to remain where it was.  
(34b) \*The architect gave the house<sub>i</sub> this (a stone foundation) PRO<sub>i</sub> to stand on.<sup>15</sup>

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<sup>15</sup> One might worry that the problem with this sentence is due entire to factors within the matrix clause alone, having nothing to do with the control relation. For example, when this matrix appears alone, as in (i), the result is unacceptable.

- (i) \*The architect gave the house this.  
(Where "this" refers to a stone foundation.)

However, this problem can be avoided for the footnoted example by substituting the full NP for the demonstrative, as long as care is taken not to interpret the direct object together with the infinitival as an infinitival relative.

And the well-formedness of (35) - (36) shows that this animacy is required for the control relation, not selected by the relevant lexical items.

- (35a) Mary gave the car a flat tire.
- (35b) The architect gave the house a stone foundation.
- (36a) The car remained quiet.
- (36b) The house stood on a stone foundation.

Also, it should be noted that the acceptability of (37) shows that the animacy in question is not required as a consequence of some covert material in (33) - (34) along the lines of "in order for."

- (37) Mary gave the car a flat tire in order for it to remain where it was.

So, by diagnostic (21) the indirect object position clearly can be assigned a logophoric role.<sup>16</sup>

Note that the thematic identity of this argument alternates between that of GOAL and BENEFICIARY, with the latter role effectively the logophoric subcase of the former. For the same reasons as with the distinctions between CAUSER and AGENT, and THEME and VOLUNTEER, I assume this distinction has genuine theoretical status.

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<sup>16</sup> In fact, it may be that syntax of certain double object constructions themselves forces animacy, and hence a logophoric role, in the indirect object position. This might be true for example, in cases like (i), repeated from the text.

- (i) I sent the veterinarian Fido.

The necessity of the logophoric role is suggested by the ill-formedness of (ii).

- (ii) I sent the mountains Fido.  
(Cf. "I sent Fido to the mountains.")

I will not try to account for this here.

Finally, it turns out that the direct object in a double object construction cannot be assigned a logophoric role.

However, this point cannot be demonstrated in the usual way. In other words, I cannot accomplish my objective simply by showing that unacceptability results from the fronting of an infinitival whose subject is controlled by the direct object. On the one hand, such cases are indeed unacceptable, as can be seen in (38).

- (38a) \*PRO<sub>i</sub> to get washed, I sent the veterinarian Fido<sub>j</sub>.
- (38b) \*PRO<sub>i</sub> to get washed, I brought the veterinarian Fido<sub>j</sub>.
- (38c) \*PRO<sub>i</sub> to get washed, I took the veterinarian Fido<sub>j</sub>.
- (38d) \*PRO<sub>i</sub> to get washed, I got the veterinarian Fido<sub>j</sub>.

At the same time, however, these sentences will remain unacceptable even if the infinitival remains in its base generated position as in (39).

- (39a) \*Mary sent the boss three workers<sub>i</sub> PRO<sub>i</sub> to get washed.
- (39b) \*Mary brought the boss three workers<sub>i</sub> PRO<sub>i</sub> to get washed.
- (39c) \*Mary took the boss three workers<sub>i</sub> PRO<sub>i</sub> to get washed.
- (39d) \*Mary got the boss three workers<sub>i</sub> PRO<sub>i</sub> to get washed.

Thus, though fronting may force the assignment of the logophoric role, this fact cannot be utilized to demonstrate the point at hand.

Instead, I will rely on a certain effect that seems to be produced by the insertion of a reflexive NP into the infinitival-clause object.

Consider (40) and (41).

- (40a) Mary sent the prisoners<sub>i</sub> into the room PRO<sub>i</sub> to be interviewed.
- (40b) Mary brought the prisoners<sub>i</sub> into the room PRO<sub>i</sub> to be interviewed.
- (40c) (?)Mary took the prisoners<sub>i</sub> PRO<sub>i</sub> into the room to be interviewed.
- (40d) Mary got the prisoners<sub>i</sub> PRO<sub>i</sub> into the room to be interviewed.
  
- (41a) Mary sent the prisoners<sub>i</sub> into the room PRO<sub>i</sub> to wash themselves.
- (41b) Mary brought the prisoners<sub>i</sub> into the room PRO<sub>i</sub> to wash themselves.

(41c) (?)Mary took the prisoners<sub>i</sub> PRO<sub>i</sub> into the room to wash themselves.

(41d) Mary got the prisoners<sub>i</sub> PRO<sub>i</sub> into the room to wash themselves.

My judgement is that in (40) there is no necessary inference of VOLUNTEERhood on the part of the direct object. In other words, there need be no sense that the prisoners are going volitionally into the room where they will be interviewed. Thus, there is no need for the direct object to be assigned a logophoric role.

On the other hand, in (41), my judgement is that there is indeed a bias toward the VOLUNTEER reading. In other words, the most natural reading here is one in which the prisoners do indeed go volitionally. Thus, it seems that the insertion of the reflexive into the infinitival-clause object somehow creates a bias in favor of the assignment of a logophoric role<sup>17</sup> (VOLUNTEER) to the direct object.

If these judgements are correct, then the addition of the reflexive can be used to test whether or not, in a double object construction, the direct object can be assigned a logophoric role. Consider, then, the contrast in acceptability between (42) and (43).

(42a) Mary sent the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash that floor.

(42b) Mary brought the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash that floor.

(42c) (?)Mary took the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash that floor.

(42d) Mary got the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash that floor.

(43a) \*Mary sent the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash themselves.

(43b) \*Mary brought the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash themselves.

(43c) \*Mary took the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash themselves.

(43d) \*Mary got the boss three workers<sub>i</sub> PRO<sub>i</sub> to wash themselves.

Here, an unacceptable reading results when a reflexive NP is inserted into the infinitival-clause object. I conclude that this arises because the presence of the reflexive somehow forces the assignment of a logophoric role (VOLUNTEER) to the controlling direct object, and this

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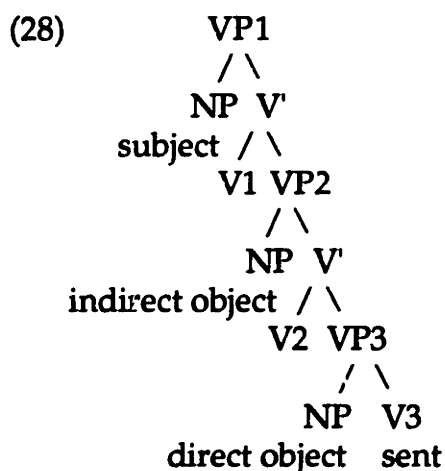
<sup>17</sup> I have no explanation for this effect.

interpretation conflicts with the inability of the direct object of a double object construction to accommodate a logophoric role.<sup>18</sup>

Now, if the discussion in this section is on the right track, the double object construction displays the following distribution of potential sites for logophoric roles:

- a) The subject can be assigned a logophoric role.
- b) The indirect object can be assigned a logophoric role.
- c) The direct object cannot be assigned a logophoric role.

If, as assumed, double object cases have the structure in (28), repeated below for convenience, then both the subject and indirect object are specifiers, and hence the possibility of assigning logophoric roles to these positions is predicted by the constraint (27), repeated below from Section 2.



- (27) **Logophoric Role Constraint (non-final version):** A logophoric role can be assigned to the specifier, but not the complement, of a verbal head.

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<sup>18</sup> Note incidentally that (i), below, shows that in general the direct object of a double object construction is perfectly capable of controlling a subject PRO, just as long as it is not forced to bear a logophoric role.

- (i) I sent the farmer<sub>i</sub> a shelf<sub>j</sub> PRO<sub>j</sub> to hold his books for him<sub>i</sub>.

At the same time, again given (28), the direct object is a specifier also; and (28) wrongly predicts that it should be possible to assign a logophoric role to this position as well. To rectify this situation, I now modify (28).

I propose that a logophoric role can be assigned to a given theta position just if that theta position happens to be a specifier of a verbal head that has a complement.

Thus, in the double object construction, a logophoric role can be assigned to the indirect object since that argument occupies a theta position that happens to be the specifier of a head that has a complement. In other words, as shown in the structure (28), the indirect object occupies a theta position that is the specifier of V2, which, in turn, has the complement VP3.

On the other hand, again in the double object construction, it is impossible to assign a logophoric role to the direct object, since that argument occupies a theta position that happens not to be the specifier of a head that has a complement. In other words, as shown in (28), the direct object occupies a theta position that is the specifier of V3, but V3 has no complement.

I now revise the constraint (27) to the form of (44).

(44) **Logophoric Role Constraint (non-final version):** A logophoric role can be assigned to a given theta position just if that theta position is the specifier of a verbal head that has a complement.

Note that the modification represented by (44) still permits the assignment of a logophoric role to the subject of any simple transitive since, obviously, any such subject will be the specifier of a verbal head that has a complement (namely the direct object).

Also, it permits the assignment of a logophoric role to the subjects of transitives that happen to have a locative complement as in (3) and (23) since, I assume, in all such cases the subject will be the specifier of a verbal head (e.g. V1 in (3b)), which will have a complement (VP2 in (3b)). And similar remarks will hold for the subject of any double object construction.

The import of the findings in this section, then, is that, modulo the revision in (44), the distribution of potential sites for logophoric roles in the double object construction is the same as that observed in the transitives in Section 2.

In the next section I examine the distribution of potential sites for logophoric roles in dative and locative constructions.

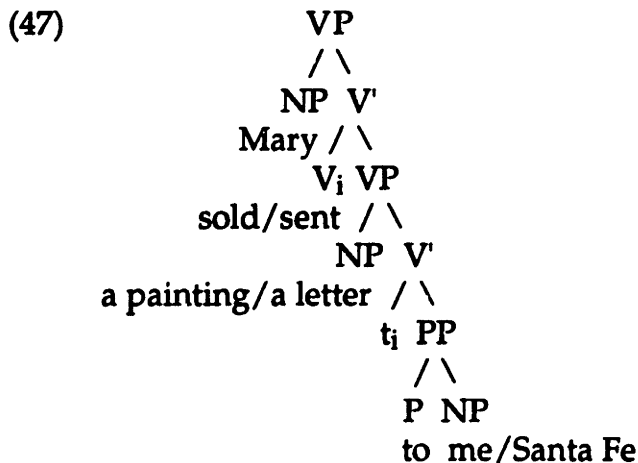
#### 2.4. Dative and Locative Constructions.

The pattern of logophoric roles permitted in sentences with locative complements is somewhat more complex than the discussion in Section 2 allows.

Notice first of all that strings exhibited by such sentences may be compatible with a dative reading as in (45), or a locative reading as in (46).

- (45) Mary sold a painting to me.  
 (46) Mary sent a letter to Santa Fe.

I assume that datives and locatives have the same structure, shown in (47) for the cases of (45) and (46) (suppressing irrelevant details).



From here onward I will use the term "dative/locative" to refer to any sentence that has this structure, regardless of whether it is dative like (45), or locative like (46) or one of the cases in Section 2.

This section will investigate the dative/locative cases more fully than did Section 2, showing that the permissible distribution of logophoric roles in these examples differs from that found in other kinds of cases. This result will lay the groundwork for Section 5, in which I argue that, under a proper reformulation of the Logophoric Role Constraint (44), the permissible distribution of logophoric roles is in fact identical in all the sentences I examine, dative/locatives included.

On the one hand, there is a respect in which the pattern for logophoric roles in dative/locatives is obviously the same as in other constructions: In any dative/locative that is transitive, a logophoric role can be assigned to the subject. This is evident from (48), in which licensing of the control relation requires animacy, and hence a logophoric role, on the subject.

- (48a) In order  $PRO_i$  to alarm her friends, Sue<sub>i</sub> sent Mary<sub>j</sub> to the doctor.
- (48b) In order  $PRO_i$  to alarm her friends, Sue<sub>i</sub> brought Mary<sub>j</sub> to the doctor.
- (48c) In order  $PRO_i$  to alarm her friends, Sue<sub>i</sub> got Mary<sub>j</sub> to the doctor.

That animacy is required here is made clear by the unacceptability of (49).

- (49a) \*In order  $PRO_i$  to alarm her friends, [fear for her health]<sub>i</sub> sent Mary to the doctor.
- (49b) \*In order  $PRO_i$  to alarm her friends, [fear for her health]<sub>i</sub> brought Mary to the doctor.
- (49c) \*In order  $PRO_i$  to alarm her friends, [fear for her health]<sub>i</sub> got Mary to the doctor.

And that this animacy is required in order to license the control relation, not selected by the relevant lexical items, is implied by the acceptability of (50) - (51).

(50) Fear for her health alarms Mary's friends.

(51a) Fear for her health sent Mary to the doctor.<sup>19</sup>

(51b) Fear for her health brought Mary to the doctor.

(51c) Fear for her health got Mary to the doctor.

Finally, it is clear that the thematic identity of this (subject) argument, like that of the transitive subjects considered in Section 2, alternates between CAUSER and AGENT—doing so in a manner and with implications by now familiar from the discussion in preceding sections.

On the other hand, when it comes to the behavior of the (d-structure) direct and oblique objects, the permissible distribution of logophoric roles in dative/locatives appears to diverge from that of other sentences. Contra some of the content of Section 2, a logophoric role can appear in either one of these positions, but there cannot be logophoric roles in both them simultaneously.

First, as may be recalled from Section 2, a (dative)/locative such as (23), repeated, can have a logophoric role in its direct object.

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<sup>19</sup>Curiously, however, it seems that when a dative/locative is interpreted as a dative, something forces the assignment of a logophoric role to the subject, as in (i).

- (i) I sent a letter to Mary.
- (ii) \*The wind sent a letter to Mary.
- (iii) The wind sent a letter swirling down the ravine.

In fact I would argue that (ii) has an acceptable reading even though its subject, being inanimate, cannot accommodate a logophoric role, but only if it is interpreted as locative.

- (i) The wind sent a letter to Mary.

(i) is acceptable on the interpretation in which Mary is understood only as the physical destination of the letter, not as a recipient.

- (23a) (In order) PRO<sub>i</sub> to get washed, Bill took Mary and John<sub>i</sub> to the lake.
- (23b) (In order) PRO<sub>i</sub> to get washed, Bill took Mary and John<sub>i</sub> to the lake.
- (23c) (In order) PRO<sub>i</sub> to get washed, Bill sent Mary and John<sub>i</sub> to the lake.
- (23d) (In order) PRO<sub>i</sub> to get washed, Mary brought the creature<sub>i</sub> to the lake.
- (23e) (?) (In order) PRO<sub>i</sub> to get washed, Mary got the creature<sub>i</sub> to the lake.
- (23f) (?) (In order) PRO<sub>i</sub> to get washed, Bill ordered Mary and John<sub>i</sub> to the lake.

However, more instructive for present purposes are dative/locatives like (9), repeated, and (52), which are structurally parallel to (23) in the relevant respects, but happen to have animate NPs in both the oblique and direct objects.

- (9a) (For a good treatment), I sent the patient to the doctor.
- (9b) (For a good treatment), I brought the patient to the doctor.
- (9c) (For a good treatment), I took the patient to the doctor.
- (9d) (For a good treatment), I got the patient to the doctor.
- (9e) (?) (For a good treatment), I ordered the patient to the doctor.
- (9f) (PRO<sub>i</sub> to be treated for his adenoids), I sent the patient<sub>i</sub> to the doctor.<sup>20</sup>
- (9g) (PRO<sub>i</sub> to wind down), I put John<sub>i</sub> in the bathtub.
- (52a) (For a good treatment), the patient went to the doctor.
- (52b) (To be treated for his adenoids), the patient went to the doctor.

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<sup>20</sup> In the examples "a-e" in this set, there might be some confusion as to whether the recipient of treatment is to be the direct object "the patient," or the subject "I." Thus, one might worry that the patient is not necessarily a VOLUNTEER. However, any such doubt is clearly eliminated by the "f-g" cases: In (f) the adenoids in question clearly belong to the patient, so the patient clearly is the VOLUNTEER; in (g) it is easy to supply an interpretation in which the person who will wind down clearly is John. The same worry might arise for the unaccusative "a" sentence immediately following, and is allayed in the same fashion by the "b" sentence.

(Note that, since I assume the spirit of the unaccusative hypothesis (Perlmutter 1638, Burzio 1612), the subject of (52) is, for current purposes, a direct object.)

These cases are just like (23) in that their direct object can be assigned a logophoric role, as is demonstrated by the requirement in that position of animacy, hence a logophoric role, in order to license control into the fronted FOR-phrase.

That animacy is required here is made clear by the unacceptability produced by the inanimate substitutions in (53) - (54). Note well that the interpretation at issue in (53a-d) is the one in which my car is to be the recipient of a good treatment; These examples allow an interpretation, well-formed but irrelevant, in which I, not the car, am to receive a good treatment. (I assume it is obvious that no harm is done to my point by the additional substitutions, made in the interest of favorable pragmatics, of "mechanic" for "doctor," and "work" for "operate.")

- (53a) \*For a good treatment, I got my car to the mechanic (to be worked on).
- (53b) \*For a good treatment, I brought my car to the mechanic (to be worked on).
- (53c) \*For a good treatment, I took my car to the mechanic (to be worked on).
- (53d) \*For a good treatment, I sent my car to the mechanic (to be worked on).
- (53e) \*PRO<sub>i</sub> to wind down, I put my clock<sub>i</sub> on the mantel.
- (54) \*For a good treatment, my car went to the mechanic.

That this animacy is required in order to license the control relation, not selected by the relevant lexical items, is implied by the acceptability of (55) - (57).

- (55a) The mechanic has developed a good treatment for my car.
- (55b) My clock wound down.
- (56a) I got my car to the mechanic.
- (56b) I brought my car to the mechanic.

- (56c) I took my car to the mechanic.
- (56d) I sent my car to the mechanic.
- (56e) I put my clock on the mantel.

(57) My car went to the mechanic (e.g. on the back of a flatbed truck).

Finally, the logophoric roles at issue in (85) and (52), just like those in (23) in Section 2, assume the thematic role VOLUNTEER, the logophoric subcase of the THEME role.

Now, it also turns out that (9) and (52), or rather their matrix clauses, can accommodate a logophoric role in the oblique object. This is demonstrated by the fact that, in (10) (repeated) and (58),<sup>21</sup> that is the argument in which animacy, and hence a logophoric role, is required in order to license control into the infinitival. (Note that, given the unaccusative hypothesis, the subject of (58), like that of (52), is a d-structure direct object. Also, I assume it is obvious that no harm is done to my point by the substitution of "platform" for "patient" in the interest of favorable pragmatics.)

- (10a) I sent the platform to the doctor<sub>i</sub> PRO<sub>i</sub> to stand on.
  - (10b) I brought the platform to the doctor (to stand on).
  - (10c) I took the platform to the doctor (to stand on).
  - (10d) I gave the platform to the doctor (to stand on).
  - (10e) (?)I got the platform to the doctor (to stand on).
- (58) The platform went to the doctor<sub>i</sub> PRO<sub>i</sub> to stand on.

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<sup>21</sup> Note, in passing, that the infinitivals in these examples cannot be fronted unless they are interpreted predicatively. Pragmatic effects make this point somewhat difficult to see in the examples in the text, so I provide an easier case here in (i).

- (i) PRO<sub>i</sub> to fix, I sent an old car to the mechanic's apprentice<sub>i</sub>.

(i), to be acceptable, has to mean that the car is for fixing; for example, that it serves the purpose of something that the mechanic's apprentice can practice on. The sentence becomes unacceptable if instead it is interpreted to mean that I sent my car to the mechanic's apprentice, not so that he would have something for fixing but, say, simply so that he would enable me to have a well-running car again.

That animacy is required here is made clear by the unacceptability produced by the inanimate substitutions in (59) - (60).

(59a) \*I sent the platform to the house<sub>i</sub> PRO<sub>i</sub> to stand on.

(59b) \*I brought the platform to the house<sub>i</sub> PRO<sub>i</sub> to stand on.

(59c) \*I took the platform to the house<sub>i</sub> PRO<sub>i</sub> to stand on.

(60) \*The platform went to the house<sub>i</sub> PRO<sub>i</sub> to stand on.

And that this animacy is required in order to license the control, not selected by the relevant lexical items, is implied by the acceptability of (61) - (63).

(61a) I sent the platform to the house (e.g. on the back of a flatbed truck).

(61b) I brought the platform to the house (e.g. on the back of a flatbed truck).

(61c) I took the platform to the house (e.g. on the back of a flatbed truck).

(62) The platform went to the house (e.g. on the back of a flatbed truck).

(63) The house stood on the platform.

Note that the thematic identity of the oblique object, much like that of the indirect object in a double object sentence, alternates between GOAL and BENEFICIARY. In (85) - (52), (56) - (57), and (61) - (62), the oblique object is a GOAL; in (10) and (58) it is a BENEFICIARY. Again, as in the double object cases, BENEFICIARY is effectively the logophoric subcase of GOAL; and for reasons by now familiar, I assume this distinction has genuine theoretical status.

Now, although a dative/locative may have a logophoric role in either its direct object as in (85) and (52) or its oblique object as in (10) and (58), it turns out that no dative/locative can have logophoric roles in both of these positions simultaneously.

This is demonstrated by the incompatibility of VOLUNTEER and BENEFICIARY roles in sentences having matrix clauses like those in (64) and (65).

- (64a) I sent Fido to Mary.
- (64b) I brought Fido to Mary.
- (64c) I took Fido to Mary.
- (64d) I got Fido to Mary.

(65) Fido went to Mary.

(64) - (65) seem to be ambiguous between one reading, in which the direct object has the logophoric role of VOLUNTEER, and another, in which the oblique object has the logophoric role of BENEFICIARY— but they do not seem able to accomodate both of these readings simultaneously.

For example, (66) - (67) force the reading in which the direct object is a VOLUNTEER. I believe the judgment is quite clear here that the oblique object cannot be understood as the BENEFICIARY. In other words, these examples cannot be understood to mean that Fido is for Mary (unlike (68) - (73), which apparently must be understood in precisely this way).<sup>22</sup>

- (66a) For his evening meal, I sent Fido to Mary.
  - (66b) For his evening meal, I brought Fido to Mary.
  - (66c) For his evening meal, I took Fido to Mary.
  - (66d) For his evening meal, I got Fido to Mary.
- (67) For his evening meal, Fido went to Mary.

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<sup>22</sup> Note that I use the term "BENEFICIARY" more narrowly than it is used elsewhere in the literature. In other words, for me, an argument is a BENEFICIARY just if the THEME is for it. Thus, an argument can benefit in a given predicate without being a BENEFICIARY in my sense. For example, I do not call the THEME in (i) a BENEFICIARY.

(i) Mary sent John to Rhode Island to have the time of his life.

On the other hand, (68) - (73) force the reading in which the oblique object is a BENEFICIARY. And I believe the judgment is clear here that the direct object cannot be understood as a VOLUNTEER.

(68a) I sent Fido to Mary for a watch dog.

(68b) I brought Fido to Mary for a watch dog.

(68c) I took Fido to Mary for a watch dog.

(68d) I got Fido to Mary for a watch dog.

(69) Fido went to Mary for a watch dog.

(70) I sent/brought/took Fido to Mary for \$140.

(Where Mary takes receives Fido and gives me \$140 as payment.)

(71) Fido went to Mary for \$140 (at the auction).

(Same type of interpretation as (70).)

(72) (?)I sent/brought/took Fido to Mary<sub>i</sub> PRO<sub>i</sub> to keep quiet about my crimes.

(Where Fido represents a form of payment to Mary in return for her silence.)

(73) (?)Fido went to Mary<sub>i</sub> PRO<sub>i</sub> to keep quiet about my crimes.

(Same interpretation as (72).)

Based on these facts, I conclude the following:

(74) A dative/locative sentence can have a logophoric role in either the direct or oblique object, but it cannot have logophoric roles in both these positions simultaneously.<sup>23</sup>

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<sup>23</sup>. Note that the incompatibility of simultaneous logophoric roles on the direct and oblique objects does not extend to the case of the subject. In other words, it is possible for a dative/locative sentence to have a logocenter on the direct object and subject as in (i), or on the indirect object and subject as in (ii).

(i) In order PRO<sub>i</sub> to please my friends, I<sub>i</sub> sent Fido<sub>j</sub> to the veterinarian PRO<sub>j</sub> to get himself cleaned.

(ii) In order PRO<sub>i</sub> to please my friends, I<sub>i</sub> sent Fido to the veterinarian<sub>j</sub> PRO<sub>j</sub> to remain quiet.

And, that the subject is logophoric in these cases is confirmed by the ill-formedness of (iii).

The import of (74) in terms of thematic roles is that a dative/locative can have a VOLUNTEER direct object or a BENEFICIARY oblique object, but it cannot have both simultaneously.<sup>24</sup>

In the next section I argue that the patterns of logophoric-role distribution found in all of the sentences examined in this work are the consequence of a single syntactic principle.

## 2.5. A General Principle Restricting the Distribution of Logophoric Roles.

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(iii) \*In order PRO<sub>i</sub> to please my friends, the chocolate<sub>j</sub> was on the table.

(Note that the relevant reading of (iii) would be the one in which the chocolate itself pleases my friends, not the fact of its being on the table.)

In Section 5 I argue that the mutual incompatibility of simultaneous logophoric roles on the direct and oblique objects follows from the fact that these two positions are arguments of the same theta assigner; then, the fact that a logophoric role in either one of these positions is perfectly compatible with a logophoric role in the subject will follow from the fact that the subject is an argument of a distinct theta assigner.

<sup>24</sup> Further evidence for the incompatibility of the VOLUNTEER and BENEFICIARY roles might be provided by the unacceptability that results when both positions are forced to bear logophoric roles, as apparently occurs in (i) - (iii). (The reading at issue here is the one in which Fido would go to Mary to obtain his evening meal. Note that these examples would in fact be acceptable on the irrelevant reading in which Fido does not actually go to Mary to obtain anything but, rather, happens to be with Mary, or in her possession, while he experiences his evening meal.)

- (i) \*For his evening meal, I lent Fido to Mary.
- (ii) \*For his evening meal, I awarded Fido to Mary.
- (iii) \*For his evening meal, I sold Fido to Mary.

Here, I believe, the fronted FOR-phrase forces the assignment of a VOLUNTEER role to the direct object while, simultaneously, the verb "to sell" forces the assignment of the BENEFICIARY role to the oblique object.

Note, however, that I am assuming here that the BENEFICIARY role can be assigned as a lexical property of the verbs in question. If this assumption is correct, then the definition of "logophoric role" will need to be adjusted accordingly.

There are basic similarities between the patterns in which logophoric roles can occur in the sentences I have examined. These patterns can be grouped exhaustively into the following four pairings of arguments:

- I) Logophoric role is permissible on subject and forbidden on direct object.
- II) Logophoric role is permissible on indirect object and forbidden on direct object
- III) Logophoric role is permissible on direct object and forbidden on oblique object
- IV) Logophoric role is permissible on oblique object and forbidden on direct object.

Pairing (I) falls under the Logophoric Role Constraint (44), repeated from Section 2.

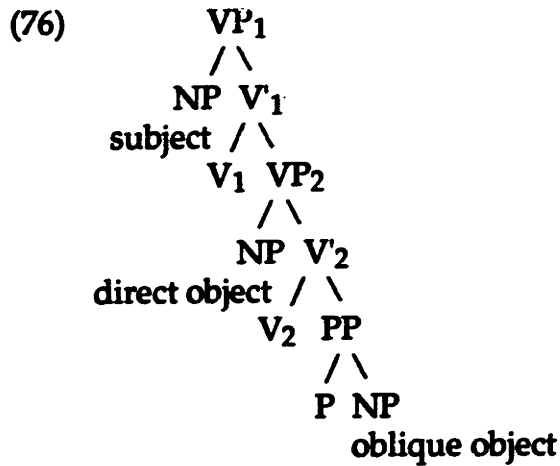
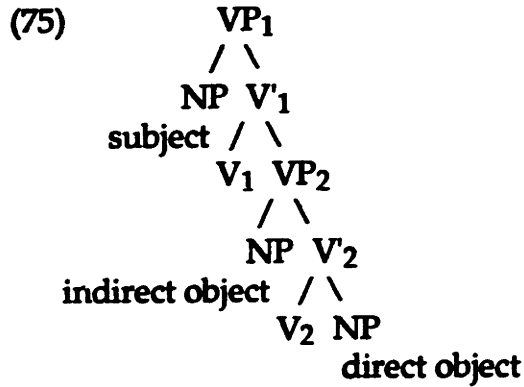
- (44) Logophoric Role Constraint (non-final version): A logophoric role can be assigned to a given theta position just if that theta position is the specifier of a verbal head that has a complement.

(I) is observed in classic simple transitives (Sections 1 - 2). In addition, I would argue, (I) is observed in the pairing between the subject and the lowest VP in any double object or dative/locative sentence. Consider for purposes of illustration the double object structure (75) and the dative/locative structure (76). Here, the subject clearly can be assigned a logophoric role (see Sections 3 and 4) and, I assume, VP<sub>2</sub> cannot be.<sup>25</sup> I take these two constituents to form the subject and "direct object" arguments, respectively, of V<sub>1</sub>,<sup>26</sup> and therefore to be an instantiation of pairing (I).

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<sup>25</sup> I assume that VP<sub>2</sub> has propositional content and forms the object of the higher verbal projection. One expects that VP<sub>2</sub>, since it is the direct object of a "simple transitive" head, cannot be assigned a logophoric role. This is a reasonable result, since there is no way to interpret a proposition as being animate.

<sup>26</sup> One may wonder why I do not therefore claim that, in the dative/locative, the direct object and PP form a simple transitive pairing, an instance of pairing (I). This would cause a problem since it would eliminate the "reversability" in the dative/locative (see discussion in text following this footnote).



Pairing (II) also falls under the Logophoric Role Constraint, and is observed in double object constructions. (See Section 3).

And, pairing (III) falls under the Logophoric Role Constraint, and is observed in dative/locative constructions. (See Section 4). However, pairing (IV), which also characterizes dative/locative constructions, actually fails to fall under the Logophoric Role Constraint. In other words, (44) incorrectly predicts that pairing (III) will be the only one a dative/locative can have; pairing (IV) will be ruled impossible.

As will be recalled, the actual behavior of dative/locatives is as stated in the generalization (74) repeated from the last section.

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In theoretical terms the reason that the lower VP is an "object," and the lower PP is not, is that the PP, but not the VP, is a predicate, and therefore combines with the adjacent V<sup>o</sup> to form a complex theta assigner.

(74) A dative/locative sentence can have a logophoric role in either the direct or oblique object, but it cannot have logophoric roles in both these positions simultaneously.

(74) means that the pairings (III) and (IV) apply to dative/locative sentences in a kind of "reversible" manner, whereby the sentence may behave either as in (III) or as in (IV) but, obviously not as in both (III) and (IV) simultaneously.

I want to suggest that (44) fails for pairing (IV) because it misapprehends the structural correlates of logophoric roles. On the one hand, it is true that (44) makes many correct predictions by associating the potential site of the logophoric role just with the position of specifier of a verbal head having a complement. But this same empirical coverage, without any wrong results, could be achieved by a different structural principle.

I propose that, contra my assumptions before now, the sites that will permit a logophoric role are not necessarily the specifiers of heads with complements. Instead I propose that, given any two coarguments—where "coargument" is defined as in the discussion below (cf. (78))—one of these arguments, if it is the highest theta position in some maximal projection, can be chosen as the bearer of a logophoric role; and, if this argument is chosen to bear a logophoric role, then its coargument must bear no logophoric role at all. This will be the only means by which a logophoric role can be assigned.<sup>27</sup> Consequently the actual sites on which a logophoric role

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<sup>27</sup> The question of an unaccusative verb like that in (i) immediately comes to mind.

(i) Mary arrived.

I assume that such verbs do indeed deny any logophoric role to their argument. This seems to get the facts right. For example, (ii) seems to be odd due to the agency it would require.

(ii) \*In order to annoy John, Mary arrived.

On the other hand, when a locative complement is added, the sentence becomes acceptable as in (iii).

will be permitted are just those positions that both happen to be the highest theta position within a maximal projection, and also have a coargument that has not itself been assigned a logophoric role. So, what appears to be just a "logophoric role" actually will be one "pole" in a binary relation between a logophoric and a non-logophoric role, imposed on pairs of coarguments, and oriented so that the logophoric role occupies a theta position that has the right syntactic property.

If the Logophoric Role Constraint is reformulated along these lines, it still will correctly generate the "fixed" pairings (I) and (II).

In (I) the subject will be the potential site for a logophoric role since it will be the highest theta position within the maximal projection VP, and also will have the direct object as its coargument. And at the same time, the direct object will be an impermissible site for a logophoric role, since it will not be the highest theta position in any maximal projection whatsoever.

In (II) the indirect object will be the potential site for a logophoric role.

First of all, this argument will be the highest theta position within a maximal projection VP, namely VP<sub>2</sub> in (75)).

Second of all, I claim that this argument also will have a coargument in the form of VP, namely VP<sub>3</sub> in (75). In other words, following the spirit of Marantz (19??), I assume that VP<sub>3</sub> has thematic content roughly equivalent to "[DIRECT OBJECT] UNDERGOES CHANGE," and that this content forms an argument of the dative verbal head V<sub>2</sub>, whose subject is the indirect object. I take this to mean that VP<sub>3</sub> is a coargument of the indirect object, with the consequence that the indirect object is a potential site for a logophoric role.

Furthermore, also in (II), the direct object will be an impermissible site for a logophoric role since, though it will indeed be

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(iii) In order to annoy John, Mary arrived at the house.

This is exactly what one would predict since, on my formulation, the (matrix) subject of (iii) does in fact have a direct coargument, namely the oblique object "the house."

the highest theta position within a maximal projection (VP3 in (75)), it will not have any coargument, since the direct object is the only argument of the verbal head of which it is the specifier (V3 in (75)).

Finally, the reformulation I have in mind will correctly handle the "reversible" relationship between pairings (III) and (IV)<sup>28</sup>, where (44) could not.

On the one hand, the direct object position will be a potential site for a logophoric role. First of all, as can be seen in the structure (76), the direct object is the highest theta position within a maximal projection (namely the lowest VP). Second of all, I claim that this position also has a coargument, namely the oblique object.<sup>29</sup> This point requires some further explanation.

I assume that two theta positions are "coarguments" of each other just if together they form the specifier and complement of a single theta assigner.

This point is obvious, for example, in a simple transitive sentence. In such a case, the subject and object are coarguments of each other since they form the specifier and complement, respectively, of the theta assigner verbal head. Such cases thus instantiate pairing (I) as discussed above. Similarly, in a double object or dative/locative sentence, the subject and second highest VP are coarguments of each other since they also form the specifier and complement, respectively, of the theta assigner verbal head. Such cases thus also instantiate pairing (I), again as discussed above. (See the discussion of (75) - (76).)

Also in the double object sentence, the indirect and direct objects are coarguments of each other since they form, respectively, the

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28. Note that the "reversability" is a property of the dative/locative structure, and not necessarily of particular sentences; some individual dative/locatives actually do, as a matter of lexical idiosyncrasy, seem to exhibit a "fixed" pattern of logophoric roles as in (i) - (iii).

- (i) Mary sold Fido to John.
- (ii) Mary directed John to the store.
- (iii) Mary invited John to her party.

<sup>29</sup> Note that I do not consider PP to be an argument of (the lowest) V.

specifier and complement of a theta assigner verbal head. Such cases thus instantiate pairing (II) as discussed above.

Finally, in the dative/locative sentence, the direct and oblique objects are coarguments of each other since, I will argue, they form the specifier and complement, respectively, of a theta assigner composed jointly of the (lowest) verbal head and prepositional head.

I assume that, when two (or possibly more?) heads are adjacent in the sense that not even an argument intervenes<sup>30</sup> between them, they act together as a single "theta assigner," with the specifier of the highest head and the complement of the lowest head forming, respectively, the specifier and complement of the entire theta assigner.<sup>31</sup>

This means that, in a dative/locative, the direct and oblique objects are coarguments of each other since, as illustrated in (77), they form the specifier and complement, respectively, of the single theta assigner composed of the (lowest) verbal and prepositional head.

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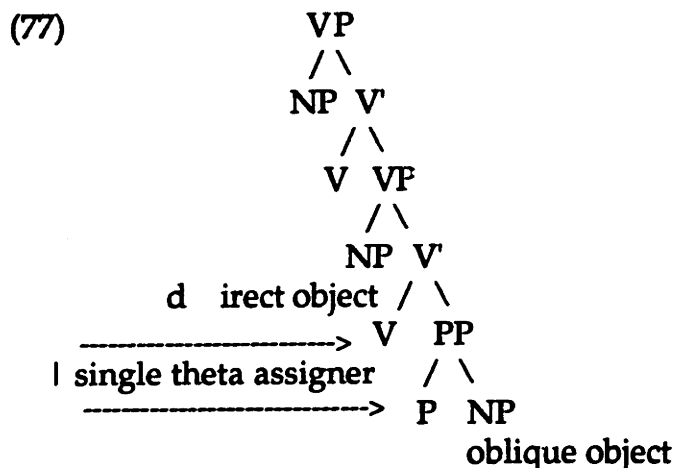
<sup>30</sup> I assume that a constituent X intervenes between two constituents Y and Z if and only if Y asymmetrically c-commands X, and X asymmetrically c-commands Z.

<sup>31</sup>. This idea needs further refinement than I will give it here in order to capture the difference between dative/locatives on the one hand, and sentences like (i) on the other.

- (i) In order to make his own life easier, John looked to Mary<sub>i</sub> PRO<sub>i</sub> to do the job.

The point is that (i) does not show the "reversability" of logophoric roles characteristic of the dative/locatives. The difference turns on the fact that in a dative/locative, but not in (i), the PP is predicated of the subject of the (nearest) verbal projection. For example, in (ii) the PP "on the floor" is predicated of "the stool," but in (i) the PP "to Mary" is not predicated of "John."

- (ii) Mary put the stool on the floor.



To state matters formally, I adopt the definition (78).

- (78) Given heads in the configuration [  $a_1 \dots a_j$  ], where each  $a_i$  asymmetrically c-commands  $a_{i+1}$  and no element  $X$  intervenes between  $a_i$  and  $a_{i+1}$ :  
 The specifier of  $a_1$  and the complement of  $a_j$  are coarguments of each other.

(Note that (78) is meant to include the case where  $j=1$ , i.e. where only one head is involved.)

Before proceeding further, I want to point out that my notion of "coargument" differs from that of Reinhart and Reuland (19??), according to whom the set of coarguments associated with any given head are that head's external and internal arguments, together with any other arguments to which that head assigns case. (Cf. my discussion in Chapter 4.)

I believe that my notion of coargument is more natural than Reinhart and Reuland's, and the facts about logophoric roles support my notion over theirs. Moreover, in Chapter 4 I argue, contra Reinhart and Reuland, that my notion, rather than theirs, really is the one that determines the domain of application of Condition A.

Returning now to the issue at hand, the notion of coargumenthood in (78) permits an account of the reversability between pairings (III) and (IV).

Pairing (III) will arise because it will be possible to assign a logophoric role to the direct object as long as none is assigned to its coargument, the oblique object.

Pairing (IV) will arise because it will be possible to assign a logophoric role to the oblique object as long as none is assigned to its coargument, the direct object. This latter point may not be immediately obvious. It becomes clear when note is taken of the fact that the oblique object is in fact that highest theta position within some maximal projection, namely PP as can be seen in (77); thus, it is possible to "orient" the binary logophoric role/non-logophoric role relation so that the logophoric role is assigned to the oblique object while the non-logophoric role is assigned to the direct object.

Finally, it is obvious now that pairings (III) and (IV) will be generated as mutually exclusive possibilities: It will always be impossible for both the direct and oblique objects to be assigned logophoric roles simultaneously.

Stating matters more abstractly now, the reformulation I propose will on the one hand "fix" the distribution of potential sites for logophoric roles whenever the relevant theta assigner has only one head, as in the simple transitive and double object sentences, because in such cases the specifier will be the only argument that can satisfy the criterion for generation of a logophoric role; and at the same time it will on the other hand generate "reversible" distributions of potential sites for logophoric roles whenever the relevant theta assigner has two heads, as in the dative/locative sentences, because in such cases as these either the specifier or the complement will be able to satisfy the criterion for generation of a logophoric role.

I now adopt the following, final version of the Logophoric Role Constraint:

- (79) **Logophoric Role Constraint:** Given any two coarguments, X and Y, a logophoric role can be assigned to X only if<sup>32</sup>
- (a) X occupies the highest theta position within some maximal projection, and
  - (b) there is no logophoric role assigned to Y.

I conclude that (79) properly constrains the distribution of logophoric roles in all of the sentences I have examined.

### Conclusion.

In conclusion, I have argued that syntactic principles which abstract away from reference to particular categories constrain the distribution of logophoric roles in LRS. The effect of these principles, embodied in the Logophoric Role Constraint, is to limit the proliferation of thematic roles that are "logophoric," i.e. that require animacy in the argument to which they are attributed.

On reflection, it seems that each logophoric role is an interpretation that is optionally "added" to a non-logophoric role.

Thus, the subject of a transitive clause is a CAUSER. Since it is a potential site for a logophoric role, it is optionally assigned a logophoric role, in this case an AGENT.

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<sup>32</sup> I say "only if," rather than "if and only if," because, due to the idiosyncracies of particular verbs, there are cases like (i) and (ii) in which a logophoric role cannot be assigned to the direct object; and cases like (iii) and (iv) in which a logophoric role cannot be assigned to the oblique object.

- (i) Mary mailed them to Chicago. (Direct object apparently cannot be a VOLUNTEER.)
- (ii) Mary banished them to Chicago. (Direct object apparently cannot be a VOLUNTEER.)
- (iii) \*Mary banished them to Bill. (Oblique object apparently cannot be a BENEFICIARY.)
- (iv) \*Mary sentenced them to Bill. (Oblique object apparently cannot be a BENEFICIARY.)

And the indirect object of a double object clause is a GOAL. Since it is a potential site for a logophoric role, it is optionally assigned a logophoric role, in this case a BENEFICIARY.

Another case is the direct object of a dative/locative, which is a THEME. Since this also can be potential site for a logophoric role, it may optionally attain a logophoric role, in this case a VOLUNTEER (i.e. volitional THEME).

And finally, the oblique object of a dative/locative is a GOAL. Since it also can be a potential site for a logophoric role, it may optionally attain a logophoric role, in this case a BENEFICIARY.<sup>33</sup>

The Logophoric Role Constraint effectively limits the proliferation of just the logophoric "subcases" of the broader thematic roles: It restricts the occurrence of AGENT, BENEFICIARY and VOLUNTEER, but not of CAUSER, GOAL or THEME.

Of course, given my adoption of the hypothesis of Hale and Keyser, the notion "thematic role" itself ultimately lacks autonomous theoretical status. And if my work is on the right track, it contributes to the project of reducing "thematic relations" to configurations in LRS.

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<sup>33</sup>. Incidentally, although the BENEFICIARY roles in the examples in text all happen to be the object of the preposition "to," I believe that the same phenomenon occurs with other prepositions. For example, I believe that the oblique in (i) can be assigned a BENEFICIARY role, generating the sense that the direct object is somehow for the benefit of the oblique.

- (i) PRO<sub>i</sub> worried about her prospects of winning tomorrow's race, John<sub>i</sub> put a picture of herself behind Mary to serve as a talisman.

Of course, this is precisely the result one would predict of the theory I am developing is on the right track, since the logophoric constraint operates on syntactic structure, not on the character of individual lexical items.

## CHAPTER THREE

### CONTROL THEORY

#### Introduction.

This chapter presents a theory about control into infinitival adjunct clauses.

First, in Section 1 I give a rough outline of certain semantic relations that appear to be key to the relations between matrix and infinitival adjunct clauses.

Then, in Section 2, I argue that control relations are in fact constrained by principles that operate wholly independently of these semantic relations.

Developing notions originally distinguished from each other in Williams (19??), I argue that there are just two kinds of control relations that can hold between matrix arguments and arguments in infinitival adjunct clauses: "control by direct predication" and "logophoric control."

"Logophoric control" relations are the type of control relations I utilized in Chapter 2 to diagnose instances in which a logophoric role is assigned to a controlling argument. Recall the diagnostic (106) from that chapter, repeated here as (80).

(80) A controller has a logophoric role if and only if it is required to be animate in order for the control relation in question to be acceptable.

The point for the current discussion is that only certain control relations require animacy in their controllers in order to be acceptable. I define just these relations as "logophoric control" relations, stated formally in (81).

(81) A control relation is a logophoric control relation if and only if

its acceptability requires the controller to be animate.

I define control relations that do not require animacy in their controllers as instances of "control by direct predication," stated formally in (82).

- (82) A control relation is a relation of control by direct predication if and only if its acceptability does not require the controller to be animate.

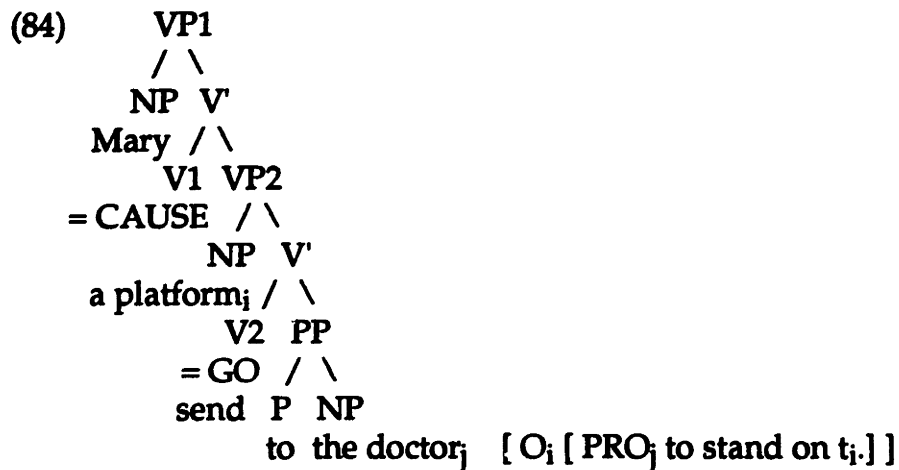
Now, I argue that control by direct predication is permitted only when a certain configurational relationship holds between the controller and the infinitival clause. I adduce semantic and syntactic facts to argue that each infinitival clause attaches within a particular matrix projection, where attachment to this projection expresses certain semantic relations; and I argue that an argument can control by direct predication just if it happens to be the subject of the particular projection to which the infinitival is attached.

Consider, for example, the control relation that holds in (83) between the direct object of the matrix and an operator raised from the object of the infinitival-clause (following the analysis of Chomsky 19??).

- (83) Mary sent a platform<sub>i</sub> to the doctor<sub>j</sub> [ O<sub>i</sub> [ PRO<sub>j</sub> to stand on t<sub>i</sub>. ] ]

This control relation is an instance of control by direct predication, since its acceptability clearly does not require the controller to be animate. (The control relation between the matrix oblique object and infinitival-clause subject is logophoric control, and is considered below.)

Now, I assume that the matrix of (83) has the structure, and the matrix VPs have the content, illustrated in the (partial) d-structure in (84), more or less in the spirit of Hale and Keyser.



Then I argue that the infinitival clause attaches within VP2 and, as a consequence, enters into a certain semantic relation with the predicate V2 associated with this projection. I take the semantic content of V2 to be roughly equivalent to that of "GO," so that VP2 has the approximate meaning of "the platform goes to the doctor."<sup>34</sup> And I argue that the attachment of the infinitival clause within VP2 produces the entailment that holds between (83), on the one hand, and the unaccusative (85), on the other.

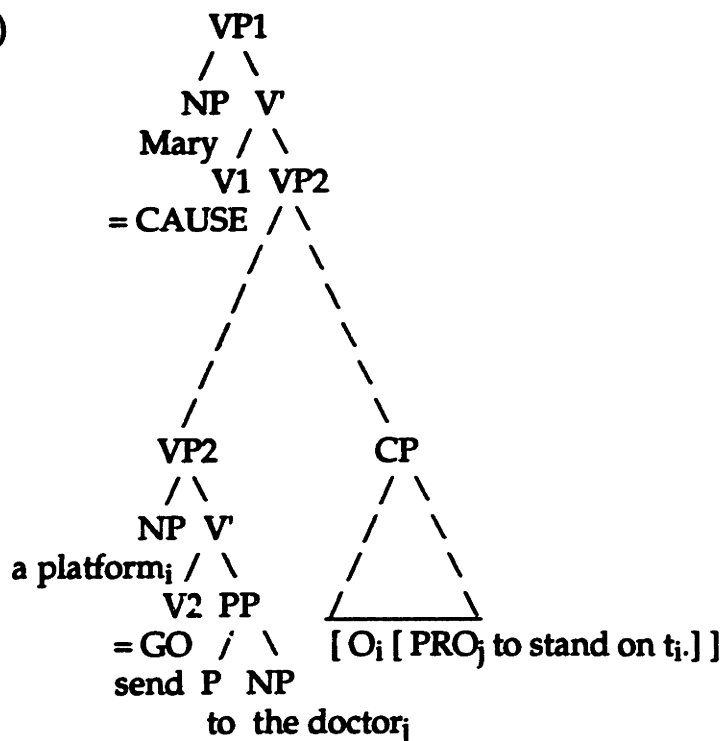
(85) The platform went to the doctor (for the doctor) to stand on.

For the sake of discussion I assume the infinitival attaches by adjunction to the relevant maximal projection (noting that nothing I know of decides whether, in truth, the infinitival attaches to XP, X', or X), so that a sentence like (83) (= (84)) has the (partial) d-structure shown in (86).

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<sup>34</sup> And I take the content of the predicate associated with VP1 to be roughly equivalent to that of "CAUSE," so that VP1 has the approximate meaning of "Mary causes her car to go into the garage. See Section ? for a fuller treatment.

(86)



Now, the permissibility of control by direct predication falls out as a consequence of structure. In short, the matrix direct object can control into the infinitival clause via direct predication since it happens to be the subject of the projection to which the infinitival clause is attached.

This approach permits the recognition of a certain correspondence between semantic entailments on the one hand, and relations of control by direct predication on the other, following as a consequence of the infinitival's level of attachment. In the case in point ((83) = (84)), for example, the structure produced by the infinitival's attachment within the lower VP (VP2) yields both the entailment indicated by (85) and the permissibility of control by direct predication on the part of the direct object.

Next, I argue that logophoric control is permitted just when the would-be controller is assigned a logophoric role; and that the occurrence of logophoric control is not restricted to the configurations necessary for control by direct predication.

Of course, an occurrence of logophoric control will be demonstrable only for control relations that cannot be taken as instances of control by direct predication. This follows since, wherever a control relation might be accomplished by direct predication, there will be no way to discern the potential for control that might depend upon a logophoric role.

An example of logophoric control can be seen in (83), repeated, holding between the oblique object of the matrix and an operator raised from the object of the infinitival-clause.

(83) Mary sent a platform<sub>i</sub> to the doctor<sub>j</sub> [ O<sub>i</sub> [ PRO<sub>j</sub> to stand on t<sub>i</sub>. ] ]

Here, the controller has to be assigned the logophoric role of BENEFICIARY; when this is made impossible, as by the inanimate substitution in (87), control becomes unacceptable.

(87) \*Mary sent a platform<sub>i</sub> to the house<sub>j</sub> [ O<sub>i</sub> [ PRO<sub>j</sub> to stand on t<sub>i</sub>. ] ]<sup>35</sup>

Now, the necessity that the control relation in question should be logophoric control falls out from the structure (86) above, which I already have attributed to (83) to explain the facts associated with control by direct predication. In short, the matrix oblique object cannot control by direct predication, since the infinitival is attached within VP2: In other words, the controller cannot be the subject of the projection to which the infinitival clause is attached. This leaves logophoric control as the only means by which control might be established, thus leading to the necessity of a logophoric role, and hence animacy, in the controlling argument.

Hence, the analysis I develop to account for the permissibility of control by direct predication on the part of the matrix direct object turns out to force an analysis by which logophoric control will be the only

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<sup>35</sup> The acceptability of (i) - (ii) makes it clear that the problem with this sentence is not due to the violation of any selection restrictions of the verbs.

- (i) Mary sent a platform to the house (e.g. on the back of a flatbed truck).
- (ii) The house stood on a platform.

means available for control on the part of the matrix oblique object. And this result is borne out by the facts.

Finally, I argue that, in order for logophoric control to hold, the infinitival clause must fall within the controller's "syntactic scope," where this term receives a definition that is close, but not identical, to its conventional sense.

### 3.1. Types of Semantic Relations between Clauses.

To begin a discussion of relations between matrix arguments and infinitival-adjunct clauses, I start with a brief outline of some of the semantic relations via which such clauses can be connected to each other. It should be borne in mind, however, that ultimately I argue that the relations I am concerned with—namely those of control—are constrained by principles that operate independently of these semantic relations.

#### 3.1.1. "Outer" relations.

I propose that the sentences in (88) - (91) all have in common the fact that a relation holds between the event in the matrix and the event in the infinitival.

- (88) The jello<sub>i</sub> fell off the table, PRO<sub>i</sub> to land with a thud on the floor below.
- (89) The alarm bell<sub>i</sub> rang louder and louder, eventually PRO<sub>i</sub> to be heard by everyone within a mile radius.
- (90) The sun<sub>i</sub> rose hot and bright, only PRO<sub>i</sub> to yield less heat and light than expected.
- (91) Mary<sub>i</sub> studied hard for the exam, only PRO<sub>i</sub> to flunk it miserably.

Of course, the relation in question varies from sentence to sentence.

Thus, (88) entails that the jello's falling off the table in some way **brings about** its landing on the floor. This is made clear by the oddness that results when the structure in (88) is given content for which the pragmatics defy this kind of reading, as in (88a).

(88a) #The jello fell off the table, to reach the other side of the room.

(88a) is odd because, pragmatically, it does not seem as though a jello's falling off of a table would bring about its reaching the other side of a room.

(89), in a manner parallel to (88), entails that the alarm bell's ringing louder and louder **brings about** its being heard by everyone within a mile radius. This is made clear by the oddness that results when the structure in (89) is given content for which the pragmatics defy this kind of reading, as in (89a).

(89a) #The alarm bell rang louder and louder, eventually to be seen by everyone within a ten foot radius.

(89a) is odd because it is hard to see how the alarm bell's ringing louder and louder brings about its being seen by everyone within a ten foot radius.

(90) entails that the sun's having risen hot and bright is one of a chain of events that **leads up to the unexpected event** of its yielding less heat and light than expected. This is made clear by the oddness that results when the infinitival in (90) is replaced by an infinitival denoting an expected event, as in (90a).

(90a) #The sun rose hot and bright, only to yield as much heat and light as expected.

(90a) is odd because it is hard to see how the sun's yielding as much heat and light as expected would be expected not to follow from its having risen hot and bright.<sup>36</sup>

And (91), in a manner parallel to (90), entails that Mary's studying hard for the exam is one of a chain of events that **leads up to the unexpected event** of her flunking it miserably. This is made clear by the oddness that results when the infinitival in (91) is replaced by an infinitival denoting an expected event, as in (91a).

(91a) #Mary studied hard for the exam, only to pass it.

(91a) is odd because it is hard to see how Mary's passing the exam is expected not to follow from her having studied hard. (In fact, given an appropriate pragmatic context, the event in the infinitival can be understood to be unexpected, in which case the sentence becomes acceptable.<sup>37</sup>)

Now, the semantic relations sketched in each of (88) - (91)—whether they involve a "making possible," a "bringing about," or a "leading up to an unexpected event"—are asserted to hold between the events denoted in the matrix and infinitival clauses. I assume that each of these relations takes the entire matrix clause as an argument; and each relation seems not to have any particular association with matrix verb. I will refer to all of these relations as "outer" relations, anticipating a contrast to be drawn in later sections between these relations and "inner" relations, which will be shown to bear particular associations with the matrix verb.

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<sup>36</sup> Cf. the lack of oddness in (i), in which "eventually" is substituted for "only."

(i) The sun rose hot and bright, eventually to yield as much heat and light as expected.

<sup>37</sup> For example, if the example is understood in a context in which Mary expects to flunk the exam, it is not odd at all.

Before adding more kinds of sentences to the discussion, I want to point out here that, in sentences in which an outer relation holds, the only permissible control relation is between the matrix and infinitival subjects. For example, one accepts (88), above, but not (88b);

(88b) \*The jello fell off the table, for the ants to devour.  
(Cf. "I put the jello on the floor for the ants to devour.")

(89), above, but not (89b);

(89b) \*The alarm bell<sub>i</sub> rang louder and louder, eventually for everyone within a mile radius to hear t<sub>i</sub>.  
(Cf. "I found an alarm bell for everyone to listen to.")

(90), above, but not (90b);

(90b) \*The sun<sub>i</sub> rose hot and bright, only for a precious few people to enjoy t<sub>i</sub>.  
(Cf. "The sun is here for the people to enjoy." Suppose here that the sun had been put into position by well-meaning and extremely powerful extra-terrestrials.)

and (91), above, but not (91b):

(91b) \*Mary<sub>i</sub> studied hard for the exam, only for a precious few people to admire t<sub>i</sub>.<sup>38</sup>  
(Cf. "Mary's proud mother sent her to school for her classmates to admire." (Assume here that Mary's mother is sending Mary against her will, or while she is asleep.)

### 3.1.2. "Inner" relations.

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<sup>38</sup> Note that one could argue that this example fails to demonstrate the impossibility of a control relation between the matrix subject and infinitival-clause object, since this sentence would be unacceptable even without such a relation, as in (i).

(i) ??Mary studied hard for the exam, only for it to be flunked by her.

However, I assume that the problem with (i) is due to independent factors, and that my basic claim remains intact.

Most of the infinitivals in sentences like (92) - (111) are commonly referred to as "purpose clauses" for the fact that they express a purpose behind the action denoted in the matrix. The only exceptions to this term might be (92) - (95) and (106) - (108). As far as I know, the term has never been applied to (106) - (108); however, I will argue that these cases do in fact exhibit the relevant properties. Also, I do not know of any discussion of sentences like (92) - (95) in the literature; however, I will argue that these cases, as well, display the relevant properties.

- (92) Mary gave John<sub>i</sub> \$100 PRO<sub>i</sub> to do that job for her.  
 (93) Mary gave \$100 to John<sub>i</sub> PRO<sub>i</sub> to do that job for her.  
 (94) Mary sent John<sub>i</sub> \$100 PRO<sub>i</sub> to do that job for her.  
 (95) Mary sent \$100 to John<sub>i</sub> PRO<sub>i</sub> to do that job for her.
- (96) Mary sent her car<sub>i</sub> into the garage PRO<sub>i</sub> to be worked on by the mechanic.  
 (97) John left a towel<sub>i</sub> on the line PRO<sub>i</sub> to dry.  
 (98) Mary gave a shelf<sub>i</sub> to John PRO<sub>i</sub> to hold his books for him.  
 (99) Mary gave John a shelf<sub>i</sub> PRO<sub>i</sub> to hold his books for him.  
 (100) Mary built a shelf<sub>i</sub> PRO<sub>i</sub> to hold her books for her.
- (101) Mary<sub>i</sub> put the sandwich<sub>k</sub> on the table [ O<sub>k</sub> [ PRO<sub>i</sub> to eat t<sub>k</sub>.] ]<sup>39,40</sup>

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<sup>39</sup> I assume, following the spirit of Chomsky (1981), that in sentences of this sort an operator is base generated in the embedded-clause object position, and raises to SPEC of CP, leaving a trace in the object. From its raised position it is then controlled by the matrix THEME.

<sup>40</sup> One might argue that the subject PRO in this example is controlled arbitrarily, instead of by the matrix subject; and this argument might be generalized to all instance of subject PRO in doubly-controlled sentences, i.e. in all sentences in which, in addition to control of the infinitival subject, there also happens to be control of the (operator raised from the) infinitival object. However, I think that the behavior of (i) - (iii) demonstrate that subject PROs in these kinds of sentences can indeed be controlled by a matrix-clause argument.

- (i) Mary put the sandwich on the table to satiate herself with.  
 (ii) (?)Mary put the sandwich on the table to satiate oneself with.  
 (iii) \*Mary put the sandwich on the table to satiate himself with.

(i) indicates that the PRO can be identified with Mary; (ii) indicates that the PRO can be identified with an arbitrary individual; (iii) indicates that the PRO

- (102) I sent this platform<sub>i</sub> to the doctor<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to stand on t<sub>i</sub>.] ]
- (103) Mary left this<sub>i</sub> here [ O<sub>i</sub> [PRO<sub>arb</sub> to use t<sub>i</sub>.] ]
- (104) Mary put the sandwich<sub>i</sub> on the table [ O<sub>i</sub> [for Sue to eat t<sub>i</sub>.] ]
- (105) Mary gave the money<sub>i</sub> to my children<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to spend t<sub>i</sub> on toys.]]
- (106) Rumours of the epidemic sent Mary<sub>i</sub> to the doctor PRO<sub>i</sub> to get a check-up.
- (107) Tales of great wealth brought Mary<sub>i</sub> to Mexico PRO<sub>i</sub> to seek her fortune
- (108) The earthquake sent the population<sub>i</sub> into the street PRO<sub>i</sub> to be clear of the buildings.
- (109) Mary<sub>i</sub> pushed the car through the tunnel in order PRO<sub>i</sub> to appear strong.
- (110) A package<sub>i</sub> arrived at the house [ O<sub>i</sub> [ for you to open t<sub>i</sub> during Channukka.] ]
- (111) The money<sub>i</sub> goes to my children<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to spend t<sub>i</sub> on toys.] ] (e.g. as a statement in a will.)

For the discussion that follows, however, it will be useful to characterize more fully certain semantic relations in which these "purpose clauses" seem to participate.

I propose that for (92) - (111), and for any other sentence containing a purpose clause, a semantic relation is established between the event in the matrix clause, the event in the infinitival clause, and an actor which is either a matrix AGENT or VOLUNTEER or else is inferred as part of the extra-grammatical (i.e. pragmatic) context. More precisely, I believe it is correct to say that the matrix AGENT or VOLUNTEER or extragrammatical actor causes the event in the matrix clause in order to accomplish a purpose expressed by the event in the infinitival clause.

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cannot be identified with a specific third person referent distinct from Mary. So, I conclude that there is a privileged relation between the PRO and Mary in particular; in other words, arbitrary control is permissible, but there also is the option for genuine non-arbitrary control. I believe this point generalizes to all of the doubly-controlled sentences in this work.

Of course, the relation I describe here also shows certain kinds variations from sentence to sentence.

Thus, (92) - (95) entail that the matrix AGENT, Mary, causes the event of (her own) giving of \$100 to John in order to accomplish the purpose that, in exchange for his receiving the money, John should do the job for her.

(96) entails that the matrix AGENT, Mary, causes the event of (her) sending her car into the garage in order to accomplish the purpose that, as a consequence of its going there, the car should be worked on by the mechanic.

(97) entails that the matrix AGENT, John, causes the event of (his) leaving a towel on the line in order to accomplish the purpose that, as a consequence of its going there (see note ?), the towel should dry. And parallel entailments hold for (98) - (100), and for (101) - (105).

(106) entails that the matrix VOLUNTEER, Mary, goes to the doctor in order to accomplish the purpose that, as a consequence of her going there, she should get a check-up. And parallel entailments hold for (107) - (108).

(109) entails that the matrix AGENT, Mary, causes the event of (her) pushing the car through the tunnel in order to accomplish the purpose that, as a consequence of her action, she should appear strong.

And finally, (110) entails that an extra-grammatical actor causes the event of a package's arriving at the house in order to accomplish the purpose that, as a consequence of its going there, you should open it on Channukka. And parallel entailments hold for (111).

However, despite these variations in entailments, in each case the relation in question hews to the same general pattern of a matrix AGENT or VOLUNTEER or extra-grammatical actor causing an event in the matrix in order to accomplish the purpose in the infinitival. In this respect, these relations differ from the "outer" relations discussed in Section ? which, it will be recalled, hold just between the (events in the) matrix and infinitival clauses.

Also, unlike the "outer" relations, the relations considered here seem to be keyed to particular properties of the matrix verb.

For example, each of them requires that the matrix verb be either agentive or, in cases like (106) - (108), "voluntary" (referring here to the contribution made by the VOLUNTEER) or, in cases like (110) - (111), the result of some purposeful extra-grammatical actor.

Of course, this point cannot be tested for (92) - (95) since the matrix clauses of these particular sentences have to be agentive in any case, as is clear from a consideration of (112) - (115), below.

- (112) Mary gave John \$100.
- (113) Mary gave \$100 to John.
- (114) Mary sent John \$100.
- (115) Mary sent \$100 to John.

The verb in (112) is obligatorily agentive, in contrast to the verb in (112a).

- (112a) The weather gave Mary a cold.

The verb in (113) is obligatorily agentive, in contrast to the verb in (113a).

- (113a) Mary gives the heeby-jeebies to every one who meets her.

The verb in (114) is obligatorily agentive, in contrast to the verb in (112). (There does not appear to exist a case of non-agentive "send" in a double object sentence.) And the verb in (115) is obligatorily agentive, in contrast to the verb in (115a).

- (115a) The wind sent the papers into the ravine.

However, the point is demonstrated clearly by the unacceptability that results when arguments that are inanimate, and therefore incapable of agency or voluntariness, are substituted into the subjects of, for example, (96), (97), (108), and (109), to yield (116), (117), (118), and (119), respectively.

- (116) \*An incredibly powerful windstorm sent Mary's car<sub>i</sub> into the garage

- PRO<sub>i</sub> to be worked on by the mechanic.<sup>41</sup> (Corresponds to (96).)
- (117) \*An incredibly powerful windstorm left a towel<sub>i</sub> on the line  
PRO<sub>i</sub> to dry.  
(Corresponds to (97).)
- (118) \*The earthquake sent [bricks and glass]<sub>i</sub> into the street PRO<sub>i</sub> to be  
clear of the buildings. (Corresponds to (108).)
- (119) \*An incredibly powerful wind<sub>i</sub> pushed the car through the  
tunnel (in order) PRO<sub>i</sub> to appear strong. (Corresponds to (109).)

And, along essentially the same lines, this point is demonstrated for "extra-grammatical actor" cases like (110) - (111) by the unacceptability of the structurally parallel example (120). This last case is out only because world knowledge blocks the inference of a purposeful extra-grammatical actor.

- (120) \*The rainstorm moved up the coast for the people up North to watch.

Before leaving the current point, note that the acceptability of (121) - (125), below, makes it clear that the problems with (116) - (120) could not be due simply to facts about those sentences' matrix clauses.

- (121) An incredibly powerful windstorm sent Mary's car into the garage.
- (122) An incredibly powerful windstorm left a towel on the line.

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<sup>41</sup> Note that there is a reading on which examples like this are acceptable, as is readily seen for cases like (i) - (ii).

- (i) A damaging hurricane sent Mary's car to the garage to be fixed.  
(Thanks to A. Marantz for this example.)
- (ii) A terrible accident sent my car into the shop to be completely re-tooled.

The acceptable interpretation for these cases is also available for the example footnoted in the text. The point here is that, on such a reading, that example becomes an "extra-grammatical actor" case, and so is acceptable on the same basis as (iii) - (iv), discussed in the text and repeated here.

- (iii) A package<sub>i</sub> arrived at the house for you to open t<sub>i</sub> during Channukka.
- (iv) The money<sub>i</sub> goes to my children<sub>k</sub> PRO<sub>k</sub> to spend t<sub>i</sub> on toys. (e.g. as a statement in a will.)

- (123) The earthquake sent bricks and glass into the street.  
(124) An incredible powerful wind pushed the car through the tunnel.  
(125) The rainstorm moved up the coast.

There also are more specific ways in which the relations considered in this section may be keyed to properties of the matrix verb. The relation of exchange in (92) - (95) is keyed to verbs of transfer of possession. And the relation involving the consequence of (a THEME's) going in (96) - (108) and (110) - (111) is keyed to verbs of change of location. (Note that such verbs might also happen to convey a transfer of possession, as in (98), (99), (102), (105), and (111).)

Since the relations sketched in (92) - (111) are bound up with semantic properties of the (matrix) verb, I will refer to them as "inner" relations, to be contrasted with the "outer" relations which, as I argued in Section 2, hold between (the events expressed by) the matrix and infinitival clauses.

Before adding more kinds of sentences to the discussion, I want to point out here that, in sentences in which an "inner" relation holds, a variety of control relations are possible. Control might be THEME-to-object as in (101) - (105) and (110), (111); THEME-to-subject as in (97) - (100) and (106) - (108); GOAL-to-subject as in (92) - (95), (102), (105) and (111); subject-to-subject as in (101)<sup>42</sup> and (109); or arbitrary as in (103).<sup>43</sup>

### 3.2. Control.

What determines whether an argument can be a controller? One possibility that comes to mind is that controllers are fixed in some way as a function of the "outer" and "inner" semantic relations holding between the clauses, and perhaps also are determined in certain

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<sup>42</sup> An example of this sort can be interpreted with either subject-to-subject control or arbitrary control.

<sup>43</sup> In theory, this example can have subject-to-subject control, but such a reading is pragmatically difficult.

respects by the variations among the inner relations sketched in the last subsection. I will argue that, in fact, this is not the case. Instead, I claim that control is fixed as a function of syntactic configurations that hold between the infinitival clause and certain kinds of arguments in the matrix.

It will be recalled that certain control relations which, following the terminology of Williams, I refer to as "logophoric," require a logophoric role (and hence animacy) in the controller. For example, as (126) - (127) show, an oblique object can control only if it is assigned the logophoric role of BENEFICIARY, and hence is animate.

- (126) I sent the platform<sub>i</sub> to the doctor<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to stand on t<sub>i</sub>. ] ]  
(127) \*I sent the platform<sub>i</sub> to the house<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to stand on t<sub>i</sub>. ] ]

Later, I will argue for a refinement of Williams' notion of logophoric control, and for an extension of the range of data to which it holds.

Also, there are other control relations, such as in (128) - (129), which do not require any logophoric role, nor therefore animacy, at all.

- (128) Mary sent her car<sub>i</sub> to the garage PRO<sub>i</sub> to be fixed by the mechanic.  
(129) The winds<sub>i</sub> blew hail all morning, only PRO<sub>i</sub> to subside later in the day.

I assume that cases like (128) - (129) involve "control by direct predication" more or less in the sense of Williams. Williams' intuition is that these kinds of control relations really are relations of predication in which the controller is the subject and the infinitival clause the predicate. Leaving aside the various technical issues raised by this proposal, I believe that its basic insight will be deepened by the analysis I will develop because I will argue that, in all such control relations, the controller actually occupies a SPEC of VP and therefore is in fact a subject in the most straightforward syntactic sense.

Finally, my arguments will bear out Williams' claim that all control is either logophoric or else holds via direct predication, though my rendition of these two concepts will differ from his in considerable respects.

For the moment, I focus on control by direct predication.

### 3.2.1 Control by Direct Predication.

The set of arguments that can control by direct predication seems to be just the set of subjects. This observation cuts across both "outer" and "inner" relation sentences, and seems to be the source of the contrast between (130) - (138) on the one hand, and (139) - (140) on the other.

- (130) The winds<sub>i</sub> blew hail all morning, only PRO<sub>i</sub> to subside later in the day.
- (131) The glass<sub>i</sub> rolled off the table, PRO<sub>i</sub> to land with a loud crash on the floor below.
- (132) This shelf<sub>i</sub> went to the library PRO<sub>i</sub> to hold books.
- (133) That hunk of metal<sub>i</sub> goes there PRO<sub>i</sub> to serve as a sculpture.
- (134) Mary sent her car<sub>i</sub> into the garage PRO<sub>i</sub> to be fixed by the mechanic.
- (135) Mary sent a shelf<sub>i</sub> to the library PRO<sub>i</sub> to hold books.
- (136) Mary put the platform<sub>i</sub> on the floor [ O<sub>i</sub> [ for the doctor to stand on t<sub>i</sub>. ] ]
- (137) Mary gave John a shelf<sub>i</sub> PRO<sub>i</sub> to hold his books for him.
- (138) Mary gave John a shelf<sub>i</sub> [ O<sub>i</sub> [ for his books to rest on t<sub>i</sub>. ] ]
- (139) \*The glass rolled off the table<sub>i</sub>, PRO<sub>i</sub> to land with a loud crash on the floor below.
- (140) \*Mary sent a platform<sub>i</sub> to the house<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to stand on t<sub>i</sub>. ] ]

The controllers in (130) - (138) all are acceptable. Since they are inanimate, they cannot control logophorically; so, they must be controllers by direct predication. And, given the binary branching structures that I assume to underlie these sentences, all of the controllers in question must be subjects.

In (130) - (133) the controller is the subject of the matrix clause. In (134) - (136) it is the subject of the VP shell embedded one level down from the highest (matrix) VP. Note here that in (136) in particular the controlled item is an operator binding an object trace, after the analysis of Chomsky (19??). In (137) - (138), given (my modified version of) the double-object analysis of Marantz (see Chapter ?, Section ?), the controller is the subject of the VP shell embedded down one more level still. Note here that in (138) in particular, as in (136), the controlled item is an operator binding an object trace (again after Chomsky).

On the other hand, the controllers of the infinitival-clause subjects in (139) - (140) are unacceptable, and both of these are non-subjects. Of course, control can be rescued for the case of (140) by substituting an animate argument into the oblique object, as in (141).

(141) Mary sent a platform<sub>i</sub> to the doctor<sub>k</sub> [ O<sub>i</sub> [ PRO<sub>k</sub> to stand on t<sub>i</sub>. ] ]

But this last case involves logophoric control, and hence leaves intact the generalization that, to control via direct predication, an argument must be a subject.<sup>44</sup> (Note that (141) also displays control on the part of

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<sup>44</sup> N. Chomsky (pc) raises the question of how this generalization can handle a case like (i), in which "the car" must control by direct predication, given that it is inanimate and so lacks any logophoric role.

(i) Mary left her car<sub>i</sub> PRO<sub>i</sub> to be fixed.

I assume here that "her car" is in fact a subject, so that (i) has a (partial) d-structure along the lines of (ii).

(ii)

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      VP1
     /  \
    NP  V'
  Mary /  \
      V1 VP2
  (= CAUSE) /  \
            NP V'
          her cari /  \
                  V2  CP
  
```

the matrix direct object. Since this argument is inanimate, it must control by direct predication—a possibility which, once again, fits the generalization that any controller by direct predication is a subject.)

Now I assume, essentially following Williams, that subjects are able to control via direct predication by virtue of the configurational relationships they bear to the infinitival clause; in particular, a certain locality must hold between each controller and infinitival clause.

On the one hand, in order to precisely specify how tight the locality relation for control by direct predication might have to be would be beyond the scope of this thesis, since this would require a determination of exactly where each infinitival attaches to the matrix clause. However, I will adduce semantic and syntactic facts to support a claim that each infinitival clause attaches within a particular matrix projection, where attachment to this projection expresses certain semantic relations; and that the controller (by direct predication) has to be the subject of precisely this projection.

First of all I assume that any infinitival in an inner relation sentence, in other words any purpose clause, attaches within a projection headed by a matrix-clause predicate.

I assume that, in the matrix clause, each VP shell is headed by a distinct predicate, which itself takes two arguments, a subject NP and a complement XP (either NP or VP); and that the purpose clause will be attached within one of these predicates, creating an association between it and the head of one of the matrix VP shells.

In particular, in a dative/locative sentence I assume, more or less in the spirit of Hale and Keyser, that the content of the matrix predicates is as illustrated in the (partial) d-structure (142) for the case of an "object-to-subject" control sentence like (134), and in the structure (143) for the case of an "object-to-object" control sentence like (136).



(142)    VP1  
           / \  
           NP V'  
           Mary / \  
              V1 VP2  
           = CAUSE / \  
               NP V'  
              her car<sub>i</sub> / \  
                   V2 PP  
               = GO / \  
               send P NP  
                   into the garage [PRO<sub>i</sub> to be fixed by the mechanic.]

(143)    VP1  
           / \  
           NP V'  
           Mary / \  
              V1 VP2  
           = CAUSE / \  
               NP V'  
              the platform<sub>i</sub> / \  
                   V2 PP  
               = GO / \  
               put P NP  
                   on the floor [O<sub>i</sub> [ for the doctor to stand on t<sub>i</sub>. ] ]

I deem VP2 to have propositional content that expresses the (not necessarily spatial)<sup>45</sup> movement of its subject, the THEME, into the interrelation denoted by its complement PP. This gives the head V2 the approximate semantic content of "GO" as indicated in the above structures so that, for example, in (142) VP2 expresses that **the car goes into the garage**; and in (143) VP2 expresses that **the platform goes on(to) the floor**.

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<sup>45</sup> For example, (i) and (ii) need not entail any spatial movement of the THEME.

- (i)    Mary gave the car to John.
- (ii)    Mary sold the car to John.

What is entailed here, however, is the THEME's movement in the sense of its undergoing a change in state of possession.

And, I deem VP1 to have propositional content that expresses that its subject, the AGENT, causes the realization of the proposition denoted by its complement, VP2. This gives the head V1 the approximate semantic content of "CAUSE" as indicated in the above structures so that, for example, in (142) VP1 expresses that **Mary causes her car to go into the garage**; and in (143) VP1 expresses that **Mary causes the platform to go on(to) the floor**.

It should be noted here that, while I label the verbal heads with terms like "CAUSE" and "GO," and the arguments with terms like "THEME" and "AGENT," these notions are really a shorthand for semantic relations that are built up by lexical relational structure as outlined in Hale and Keyser.

On the other hand, in a double object sentence I assume that the content of the matrix predicates is roughly as illustrated in the (partial) d-structure (144) for the case of an "object-to-subject" control sentence like (137), and in the structure (145) for the case of an "object-to-object" control sentence like (138).

Note that here I attempt to follow the spirit of H&K's proposals concerning LRS, but the actual structure is that of Marantz, and in fact differs from H&K's analysis of the double object construction. Note also that, in Marantz's analysis, APPL is an affix which is analyzed as a verb and is phonologically null in English (but is phonologically overt in other languages).

(144)           VP1  
                  /\  
                  NP V'  
                Mary /\  
                  V1 VP2  
                = CAUSE /\  
                  NP V'  
                  John /\  
                  V2 VP3  
                = APPL (TO/FOR) /\  
                  NP V3  
                  a shelf<sub>i</sub> = GO  
                  gave       [ PRO<sub>i</sub> to hold his books for him.]

(145)           VP1  
                  /\  
                  NP V'  
                Mary /\  
                  V1 VP2  
                = CAUSE /\  
                  NP V'  
                  John /\  
                  V2 VP3  
                = APPL (TO/FOR) /\  
                  NP V3  
                  a shelf<sub>i</sub> = GO  
                  gave                   [ O<sub>i</sub> [ for his books to rest on t<sub>i</sub>.] ]

Now, I mean to translate the semantics of Marantz's proposal into the notation of the current discussion. This has the result that VP3 has propositional content that expresses the (not necessarily spatial) movement of its subject, the THEME. This gives the head V3 the approximate semantic content of "GO" as indicated in the above structure so that, for example, in (144) and (145) VP3 expresses that a shelf goes (somewhere).

Moreover, given "benefactive" cases like (144) - (145), vP2, headed by APPL, has propositional content that expresses, roughly speaking, a gain by its subject, the GOAL, from the event denoted by its complement VP3. This gives the head V2 approximately the combined

semantic content of "TO/FOR" as indicated in the above structures so that, for example, in (144) and (145) VP2 expresses that **a shelf goes to/for John**.

Finally, VP1 has propositional content that expresses that its subject, the AGENT, causes the realization of the proposition denoted by its complement, VP2. This gives the head V1 approximately the semantic content of "CAUSE" as indicated in the above structures so that, for example, in (144) and (145) VP1 expresses that **Mary causes a shelf to go to/for John**.

Analyzing lexical structure in the ways I have indicated makes it possible to characterize the relationship between the infinitival and matrix clauses with a finer grain than might otherwise be discerned.

In particular, it will be possible for a purpose clause to be associated with any one, and only one, of various matrix predicates, i.e. one of various verbal heads.

I suggest that the infinitival in sentences like (142) and (143), above, is attached within the most deeply embedded matrix VP, in other words VP2. This relation is expressed by the entailment that holds between (142), on the one hand, and the unaccusative (146), on the other; and similarly between (143), on the one hand, and the unaccusative (147), on the other.

(146) Mary's car went into the garage to be fixed by the mechanic.

(147) The platform went on(to) the floor for the doctor to stand on.

Further, I suggest that the infinitival in sentences like (144) and (145) above is attached within the most deeply embedded matrix VP, in other words VP3. This relation is expressed by the entailment that holds between (144), on the one hand, and the unaccusative (148), on the other; and similarly between (145) on the one hand, and the unaccusative (149) on the other.<sup>46</sup>

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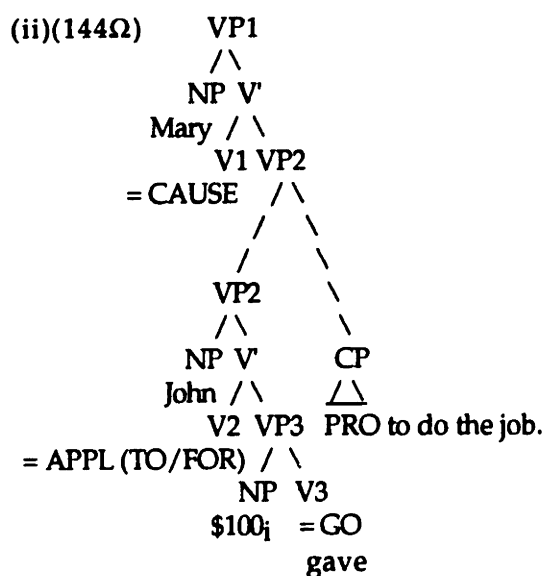
<sup>46</sup> One obvious question is whether an infinitival clause can attach to VP2 in double object construction. I suspect it can, though such structures are not examined in this work. An example of this would be (i), whose structure would, I suspect, be as in (ii).

- (148) A shelf went (somewhere)<sup>47</sup> to hold John's books for him.  
 (149) A shelf went (somewhere) for John's books to rest on.

The claim here is that, flowing from the fact of the infinitival's attachment within the (most deeply) embedded VP, the purpose denoted by the infinitival bears a particular syntactic and semantic association with the embedded proposition, not with the entire matrix clause. As a consequence of this, part of what (142) means, for example, is that the "going" of Mary's car to the garage is for the purpose of its being fixed by the mechanic. Part of what (143) means is that the "going" of the platform on(to) the floor is for the purpose of the doctor's standing on it. Part of what (144) means is that the "going" of a shelf (somewhere) is for the purpose of its holding John's books for him. And part of what (145) means is that the "going" of a shelf (somewhere) is for the purpose of John's books' resting on it.

I assume that a VP and an infinitival clause can have the particular association in question just if the infinitival attaches within

- (i) Mary gave John<sub>i</sub> \$100 PRO<sub>i</sub> to do the job.

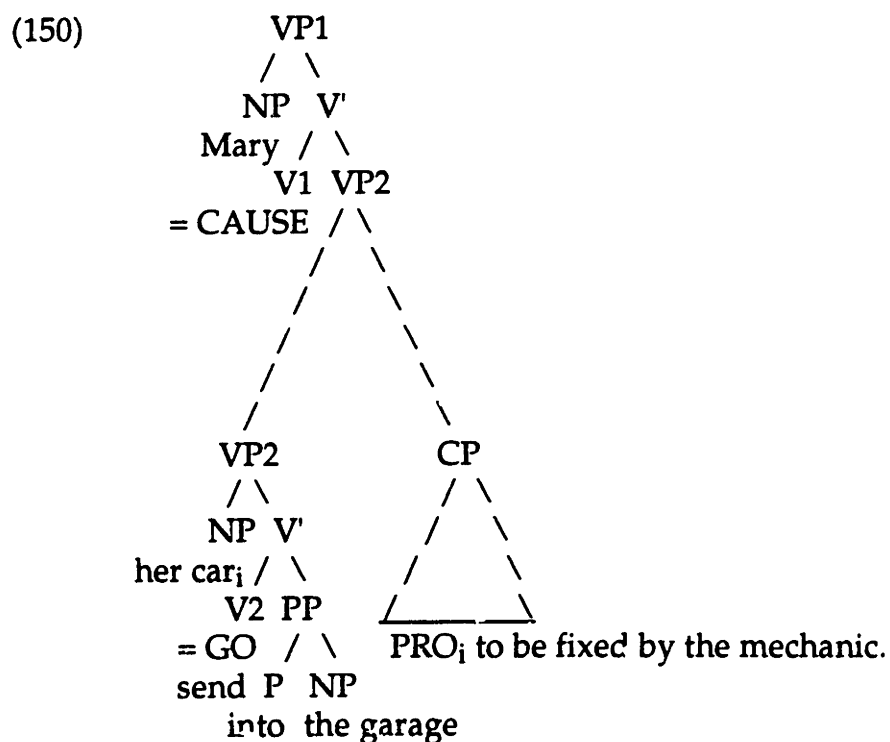


I will not try to justify this structure here.

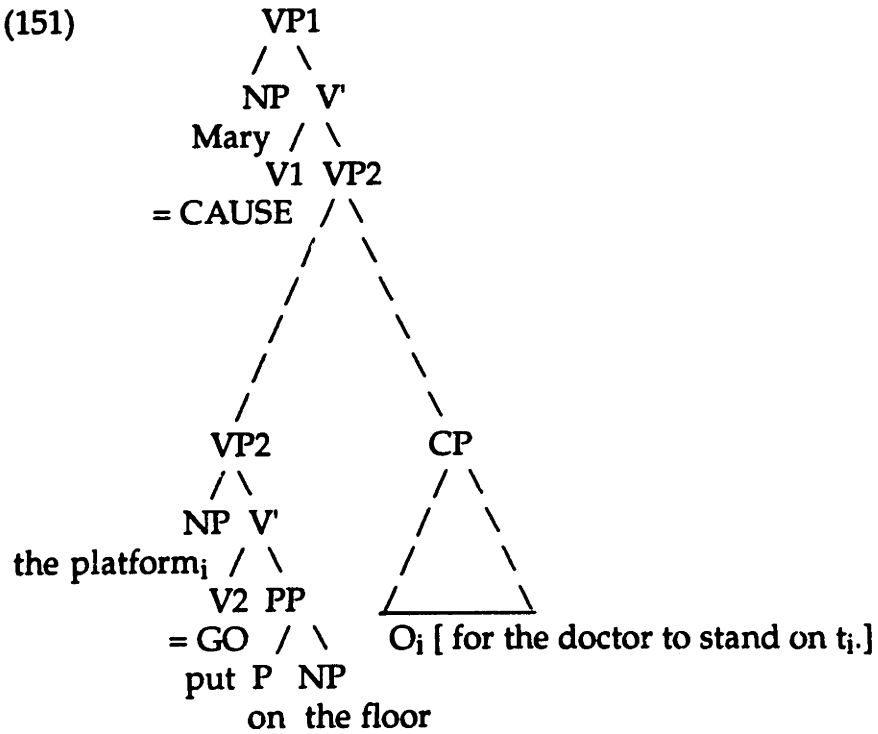
<sup>47</sup> Note that the sense of "go" in these examples need not be taken spatially.

the VP, where by "within" I mean to include the possibility of adjunction to VP itself. This means that, in (142) and (143) above, the infinitival is attached within VP2; and in (144) and (145) above, the infinitival is attached within VP3.

For the sake of discussion I will represent the infinitival as adjoined to the VP to whose content it is related. Note, however, that my claim is that the infinitival is indeed attached somewhere within the VP; whether the maximal projection is in fact the precise site is a question I leave to future research. So, modulo this last degree of vagueness, I attach the infinitival in sentences like (142) and (143) to VP2, as shown in the (partial) d-structures in (150) - (151).

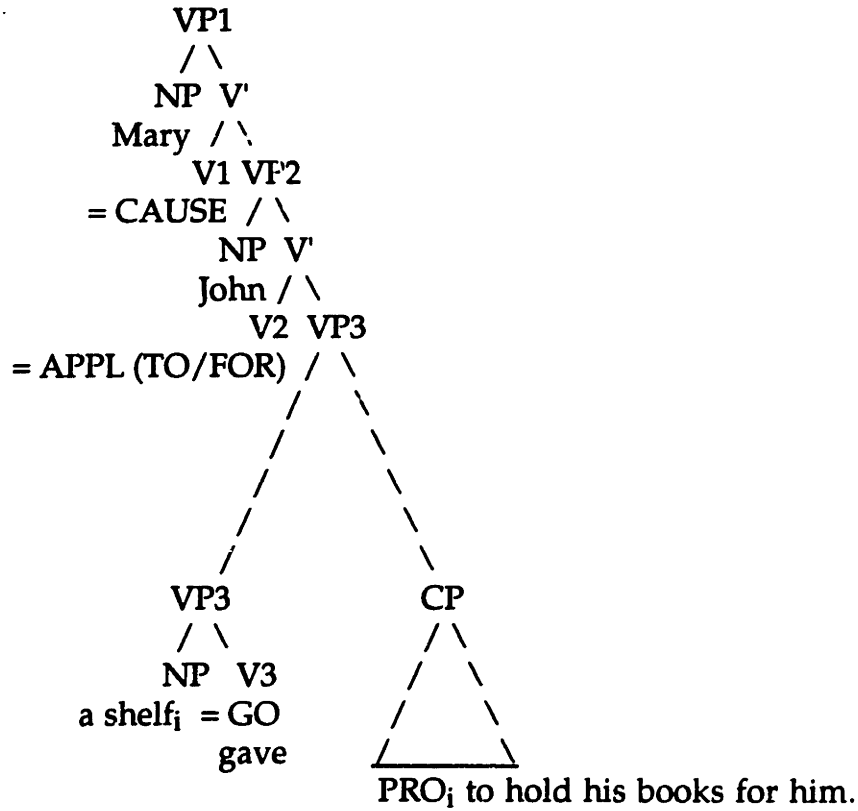


(151)

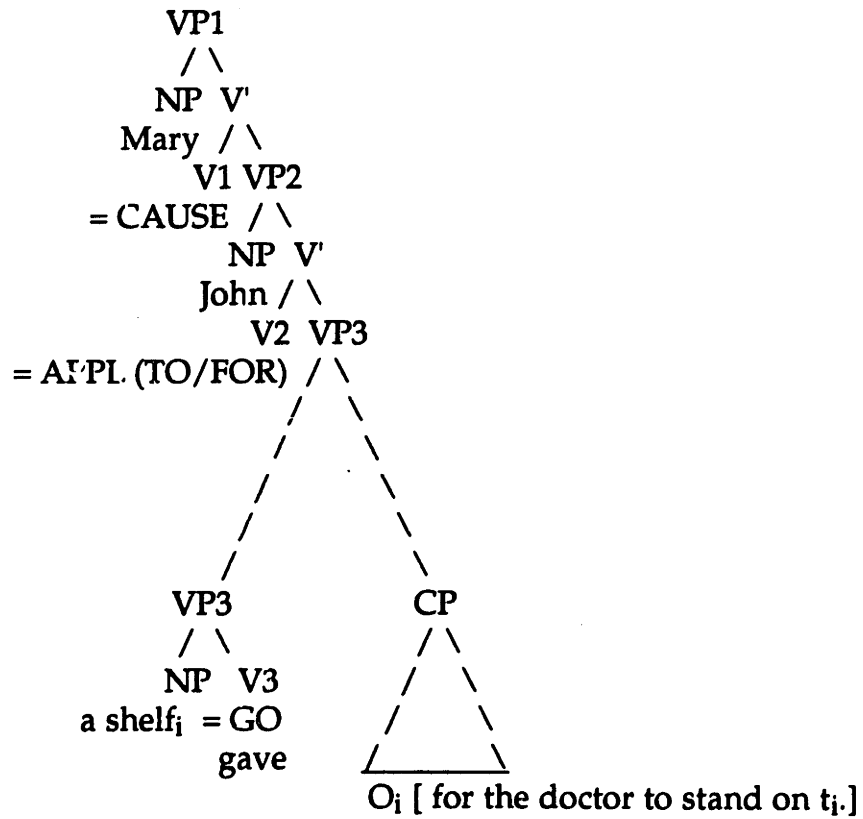


And I attach the infinitival in sentences like (144) and (145) to VP3, as shown in the (partial) d-structures in (152) and (153), respectively.

(152)



(153)



Since examples like (150) - (153) are inner relation sentences whose infinitivals attach to the (most deeply) embedded VP, I will refer to them as "low inner relation sentences."

At this point, one may wonder whether there are any inner relation sentences that are not low inner relation sentences; in other words, are there any inner relation sentences in which the infinitival does not attach to the most deeply embedded VP? I believe the answer to this question is Yes. For example, I claim that in (154) the infinitival clause attaches to VP1, not VP2; and that in (155) it attaches to VP1, not VP3 (nor VP2).<sup>48</sup>

(154) Mary sent her car into the garage (in order) to be able to say she had done so.

(155) Mary sent John a shelf (in order) to be able to say she had done so.

Consider that part of what (154) means is that Mary's "causing" of her car's going into the garage is for the **purpose** of her being able to say she has sent it there; but (154) does not mean that the "going" of Mary's car into the garage is for the purpose of her being able to say she has sent it there. Or, putting matters another way, (154) entails (156), but not (157).

(156) Mary caused an event (in order) to be able to say she had done so.

(157) Mary's car went into the garage for Mary to be able to say she had

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<sup>48</sup> Also I believe that, in cases like (i) - (ii), the infinitival attaches to VP2, making these into what one might call "middle inner relation sentences."

(i) Mary gave John<sub>i</sub> \$100 PRO<sub>i</sub> to do that job for her.

(ii) Mary paid John<sub>i</sub> all her money<sub>i</sub> PRO<sub>i</sub> to keep quiet about her transgressions.

However, for reasons mentioned in note ?, I do not discuss these kinds of examples in the text.

sent it there.<sup>49</sup>

And, similarly, part of what (155) means is that Mary's "causing" of a shelf's going to/for John is for the **purpose** of her being able to say she has sent him one; but (155) does not mean that the "going" of the shelf (somewhere) is for the purpose of her being able to say she has sent it there.<sup>50</sup> Or, putting matters another way, (155) entails (158) but not (159).

- (158) Mary caused an event (in order) to be able to say she had done so.  
(159) A shelf went (somewhere) for Mary to be able to say she had sent it (there).

The point here is that the purpose denoted by the infinitival bears a particular association with the matrix proposition (the 'causing'), not with the (most deeply) embedded proposition (the "going"). Thus, by reasoning parallel to that employed in the discussion of the low inner relation sentences above, I claim that in sentences like (154) and (155) the infinitival attaches within the highest VP to produce the structure shown in the (partial) d-structures in (160) and (161),<sup>51</sup> respectively.

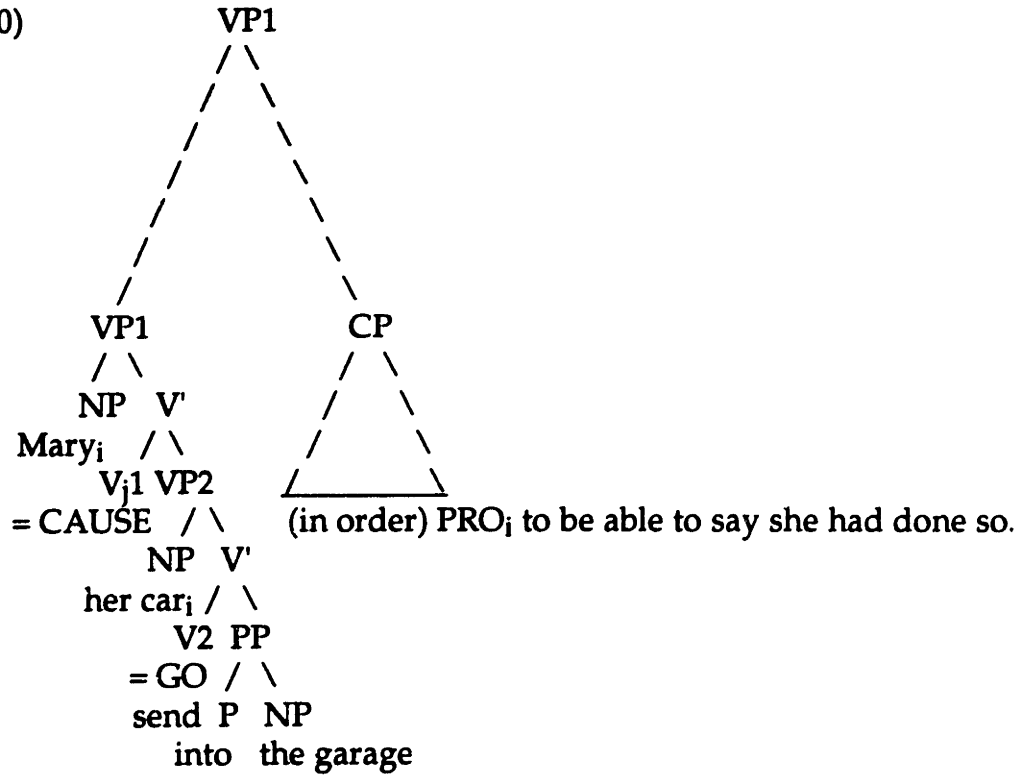
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<sup>49</sup> This sentence is not entailed, since the sentence in question can be true even if Mary's car never actually gets to the garage.

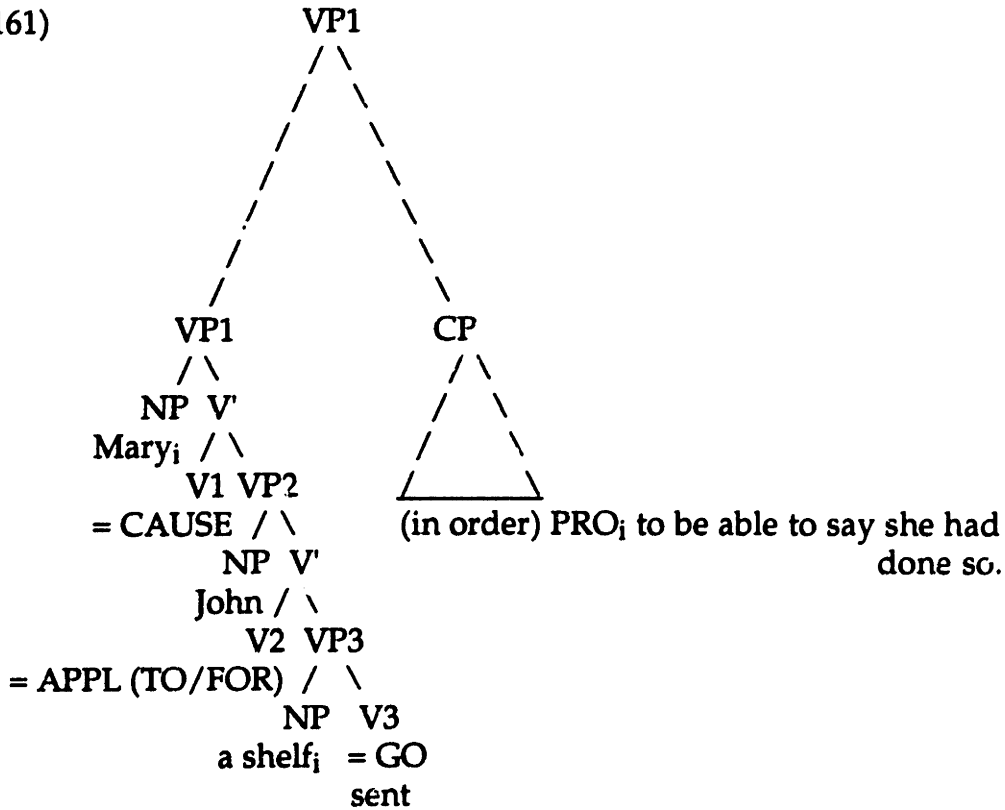
<sup>50</sup> For example, the sentence at issue can be true even if the shelf never actually goes anywhere. This would be the case if Mary had mailed the shelf at the post office, but the post office had never actually carried out Mary's orders.

<sup>51</sup> Actually, in order to fully demonstrate this claim for the double object case, it needs to be pointed out that the sentence in question does not mean that the "going" of a shelf to/for John is for the purpose of Mary's being able to say she has sent it there. This will make clear that the infinitival is not attached to VP2.

(160)



(161)



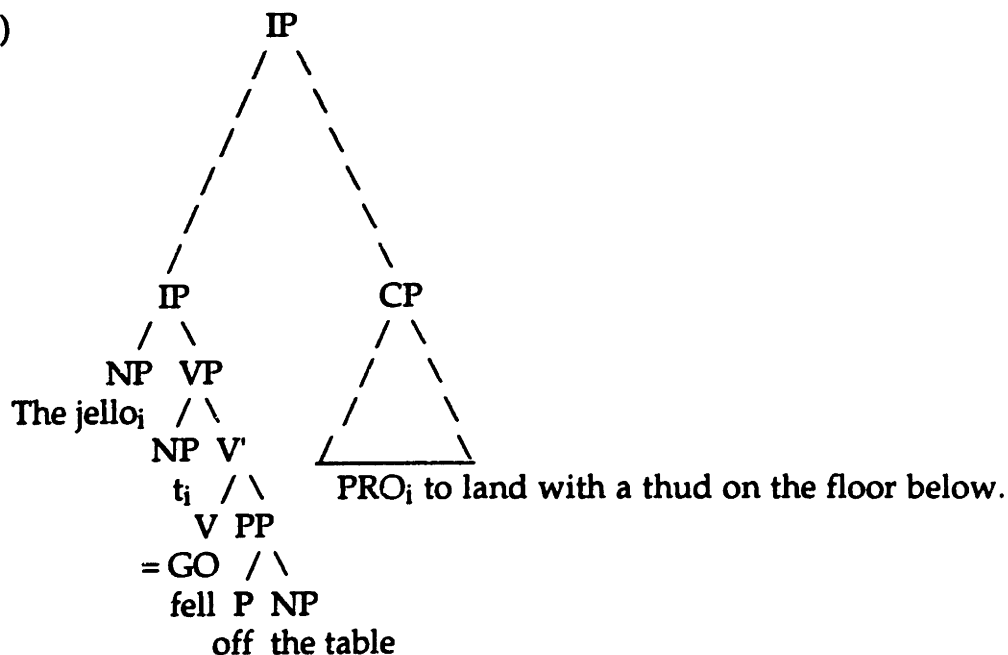
Since examples like (160) - (161) are inner relation sentences whose infinitivals attach to the highest VP, I will refer to them as "high inner relation sentences."

Now I turn briefly to the case of the outer relation sentences, such as (88) - (91) repeated from above (with the addition of an adverbial to (90)).

- (88) The jello<sub>i</sub> fell off the table, PRO<sub>i</sub> to land with a thud on the floor below.
- (89) The alarm bell<sub>i</sub> rang louder and louder, eventually PRO<sub>i</sub> to be heard by everyone within a mile radius.
- (90) On Tuesday, the sun<sub>i</sub> rose hot and bright, only PRO<sub>i</sub> to yield less heat and light than expected.
- (91) Mary<sub>i</sub> studied hard for the exam, only PRO<sub>i</sub> to flunk it miserably.

Obviously, in these sentences it cannot be the case that the infinitival expresses some purpose associated with the content of one of the matrix VPs. This would be impossible, since these sentences do not express purpose at all. Hence I assume that, in an outer relation sentence, the infinitival cannot be attached to either one of the VPs. I suggest instead that, in such examples, the infinitival clause attaches to IP, producing the structure shown in (162).

(162)



Now, under my analysis of the outer- and the high and low inner relation sentences, the distribution of control by direct predication will fall out in a natural way. In short, an argument will be able to control into an infinitival clause via direct predication, i.e. without the aid of logophoricity, just if it happens to be the subject of the projection to which the infinitival clause is attached.

This approach will make evident a certain correspondence between the semantic entailments, or lack thereof, associated with outer, high inner, and low inner relations, on the one hand, and relations of control by direct predication permitted in these sentences, on the other.

First of all, in low inner relation sentences such as (45) (= 51), (55) repeated below as (163), (136) repeated below as (164), (47), (99) repeated below as (165), and (138) repeated below as (166), the matrix direct object can control by direct predication. This is permitted since this argument is the subject of the most deeply embedded (matrix) VP, the same projection to which the infinitival is adjoined.

(163) Mary sent her car<sub>i</sub> into the garage PRO<sub>i</sub> to be fixed by the mechanic.

- (164) Mary put the platform<sub>i</sub> on the floor [ O<sub>i</sub> [ for the doctor to stand on t<sub>i</sub>.] ]  
 (165) Mary gave John a shelf<sub>i</sub> PRO<sub>i</sub> to hold his books for him.  
 (166) Mary gave John a shelf<sub>i</sub> [ O<sub>i</sub> [ for his books to rest on t<sub>i</sub>.] ]

Also, in the low inner relation sentences, it appears that the matrix subject cannot control by direct predication—a result which is in fact predicted by the analysis I have proposed.

The demonstration of this point requires more effort than is immediately apparent. At first one might think it would suffice to note the contrast between the acceptable low inner relation sentence (167) and the unacceptable (168), taken together with the acceptability of (169) and (170).

- (167) Mary<sub>i</sub> moved the stool<sub>k</sub> onto the floor [ O<sub>k</sub> [ PRO<sub>i</sub> to stand on t<sub>k</sub>.] ]  
 (168) \*An air blower<sub>i</sub> moved the stool<sub>k</sub> onto the floor [ O<sub>k</sub> [ PRO<sub>i</sub> to stand on t<sub>k</sub>.] ]  
 (169) An air blower moved the stool onto the floor.  
 (170) An air blower stood on the stool.

The idea would be that the necessity of the AGENT role in the subjects of (167) and (168) should stand as evidence that this argument can only control logophorically.

However, closer examination reveals that this approach could be mistaken.

The problem is that the necessity of the AGENT role in these cases can be attributed to factors wholly independent of control theory. For example, the (matrix) subject in (171) has to be an AGENT even though it is not a controller; this fact is made clear by the unacceptability that results from the substitution of an inanimate subject as in (172).

- (171) Mary moved the stool<sub>i</sub> onto the floor for John to stand on t<sub>i</sub>.  
 (172) \*The air blower moved the stool<sub>i</sub> onto the floor for John to stand on t<sub>i</sub>.

Apparently, sentences like (171) and (172) require a (matrix) AGENT role because, like all inner relation sentences, they express an action for a purpose and so must have either an AGENT or VOLUNTEER argument.

So it also seems, then, that one cannot take the necessity of the AGENT role in the inner relation sentence (167) as demonstrating that the control relation in question necessarily is logophoric; it could be that control might be established here via direct predication, with the AGENT role made necessary by independent factors.

Fortunately, however, it is possible to tease apart the effects of inner-relation semantics and control relations by creating a sentence that shares the relevant control and attachment patterns of (167), but in which the inner relation's demand for an AGENT role is satisfied by some argument other than the controller. Such a sentence is (173).

(173) Mary made [ John<sub>i</sub> move the stool<sub>k</sub> onto the floor [ O<sub>k</sub> [ PRO<sub>i</sub> to stand on t<sub>k</sub>. ] ] ]

Here it seems that "John," which corresponds to the argument "Mary" in (167), has to have a logophoric role, as is demonstrated by the unacceptability of the inanimate substitution in (174).

(174) \*Mary made [ the air blower<sub>i</sub> move the stool<sub>k</sub> onto the floor [ PRO<sub>i</sub> to stand on t<sub>k</sub>. ] ]<sup>52</sup>

The problem with (174) could not be due to the lack of some AGENT role required by the inner semantic relation: The position of the

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<sup>52</sup> Note that the unacceptability of this example could not be a consequence of selection restrictions of any of the verbs involved, given that (i) - (ii) are perfectly acceptable.

- (i) Mary made the air blower<sub>i</sub> PRO<sub>i</sub> move the stool onto the floor.
- (ii) The air blower stood on the stool.

AGENTS in (175) and (176) are identical to that of the AGENT in (174), but (175) and (176) are fine while (174) is out.<sup>53</sup>

(175) Mary made [ the air blower<sub>i</sub> move the stool<sub>k</sub> onto the floor  
[ for the ceiling-plaster to land on t<sub>k</sub>. ] ]  
(Assume a situation in which chips of decaying plaster are falling from a ceiling.)

(176) Mary made [ the air blower<sub>i</sub> move the stool<sub>k</sub> onto the floor  
[ PRO<sub>k</sub> to be broken into pieces by the woodcutter. ] ]

Thus, it seems that the reason that (174) is unacceptable is that "the air blower" is an inanimate argument that is being required to serve as a logophoric controller.

This result indicates that the control relation in question—subject-to-subject in a low inner relation sentence—cannot be established via direct predication. And, of course, this means that the subject-to-subject control relation in (167), with which this digression started, also cannot be established via direct predication. This outcome is in fact what is predicted by my analysis: The matrix subject has to be unable to control by direct predication, since it is the subject of the highest VP, which is not the projection to which the infinitival clause is attached.

Before concluding this point, it must be noted that (174a), below, is less than perfect, an odd result which is not predicted by my theory, nor by any other of which I am aware.

(174a) ?Mary made [ the air blower<sub>i</sub> move the stool<sub>k</sub> onto the floor  
[ for it to stand stand on t<sub>k</sub>. ] ]

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<sup>53</sup> However, the inner relation does apparently require the assignment of an AGENT role to this example's subject, as is indicated by the unacceptability of the inanimate substitution in (i).

(i) \*A surge of electric current made the air blower<sub>i</sub> [ PRO<sub>1</sub><sub>i</sub> move the stool<sub>k</sub> onto the floor [ PRO<sub>k</sub> to be broken into pieces by the woodcutter. ] ]

I believe this follows from the nature of purpose clauses in general.

One would expect that this example should be fine, since here no inanimate argument is asked to be a logophoric controller.

I will not try to explain the behavior of (174a) here, except to note that perhaps the pronoun is disguising what is in fact a relation of control. In other words, if the truth here is that "the air blower" actually controls "it," then the behavior of (174a) will be as expected. However, although there are languages that exhibit controlled pronouns,<sup>54</sup> I am not aware of any theory that claims such a phenomenon for English. I leave this matter for future research.

Now, I have shown that the attachment of the infinitival to the (most deeply) embedded VP in the inner relation sentences has two sets of consequences: First, the **purpose** denoted by the infinitival bears a certain syntactic and semantic association with the (most deeply) embedded proposition, as is expressed by the pattern of its entailments (cf. the discussion of (146) - (149)). Second, the only argument capable of controlling into the infinitival via direct predication is the matrix direct object, since this is the only argument that occupies the subject of the projection to which the infinitival is attached.

Next, consider the behavior of high inner relation sentences such as (177).

(177) Mary<sub>i</sub> sent her car to the garage in order PRO<sub>i</sub> to be able to tell people she had sent it there.

Here, I argue that the matrix subject can control by direct predication. Of course, this point is not obvious, since the controller in sentences like (177) has an AGENT role. The question must be asked whether in this case the AGENT role, which is of course logophoric, isn't in fact necessitated because, contra my analysis, these sentences really involve an instance not of direct predication but, instead, of logophoric control.

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<sup>54</sup> For example, Kiche-Maya.

Such a possibility seems initially to be supported by (178), whose unacceptability might seem to imply that, in high inner relation sentences generally, the AGENT role is obligatory on the controller.

(178) \*An incredibly powerful wind<sub>i</sub> sent Mary's car into the garage in order PRO<sub>i</sub> to rid the driveway of junk.

However, it turns out that there are high inner relation sentences in which the controller clearly is not an AGENT. Such examples appear in (179).

(179a) Mary will make [ the remote-controlled car<sub>i</sub> go into low gear in order [ PRO<sub>i</sub> to get over the hill. ] ]

(179b) Mary made [ the ball<sub>i</sub> go into a spin in order [ PRO<sub>i</sub> to get beyond the range of the bat. ] ]

Here, I would argue, the inanimacy of "the car" or "the ball" ensures that control into the high inner relation infinitival (purpose) clause must be established via direct predication.

I assume, then, that the apparent necessity of the AGENT role in (177) and (178) results, not from participation in any logophoric control relation, but rather from the fact, alluded to above, that the matrix clause of any inner relation sentence has to have either an AGENT or VOLUNTEER argument. (And I assume that, for similar reasons, an AGENT role is required also in the matrix subject of (179).<sup>55</sup> )

I conclude, then, that the (matrix) subject in a high inner relation sentence is able to control via direct predication. This is permitted since this argument is the subject of the highest VP, the same projection to which the infinitival is adjoined.

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<sup>55</sup> The necessity of an AGENT role in the matrix of this example is borne out by the unacceptability of (i).

(i) \*An earthquake made the remote-controlled car [ PRO<sub>1i</sub> go into low gear in order [ PRO<sub>2i</sub> to get itself over the hill. ] ]

Also, in these sentences, it is impossible for the direct object to control by direct predication, as is indicated by the unacceptability of (180).

(180) \*Mary sent her car<sub>i</sub> to the garage in order PRO<sub>i</sub> to get there before closing time.

This is forbidden since this argument is the subject of the embedded (matrix) VP, which is not the projection to which the infinitival is adjoined. (Cf. diagrams (160) - (161).)

Moreover, because the infinitival is adjoined to the highest VP, part of what a sentence like (177) means is that Mary's "causing" of her car's going to the garage is for the **purpose** of her being able to say she has sent it there; but it does not mean that the "going" of her car to the garage is for the purpose of her being able to say she has sent it there. Or, putting matters another way, because the infinitival is adjoined to the highest VP, (177) entails (181).

(181) Mary caused the event in order to be able to tell people she had done it.

And, because the infinitival is not adjoined to the embedded VP, (177) does not entail (182).

(182) The car went to the garage in order for Mary to be able to tell people she had sent it there.

(For example, (177) can be true even if Mary's car never actually goes to the garage.)

So, for the high inner relation sentences, the attachment of the infinitival to the highest VP has two sets of consequences: First, the **purpose** denoted by the infinitival bears a certain syntactic and semantic association with the highest proposition, as is expressed by the pattern of its entailments (cf. (181) - (182)). Second, the only

argument capable of controlling into the infinitival via direct predication is the matrix subject, since this is the only argument that occupies the subject of the projection to which the infinitival is attached.

Finally, consider the behavior of outer relation sentences such as (183) - (184).

- (183) The wind<sub>i</sub> blew hail down the valley all morning, PRO<sub>i</sub> only to subside later in the day.  
(184) The sun<sub>i</sub> rose hot and bright, only PRO<sub>i</sub> to yield less heat and light than expected.

The matrix subjects in each of these cases can control by direct predication, as is clear from the fact that its inanimacy produces no problem. I assume that the direct predication is permitted here because in each case the controller is the subject of IP, the same projection to which the infinitival is adjoined.

Also, in outer relation sentences, it is impossible for an object to control by direct predication, as is indicated by the unacceptability of (185).

- (185) \*The wind blew hail<sub>i</sub> down the valley all morning, PRO<sub>i</sub> only to land on my head.

This is forbidden since the object is the subject of the embedded (matrix) VP, which is not the projection to which the infinitival is adjoined.

Moreover, because the infinitivals in (183) - (184) are adjoined to IP, not VP, these sentences entail no connection whatever between any proposition in the matrix and a purpose in the infinitival clause.

So, for the outer sentences, the attachment of the infinitival to IP has two sets of consequences: First, there is no association between an infinitival purpose and a matrix proposition, and hence no pattern of entailments like those that flow from the inner relation sentences.

Second, as in the higher inner sentences, the only argument capable of controlling into the infinitival via direct predication is the matrix subject, since this is the only argument that occupies the subject of the projection to which the infinitival is attached.

In conclusion, my account of control by direct predication and of certain semantic connections between the matrix and infinitival clauses correctly predicts certain regular correspondences between the patterns of semantic entailment and control.

In the next section I examine logophoric control. The syntactic structures I have proposed in the present section will make the distinction between control via direct predication and logophoric control fall out in a natural way.

### 3.2.2. Logophoric Control.

Recall that "logophoric control" is defined as in (81), repeated from the current chapter's Introduction as (186).

(186) A control relation is a logophoric control relation if and only if its acceptability requires the controller to be animate.

Now, contra Williams, I do not assume that, to be a logophoric controller, an argument must be a "logophoric center," at least not in the sense in which Williams seems to employ that term.<sup>56</sup>

Instead, I claim that an argument can be a logophoric controller just if it is assigned a logophoric role. And the assignment of logophoric roles is constrained by the Logophoric Role Constraint of Chapter Two, repeated here as (187).

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<sup>56</sup> Williams following Sells, supposes that an argument is a "logophoric center" if it is " the source of the report, the person with respect to whose consciousness (or 'self') the report is made [or] the person from whose point of view the report is made [PIVOT]." (Sells (1987:445))

- (187) Logophoric Role Constraint: Given any two coarguments, X and Y, a logophoric role can be assigned to X only if
- (a) X occupies the highest theta position within some maximal projection, and
  - (b) there is no logophoric role assigned to Y.

This means that for me, but apparently not for Williams, logophoric control is constrained by certain general principles of syntax.

In this section I examine properties of the dependency that underlies logophoric control. I show that this dependency is constrained by principles that are distinct from those that constrain control by direct predication. In short, whereas control by direct predication is local, logophoric control will be unbounded, but scopal.

First of all, the locality of control by direct predication was effectively established in the previous section, where it was demonstrated that such control is possible only when the controller and infinitival are attached within the same matrix projection.

Now, the fact that logophoric control is exempt from such locality is demonstrated by the acceptability of (188), repeated from the previous section.

- (188) Mary<sub>i</sub> moved the stool<sub>k</sub> onto the floor PRO<sub>i</sub> to stand on t<sub>k</sub>.

As will be recalled, it was argued that the (matrix) subject of (188) could not control by direct predication—which was as matters should be, since this controller is in VP1 while the infinitival clause is in VP2. So, the only means by which control can be established in this case is logophorically; and, since the controller and infinitival are attached to distinct projections, it is apparent that the locality associated with control by direct predication need not be observed.

In fact, it appears that logophoric control is unbounded, given the acceptability of (189), in which three clauses intervene between the controller and the infinitival clause.

- (189) Thinking ahead, Mary<sub>i</sub> had [ Bill make [ John cause  
[ Frank to put a washcloth<sub>n</sub> in the room [ PRO<sub>i</sub> to clean herself  
with t<sub>n</sub> after the game.] ] ] ]

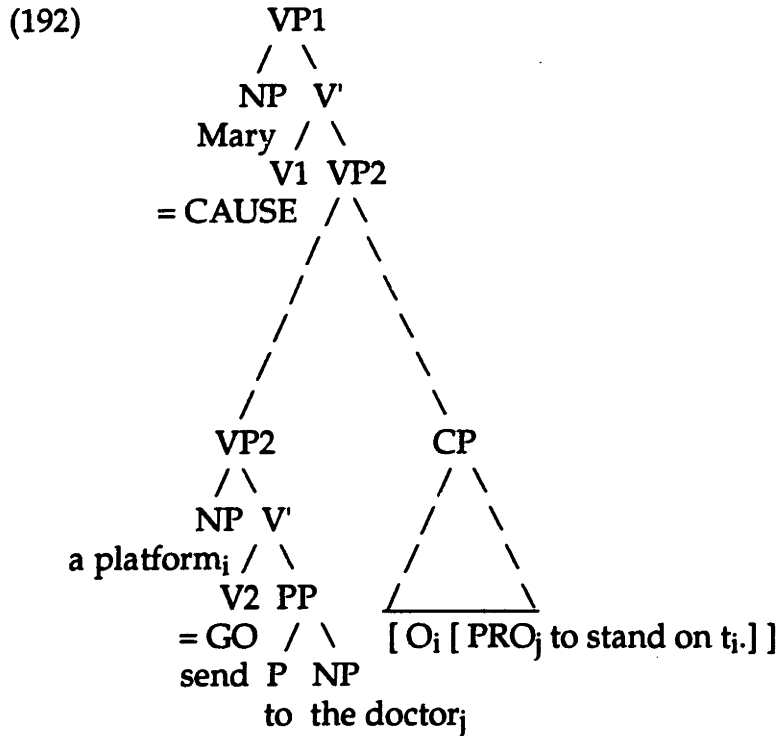
Now, I also will claim that logophoric control can succeed only when the infinitival clause is within the syntactic scope of the controlling argument, where scope is defined as in (190), and "theta-command" is defined as in (191).

- (190) An argument that is assigned a logophoric role exerts scope just over all constituents within its theta-command domain.
- (191) A constituent X theta-commands a constituent Y if and only if every maximal projection that dominates the entire content of the theta assigner of which X is an argument also contains<sup>57</sup> Y.

Note that the notion "theta-command" differs from c-command, since it permits an oblique argument to theta command any constituent contained by that VP by which the oblique itself is most immediately dominated. For example, as can be seen in the structure (192), repeated from (86), the oblique argument "the doctor" will theta-command every item in the infinitival clause.

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<sup>57</sup> Here and throughout this work, I employ the term "contain" in the sense of Chomsky 1992: "The category alpha contains beta if some segment of alpha dominates beta."



Also "theta-command" differs from "m-command," since it ignores any XP that fails to dominate the entire content of the theta assigner in question, as is the case with PP in (192).

Now, it is obvious that the scope relation is observed in (189), above: Clearly, the infinitival clause "PRO to clean herself after the game" is within the scope of the controller "Mary," since it is contained by every maximal projection that dominates the theta assigner "had," of which Mary is an argument.

Moreover, it is obvious that this same point can be made with respect to the infinitival clause in any sentence in which the infinitival-clause subject is controlled by the subject of some higher clause as, for example, in (193) - (195).

- (193) Thinking ahead, Mary<sub>k</sub> made [ John cause [ Frank to put a washcloth<sub>n</sub> in the room [ PRO<sub>k</sub> to clean herself with t<sub>n</sub> after the game.]] ]
- (194) Thinking ahead, Mary<sub>m</sub> caused [ Frank to put a washcloth<sub>n</sub> in the room [ PRO<sub>m</sub> to clean herself with t<sub>n</sub> after the game. ] ]
- (195) Thinking ahead, Mary<sub>m</sub> put a washcloth<sub>n</sub> in the room [ PRO<sub>m</sub> to

clean herself with  $t_n$  after the game.] ]

In each such case the scope relation will be observed, since the infinitival is contained by every maximal projection that dominates the theta assigner of which the controller is an argument.

Also, the scope relation will be observed whenever the subject of the infinitival clause is controlled by the matrix oblique object, as in a low inner relation sentence like (196).

(196) Mary sent the money to John<sub>i</sub> PRO<sub>i</sub> to spend on himself.

This follows since, in all such cases, the infinitival clause will be contained by every maximal projection that dominates the theta assigner of which the (matrix) oblique is an argument, namely the theta assigner composed of the (embedded) matrix verbal and prepositional heads. (Note here that, since the controller is not a subject, direct predication is out of the question, and so the control relation must be logophoric.)

Of course, it also is clear that the scope relation will be observed whenever the subject of the infinitival clause is controlled by the matrix direct object, as in a low inner relation sentence like (197).

(197) Mary invited John<sub>i</sub> to her house PRO<sub>i</sub> to sample her contraband.

However, in such cases the controller also is the subject of the embedded (matrix) VP, the same projection to which the infinitival clause is attached. Thus, in such cases it always will be possible to establish control via direct predication, and hence such cases can neither argue for nor against the relevance of scope.

Now, cases in which the scope relation is violated can be created by embedding the would-be controller within the various matrix arguments. All such cases will result in unacceptable control relations as, for example, in (198) - (200) which, but for the aforementioned embedding, are parallel to (195) - (197), respectively.

- (198) \*Thinking ahead, a man who Mary<sub>m</sub> likes put a washcloth<sub>n</sub> in the room [ PRO<sub>m</sub> to clean herself with t<sub>n</sub> after the game. ]
- (199) \*Mary sent the money to a woman who John<sub>i</sub> likes PRO<sub>i</sub> to spend on himself.
- (200) \*Mary invited a woman who John<sub>i</sub> likes to her house PRO<sub>i</sub> to sample her contraband.

Another way to induce a scope violation may be by attempting to award controller status to a matrix direct or oblique object in an outer relation sentence, as in (201) or (202), respectively.

- (201) \*Mary invited John<sub>i</sub> to her house, only PRO<sub>i</sub> to show up three hours later than he had said he would arrive.  
(Cf. "Mary<sub>i</sub> invited John to her house, only PRO<sub>i</sub> to find out that all his relatives were going to insist on showing up there with him.")
- (202) \*Mary sent the money to John<sub>i</sub>, only PRO<sub>i</sub> to be told that he still was too poor.  
(Cf. "Mary<sub>i</sub> sent the money to John, only PRO<sub>i</sub> to be told that she hadn't sent enough.")

In each of these cases, the (matrix) embedded VP node dominates the would-be controller but fails to contain the infinitival clause. Consequently, the would-be controllers themselves fail to theta-command the infinitivals so that the necessary scope relation is violated, and the sentences are unacceptable.

Of course, one could argue that (201) - (202) are not very convincing evidence for the relevance of scope, since it might simply be that something about the "only to" clause itself demands control on the part of the matrix subject. However, even in the worst case, this would do no harm to the notion of scope; and the other examples cited above still would be in force.

Results that are parallel to those seen in outer relation sentences can be obtained in high inner relation sentences, again by attempting to award controller status to the matrix direct or oblique objects as in (203) and (204), respectively.

(203) \*Mary invited John<sub>i</sub> to her house in order PRO<sub>i</sub> to be fooled into thinking she liked him.<sup>58</sup>

(Cf. "Mary<sub>i</sub> invited John to her house in order PRO<sub>i</sub> to give him the illusion that she liked him.")

(204) \*Mary sent the money to John<sub>i</sub> in order PRO<sub>i</sub> to appear richer than he really was.

(Cf. "Mary<sub>i</sub> sent the money to John in order PRO<sub>i</sub> to appear more generous than she really was.")

Here, again, the relevant maximal projection, the (matrix) embedded VP node, dominates the would-be controller but fails to contain the infinitival clause. Hence, again, the would-be controllers fail to theta-command the infinitivals with the result that the necessary scope relation is violated, and the sentences are unacceptable.

Obviously one could argue that (203) - (204), like (201) - (202) above, are not strong evidence for the relevance of scope; here, it could be that something about the "in order to" clause demands control on the part of the matrix subject. However, as above, this result would do no harm to the notion of scope; and the examples cited earlier still would be in force.

In conclusion, this section has shown that logophoric control is constrained by syntactic principles distinct from those that constrain control by direct predication: Whereas control by direct predication is local, logophoric control is unbounded, but scopal.<sup>59</sup>

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<sup>58</sup> Note that, if "in order" is deleted, this sentence can be parsed as a lower inner relation sentence, and so may become acceptable.

<sup>59</sup> Note that the scope requirement applies only to instances of "forwards" control, i.e. those cases in which the controller precedes the controllee. When this order is reversed, the scope requirement disappears as, for example, in (i) - (ii).

(i) PRO<sub>i</sub> working in the civil rights movement made it impossible for Mary<sub>i</sub> to get clearance.

(ii) PRO<sub>i</sub> to fall flat on her face would make it impossible for Mary<sub>i</sub> to look her audience in the eye unashamedly.

### 3.2.3. A Prediction for Double-control-relation Sentences.

Before closing this chapter, I want to point out that the theory I have proposed correctly predicts an interesting property of sentences in which two control relations hold: When a relation of control by direct predication holds between the matrix object and (the operator raised from the) infinitival-clause object, then any control relation into the infinitival subject has to be logophoric.

For example, in (205) the matrix object "the papers" controls the (operator raised from the) infinitival-clause object.

(205) Mary<sub>i</sub> blew the papers<sub>j</sub> onto the floor [ O<sub>j</sub> [ PRO<sub>i</sub> to stand on t<sub>j</sub>. ] ]

And the control of the infinitival-clause subject has to be logophoric, as is indicated by the unacceptability of the inanimate substitution into this position in (206).

(206) \*The air blower<sub>i</sub> blew the papers<sub>j</sub> onto the floor [ O<sub>j</sub> [ PRO<sub>i</sub> to stand on t<sub>j</sub>. ] ]

Now, the logophoricity of this control relation cannot be explained as a function of the arguments or verbs involved, since there are circumstances in which control by direct predication can be established between the same arguments of the same verbs as, for example, in (207).

(207) The air blower<sub>i</sub> blew hot air all morning, only PRO<sub>i</sub> to stand unused for many hours after that.

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For further examples along these lines see, for example, Chomsky 1986 (Knowledge of Language).

I have no idea why backwards and forwards dependencies should differ in this way.

However, the forcing of logophoricity actually follows as a necessary consequence of the theory I have proposed. This is so because, since the matrix object controls by direct predication, the infinitival clause has to be attached to the embedded VP. Given this level of attachment, the only possible means by which the matrix subject (which is not within the embedded VP) can control is to do so logophorically.

### Conclusion.

In conclusion, this chapter has argued that there are two kinds of control relations that can hold between a matrix and infinitival adjunct clause: Logophoric control and control by direct predication. Control by direct predication does not require logophoric roles but must be local, since the controller must be the subject of the projection within which the infinitival clause is attached. Logophoric control, in contrast, is unbounded but scopal, and is possible only if the controller is assigned a logophoric role.

## CHAPTER FOUR

### A COMPARISON BETWEEN LOGOPHORIC BINDING AND THE APPROACHES OF PESETSKY AND BELLETTI AND RIZZI.

#### Introduction.

In this chapter I compare the theory I have developed in this work with a different kind of approach that could be taken along the lines of proposals developed by Belletti and Rizzi (1??) and Pesetsky (19?).<sup>60</sup>

Belletti and Rizzi (B&R) and Pesetsky offer accounts for the permissibility of so-called "backwards binding" in sentences involving psych verbs, such as in (208) - (209).

- (208) Pictures of himself generally amuse John.  
(Cf. "??Pictures of himself generally hit John (when they fall off of his living room wall).")
- (209) ??Those rumours about herself annoy Mary.  
(Cf. "??Those rumours about herself describe Mary.")

Both accounts argue that the surface subject (the "THEME" in B&R's conception) originates at d-structure in a position c-commanded by the object (the EXPERIENCER).

For B&R, the surface structure configuration for a sentence like (208) is along the lines shown in (210).

- (210)
- $$\begin{array}{c} \text{IP} \\ / \quad \backslash \\ \text{NP} \quad \text{VP} \\ [\text{Pictures of himself}]_i \quad / \quad \backslash \\ \quad \quad \quad \text{V}' \quad \text{NP} \end{array}$$

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<sup>60</sup> For an earlier proposal in a similar spirit, see also Pesetsky (1987).

/ \ John  
 V NP  
 amuse t<sub>i</sub>

Binding is licensed here because, at d-structure, the binder (EXPERIENCER object) actually c-commands the reflexive with sufficient locality to comply with Condition A; or, alternatively, at s-structure the EXPERIENCER c-commands the object's trace, and hence complies with Condition A.

Pesetsky, on the other hand, argues that the essence of B&R's proposal should be extended to cover other instances of backwards binding, as occur, for example, in sentences along the lines of (211) - (212), but not in (213) - (214).<sup>61</sup> (The binding behavior of sentences like (211) - (212) was noted originally by Burzio (186, 199 and 203).)<sup>62</sup>

- (211) Mary gave a picture of himself to John to serve as a talisman.
- (212) Mary sent a picture of himself to John to serve as a talisman.

- (213) \*Mary gave a clone of himself John (to serve as a talisman).
- (214) \*Mary sent a clone of himself John (to serve as a talisman).

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<sup>61</sup> This sort of backwards binding appears to be based upon the presence of a logophoric role in the binder (the oblique object). Such a role (BENEFICIARY) is present in the acceptable cases and absent in the unacceptable ones. Some additional cases that block backwards binding are (i) - (ii).

- (i) ??PRO<sub>i</sub> to get a good meal, Mary sent [a clone of himself]<sub>i</sub> to John.
- (ii) ??PRO<sub>i</sub> to get a good meal, Mary brought [a clone of himself]<sub>i</sub> to John.

Here, the direct object is assigned a logophoric role (VOLUNTEER). This means that, again, there cannot be a logophoric role in the oblique, and this may, again, be the source of degradation of the binding relation.

<sup>62</sup> Other dative/locatives that show this are (i) - (ii), from Pesetsky (Zero Syntax).

- (i) Sue showed each other's friends to John and Mary.
- (ii) I entrusted each other's children to the adults in the room.

Although these cases do not involve transfer of possession I would assume that the GOAL is nonetheless a BENEFICIARY, and that whatever analysis applies to the transfer-of-possession cases will apply to these also.

Following the spirit of B&R, Pesetsky claims here that the direct object raises from a d-structure position in which it is c-commanded by the oblique object, and so Condition A is satisfied at d-structure or, alternatively, at s-structure by the binding of the object's trace. (The specifics of Pesetsky's proposal are beyond the scope of this discussion.)

Since B&R's and Pesetsky's analyses rescue binding by positing d-structures that bring the binder and reflexive into conformity with Condition A, I will refer to them collectively as a "Condition A driven theory." (Note here that B&R and Pesetsky also argue for their proposed d-structures based on evidence other than binding. I do not address these arguments in this thesis, and nothing I say is meant to diminish their merit.)

In what follows, I argue that the Condition A driven theory should be abandoned in favor an approach based upon the theory of logophoric roles developed in the preceding chapter.

First, I show that there are permissible instances of backwards binding that fail to satisfy Condition at any level of representation. These cases imply that the Condition A driven theory is on the wrong track.

Then I show that reflexive binding relations divide themselves into two classes of dependencies in a manner reminiscent of the distinction between dependencies of logophoric control and control by direct predication. One class of binding relation obeys Condition A and therefore is necessarily local; the other class, which I deem "logophoric," transcends Condition A, requires the assignment of a logophoric role to the binder, and is unbounded. I show that backwards binding has all the properties of logophoric binding, and none of the properties of binding subject to Condition A. And I conclude that the Condition A driven theory should be abandoned in favor of a theory based upon logophoric binding, so that backwards binding can assume its place within a broader (though only partially developed) theory of binding.

Finally, I claim that the essential distinction between local and logophoric dependencies cuts across both control theory and reflexive binding. I argue that a single structural constraint underlies both binding under Condition A and control by direct predication; and that, ultimately, a single set of structural and semantic constraints underlies both logophoric binding and logophoric control.

#### 4.1. Backwards Binding where C-command is Impossible.

In this section I argue that the Condition A theory is on the wrong track because there are instances of backwards binding for which it cannot account. Such instances occur in (215) - (216), which contrast favorably with (217) - (218).

(215) That ugly picture of himself hurt John's pride.

(216a) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> put a picture of himself behind John's steering wheel to serve as a talisman.

(216b) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John's steering wheel to serve as a talisman.

(217) ??That ugly picture of himself hurt John's knee (when it fell on him.)

(218a) ??(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John's steering wheel to serve as a talisman.

(218b) ??(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John's steering wheel to serve as a talisman.

On anything like standard assumptions, there is no way that a Condition A driven theory can account for (215) - (216), since there is

no level of representation at which the binder would reasonably be held to c-command the reflexive.

Now, one might try to preserve the Condition A driven theory by claiming that it does indeed give the correct account for the examples for which it is intended, and arguing that cases like (215) - (216) really are the result of some other phenomenon, say logophoric binding, and so are exempt from Condition A.

However, such an approach would fail to capture what I take to be obvious similarities between (215) - (216) and the other backwards binding cases.

I believe that the contrast between (215) and (217) is parallel to the contrast that B&R account for between cases like (219) and (220), below;

- (219) That ugly picture of himself hurt John (emotionally).
- (220) ??That ugly picture of himself hurt John (when it fell on him.)

and that the contrast between (216) and (218) is parallel to the contrast that Pesetsky accounts for between cases like (221) and (222), below.

- (221a) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> put a picture of himself behind John to serve as a talisman.
- (221b) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John to serve as a talisman.
- (221c) A picture of himself went behind John to serve as a talisman.
- (222a) ??(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John to serve as a talisman.
- (222b) ??(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John to serve as a talisman.

Therefore, I conclude that the Condition A driven theory is on the wrong track.

#### 4.2. Redrawing the Boundary between Logophoric Binding and Binding under Condition A.

In this section I claim that backwards binding is logophoric, and hence not subject to Condition A. I argue that this approach, and not the Condition A driven theory, can permit a binding theory to be developed that will capture essential semantic and syntactic distinctions that cut across reflexive binding in general.

To begin with, I will assume in the spirit of Reinhart and Reuland (R&R) that the binding of a reflexive may be accomplished under Condition A, or it may be accomplished logophorically. However, I will differ from R&R with respect to where the "dividing line" between these two kinds of binding should be placed.

In particular, I believe that this dividing line will make its true location apparent when one pursues with sufficient commitment the standard notion that Condition A is a purely structural condition. As I will show, when reflexive binding is sufficiently "local" (a notion which is structural, not semantic) it holds without regard to the binder's thematic character; I conclude that it is just these cases that are licensed under Condition A. On the other hand, when reflexive binding is not sufficiently local it is permitted only if the binder is assigned a logophoric role; I conclude that these cases are licensed logophorically. This reasoning leads to the differences between R&R and myself.

Consider first the binding relations in (223) - (224), which satisfy Condition A in everyone's account.

- (223a) The machine destroyed itself.  
 (223b) Mary destroyed herself.
- (224a) The corrosive liquid consumed itself.  
 (224b) The cannibal consumed herself.

The acceptability of these examples does not require the assignment of a logophoric role to the binder, a point which I take to be demonstrated by the binders' inanimacy in (223a) and (224a). And of course, this result is not surprising since Condition A is structural, not semantic.

Indeed, I assume that all instances of binding under Condition A always will hold independently of whether the binder happens to be assigned a logophoric role.<sup>63</sup> And from this it follows that any instance of binding whose acceptability actually requires that such a role be assigned must be in violation of Condition A.

Consider, for example, the binder "Mary" in (225).

- (225) Mary causes lightning to strike herself.

In this instance, I believe the binder has to be assigned a logophoric role for binding to be acceptable. For example, (225) can describe a situation in which Mary agentively causes lightning to strike herself; but my judgment is that it cannot describe a case in which her body happens to attract lightning by virtue of, say, its unusually high conductivity. And, when the assignment of a logophoric role is made impossible by

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<sup>63</sup> One might suppose there are counterexamples in (i) - (ii), or even in cases involving apparent null reflexives as in (iii) - (iv).

- (i) Mary loves herself.  
 (ii) Mary kissed herself.
- (iii) Mary scratched.  
 (iv) Mary washed.

However, it seems clear that in (i) - (ii) animacy is selected by the verbs, and therefore there is no reason to believe that it is required for licensing the binding relations. And in (iii) - (iv) I assume that the requirement of animacy is due to some factor distinct from any of the issues at hand—for example, perhaps it will turn out that null reflexives always must be animate.

hoit

the substitution of an inanimate binder, the resulting binding relation becomes unacceptable as in (226).

(226) \*Jupiter causes lightning to strike itself.

So, I conclude that the binding in (225) must fail to satisfy Condition A, a conclusion which is in any case shared by standard theories of binding.

Moreover, I claim that the binding in (225) is logophoric; in general, I claim that a binding relation, like a control relation (cf. Chapter 2), is logophoric if its acceptability is contingent upon the assignment of a logophoric role.

This then is the true test of whether an instance of reflexive binding is logophoric or is licensed under Condition A: If its acceptability requires the assignment of a logophoric role, it is logophoric binding; if its acceptability does not require a logophoric role, it is licensed under Condition A (which, of course, does not exclude the possibility that it might also be logophoric).<sup>64</sup> Treating binding relations in this way forces a new formulation of Condition A; and in the new picture that emerges, backwards binding will fall clearly in the logophoric camp, and not within the purview of Condition A, as the Condition A driven theory has sought to claim.

I will argue that, contra R&R, the correct formulation of Condition A incorporates the notion of coargumenthood, developed in Chapter Two and repeated in (227).

(227) Given heads in the configuration [  $a_1 \dots a_j$  ], where each  $a_i$

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<sup>64</sup> For example, binding in (i) is licensed under Condition A, but it might also hold logophorically.

(i) Mary kissed herself.

In other words, it is perfectly possible that this instance of binding holds by virtue of the logophoric role in the subject; this would be in no way at odds with the fact that the binding also is licensed under Condition A.

asymmetrically c-commands  $a_{i+1}$  and no element X intervenes between  $a_i$  and  $a_{i+1}$ :  
The specifier of  $a_1$  and the complement of  $a_j$  are coarguments of each other.

To review the point, (227) ensures, for example, that the underlined arguments in each of (228) - (231) are coarguments of each other.

- (228) Mary saw herself.
- (229) Mary sent her car into the garage.
- (230) Mary gave her car to John.
- (231) Mary gave John her car.

Now, I assume that reflexive NPs are subject to a restriction along the lines of (232).

- (232) A reflexive NP must be bound.<sup>65</sup>

And, finally, I formulate Condition A as in (233).

- (233) Condition A: The binding of a reflexive "A" by an argument "B" is licensed if B c-commands A, and B and A are direct coarguments of each other.

This formulation clearly places (228) - (231), above, in the Condition-A-obedient camp since, in this case, the binder and reflexive are coarguments of each other, and the former c-commands the latter. This is of course the desired result since, as discussed above, the acceptability of these examples does not require the assignment of a logophoric role.

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<sup>65</sup> This statement may be too strong, given the acceptability of sentences like (i).

- (i) That picture of myself is amusing.

However, I shall ignore cases of this sort and assume that the restriction in question suffices for the issues at hand.

The same holds true for cases like (234) - (235): Again, the binder and reflexive are coarguments of each other, and again the former c-commands the latter.

(234a) The house collapsed into itself.  
(234b) We collapsed the house into itself.

(235a) In the force of the breeze, the paper doubled under itself.  
(235b) We doubled the paper under itself.

Again the result is as desired: The inanimacy of the binders demonstrates that binding does not require assignment of a logophoric role.

Note that (234) - (235) constitute an example of where I differ from R&R regarding the location of the boundary between logophoric binding and binding under Condition A.

R&R propose, in terms simplified for present purposes, that the locality domain of Condition A covers just those projections that are either arguments of, or are assigned Case by, the head of a given predicate.

This means that R&R would hold the binding relations in sentences like (234) and (235) to be logophoric and not licensed under Condition A since, for them, the object of a locative PP is not an argument of the verb.

For me, on the other hand, the direct and oblique objects in (234) - (235) are direct coarguments of each other, and hence the binding that holds between them is indeed licensed under Condition A.

In these examples the binding succeeds without animacy, and this demonstrates that binding does not require a logophoric role. This result favors my formulation over that of B&R. For B&R, the lack of logophoricity would be surprising.<sup>66</sup> For me, it is as expected.

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<sup>66</sup> This observation does not require one to accept my particular notion of logophoric binding. The binders in the sentences at issue lack the classically recognized logophoric properties such as being, for example, the source of a report, a center of consciousness or a point of view, etc. See Sells (19??), Clements (19??), Zribi-Hertz (19??), among others.

Next, by my formulation the binding relation in a case (236) will violate Condition A, since the binder and bindee will fail to be coarguments of each other.

(236) (?)The machine caused itself to fall off the table (e.g. by moving around too much).

Here, once again, I differ with R&R. In their formulation, the binding relation in a sentence like (236) is licensed under Condition A because the binder, "the machine," is an argument of the head "cause," and the reflexive is assigned Case by the same.

Now, the binder in (236) is inanimate, and therefore seems not to be assigned a logophoric role. Hence, insofar as (236) is acceptable, this result would seem at first to favor R&R, and to argue against the approach I have pursued. However, I believe that closer examination will show that the binder in question, despite its inanimacy, in fact is assigned a logophoric role—and that the definition of "logophoric role" is therefore in need of refinement.

It turns out that the meaning of sentences like (236) is constrained in an unusual way. This point is brought out by the contrast between the relatively acceptable (236) on the one hand, and the completely unacceptable (237) on the other.

(237) \*Nicotine has caused itself to become the most widely consumed non-food product in the city.

I believe this contrast shows that, in these particular structures, reflexive binding is permissible only if the binder has what might be termed a certain "direct responsibility" for causing the realization of the proposition of which the reflexive is the subject. In other words, (236) is acceptable because it is understood that the machine is somehow directly responsible for causing itself to fall off the table. (237) is unacceptable because no similar such notion can be inferred. The causal role of nicotine is only indirect: Nicotine has addictive

properties which have induced people to smoke it, which has resulted in its becoming more widely consumed, and so forth.

Note that the necessity of direct responsibility in (236) - (237) cannot be laid to structural aspects of these sentences, nor to any lexical idiosyncrasy of the verb "cause." This point is made clear by the acceptability of (238), in which the subject "nicotine" is no more directly responsible for causing the embedded-clause event than it is in the unacceptable (237).

(238) Nicotine has caused cigarettes to become the most widely consumed non-food product in the city.

The behavior of (236) - (238) implies that, as I have claimed and contra B&R, the binding in (236) is not licensed under Condition A: If such binding were licensed under Condition A, one would not expect it to demand "direct responsibility" on the part of the binder. Hence, one hopes that such binding can reasonably be considered to be logophoric; otherwise, one cannot maintain the claim that all reflexive binding either is logophoric or complies with Condition A.

In fact, I believe that the key to (236) lies in a metaphoric reading of agency. In other words, I believe that the logophoric role of AGENT is assigned by metaphor to "the machine" in (236), but not to "nicotine" in (237) - (238). Then, I assume, "direct responsibility" is required on the part of the binder because it is, in general, required on the part of any AGENT, binder or not.

Recognition of "the machine" as an AGENT raises some issues that I will not try to resolve here, chief among these being that there does not seem to be a similar reading available to license logophoric control. For example, a metaphoric AGENT reading does not readily avail itself to rescue (239).

(239) \*The machine<sub>i</sub> blew the stool<sub>j</sub> onto the floor [ O<sub>j</sub> [ PRO<sub>i</sub> to stand on t<sub>j</sub>. ] ]

Thus, it seems as if the kind of logophoric-role requirements associated with logophoric binding might be in some sense weaker than those associated with logophoric control. I will not try to resolve this question here.<sup>67</sup>

Finally, want to point out that, although (236) is relatively acceptable, it seems not to sound quite as good as (240).

(240) Mary caused herself to fall off the table (e.g. by moving around too much).

I assume that this slight contrast arises because the metaphoric agency required for (236) comes at a cost, namely the processing burden required in order to think of an inanimate object as an AGENT.

Next, my formulation will hold binding to be in violation of Condition A in a case like (241) since, once again, the binder and reflexive fail to be coarguments of each other.

(241) Mary and John drew the rope toward themselves.

Here again, one hopes that such binding can reasonably be considered to be logophoric; otherwise, we would have a case of binding that was neither logophoric nor licensed under Condition A.

Fortunately, this binding's logophoric properties seem evident. For example, my judgment is that the inanimate substitution in (242) makes the binding unacceptable, indicating the necessity of a logophoric role.

(242) \*The planets drew the spaceship towards themselves (e.g. by gravity).

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<sup>67</sup> I believe one point relevant to this, at least when the antecedent is an AGENT, is that logophoric control requires both direct responsibility and intention (cf. (i)), whereas logophoric binding requires only direct responsibility (cf. (ii)).

- (i) \*The machine<sub>i</sub> blew the stool<sub>j</sub> onto the floor [ O<sub>j</sub> [ PRO<sub>i</sub> to stand on t<sub>j</sub>. ] ]
- (ii) The machine caused itself to fall off the table.

However, it must be noted that judgments on this point become quite variable. For example, many speakers seem to find (243) acceptable, even though the binder clearly is inanimate.

(243) (?)The magnet pulled the iron filings toward itself.

I believe this is due to the metaphoric assignment of the logophoric role of AGENT to the binder "the magnet," much the same as this role was seen to be assigned to the binder "the machine" in (236).

Evidence that this is the right conclusion to draw is provided by the fact that binding degrades when metaphoric agency becomes unavailable. For example, binding is unacceptable in (244), apparently because there is no inference available whereby "the magnet" would be causing the event denoted by the verb.

(244) \*The magnet was touching the rock underneath itself.

(245) The magnet was touching the rock underneath it.

Moreover, binding reemerges as acceptable when the subject is made animate as in (246), apparently because, in this case, agency is once again an acceptable interpretation.

(246) Mary was touching the rock underneath herself.

(247) Mary was touching the rock underneath her.

Finally, I want to point out that, although (243) is relatively acceptable, it seems not to sound quite as good as (248).

(248) Mary pulled the iron filings toward herself.

I assume that this slight contrast arises because, as with (236), the metaphoric agency required for (243) comes at a cost, namely the processing burden required in order to think of an inanimate object as an AGENT.

To discuss a final case, note that my formulation holds the binding relation to violate Condition A in a case like (225), repeated

from above as (249), since the binder and reflexive fail, once again, to be coarguments of each other.

(249) Mary causes lightning to strike herself.

As discussed above, this instance of binding clearly requires that the binder be assigned a logophoric role. And this is as matters should be since, absent compliance with Condition A, the only way that binding can be licensed is logophorically.<sup>68</sup>

To sum up the content of this section so far, I have proposed that the "dividing line" between binding under Condition A and logophoric binding should effectively be redrawn. Specifically, I have reformulated Condition A so that its locality domain extends just over mutual direct coarguments,<sup>69</sup> any instance of (reflexive) binding that would extend beyond this domain can do so only if it is logophoric.<sup>70</sup>

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<sup>68</sup> N. Chomsky has pointed out to me that the sentence in question, repeated here as (i), is far better than (ii).

- (i) Mary causes lightning to strike herself.
- (ii) \*Bill causes Mary to strike himself.

In the context of the theory I propose, this contrast is unexpected. One would predict that binding should be able to succeed logophorically in (ii) as long as Bill is assigned the logophoric role of AGENT. I want to suggest that, in fact, (ii) is generated by the grammar. If this is correct, then the sentence's unacceptability may be due to a garden path effect in processing. Perhaps the hearer assigns logophoric control first to the nearest logophoric role, which is on Mary. Then, although binding is possible on the part of the higher logophoric role, Bill, the hearer never gets the chance to assign this reading.

A similar, though weaker, effect can be seen in cases like (iii) - (iv).

- (iii) Mary directed the camer toward herself.
- (iv) ?Mary directed Bill toward herself (by telling him how to get to where she was).

The point here is the same as for (i) - (ii): I assume that the grammar generates (iv) as well as (iii), but that (iv) is degraded due to a garden path effect in processing. An effect similar to that seen in (i) - (iv) is observed in Bordelois (19??).

<sup>69</sup> Again, as in Chapter Two, the notion of coargument employed here yields what I believe to be more robust empirical consequences than that employed by R&R. If I am

Now, if my proposal is correct, it suggests that the backwards binding cases with which this chapter began really are instances of logophoric binding, not binding licensed under Condition A.

First of all, as noted in Section 1, instances of backwards binding in cases like (215) - (216), repeated here as (250) - (251), cannot satisfy Condition A at any level, even assuming the Condition A driven theory.

(250) That ugly picture of himself hurt John's pride.

(251a) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> put a picture of himself behind John's steering wheel to serve as a talisman.

(251b) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John's steering wheel to serve as a talisman.

And, moreover, these instances of binding show what I have taken as the hallmark of logophoric binding, namely that they become unacceptable when the substitution of an inanimate NP blocks the assignment of a logophoric role as in (252) - (253).

(252) \*That ugly picture of itself<sub>i</sub> hurt the car's<sub>i</sub> steering wheel (by falling on it).

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right about this it is a happy outcome since, also, I believe this notion of coargument is more intuitively plausible.

<sup>70</sup> Note that, although logophoric binding transcends the locality domain of Condition A, it does not necessarily transcend the need for c-command, as the contrast between (i) and (ii) makes clear.

(i) Mary causes lightning to strike herself.

(ii) \*Mary's iron content causes lightning to strike herself.

In fact, the c-command requirement seems to hold for "forwards" logophoric binding, but not for "backward" cases. In other words, lack of c-command induces unacceptability when the logophoric binder precedes the reflexive as in (ii), but not when it follows the reflexive as in (iii).

(iii) That embarrassing picture of herself hurt Mary's pride.

(253a) \*(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), the race-car driver<sub>i</sub> put a picture of itself behind the car's<sub>i</sub> steering wheel to serve as a talisman.

(253b) \*(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), the race-car driver<sub>i</sub> stuck a picture of itself behind the car's<sub>i</sub> steering wheel to serve as a talisman.

And, of course, this last point holds also for those cases of backwards binding that actually would satisfy Condition A at d-structure, if the Condition A driven theory should turn out to be correct. This is seen, for example, in the contrast between the acceptable (219) and (221) repeated in (254) and (255), in which the binders are animate, and the unacceptable (256) and (257), in which the binders are inanimate.

(254) That ugly picture of himself hurt John (emotionally).<sup>71</sup>

(255a) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> put a picture of himself behind John to serve as a talisman.

(255b) (PRO<sub>i</sub> worried about his prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John to serve as a talisman.

(255c) A picture of himself went behind John to serve as a talisman.

(256) \*That ugly picture of itself hurt the car (when it fell on it).

(257a) \*(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), the race-car driver<sub>i</sub> stuck a picture of itself behind the car to serve as a talisman.

(257b) \*(PRO<sub>i</sub> worried about her prospects of winning tomorrow's race), Mary<sub>i</sub> stuck a picture of himself behind John to serve as a talisman.

(257c) \*A picture of itself went behind the car to serve as a talisman.

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<sup>71</sup> I am assuming here that psych verbs assign a logophoric role to the EXPERIENCER object, but I will not explore this issue in the current work.

The point here is that, even for these cases, the approach that I have argued for correctly predicts an outcome that the Condition A theory would be hard pressed to explain: namely the necessity, seen in every instance of backwards binding, for the assignment of a logophoric role, and hence of animacy, in the binder.<sup>72</sup>

On the basis of the discussion in this section I conclude that backwards binding is logophoric and, contra the Condition A driven theories of B&R and Pesetsky, in fact fails to satisfy Condition A at every level of representation.<sup>73</sup>

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<sup>72</sup> Evidence that backwards binding requires a logophoric role, rather than merely animacy, in the binder is provided by the contrast between examples like (i) - (ii) on the one hand, and (iii) on the other.

- (i) Mary sent a picture of himself to the chef to serve as a talisman.
- (ii) Mary sent a clone of himself to the chef to serve as a talisman.
- (iii) \*PRO<sub>i</sub> to get a good meal, Mary sent [a clone of himself]<sub>i</sub> to the chef<sub>j</sub>.

Reflexive binding is unacceptable in (iii) even though the binder is animate. I believe this is due to the fact that the logophoric role of VOLUNTEER is assigned to the direct object, making the assignment of a logophoric role (BENEFICIARY) to the oblique object, i.e. to the binder, impossible.

<sup>73</sup> All the points that argue for the logophoricity of backwards binding argue equally for the logophoricity of "backwards control." For example, the backwards control in (i) would not satisfy Condition A at any level of representation, even if the Condition A theory should turn out to be correct.

- (i) PRO<sub>i</sub> to fall flat on her face would hurt Mary's<sub>i</sub> pride.
- (ii) ??PRO<sub>i</sub> to fall flat on her face would hurt Mary's<sub>i</sub> shoulder.

And, this instance of control shows the hallmark of logophoric control, namely that it becomes unacceptable when the substitution of an inanimate NP blocks the assignment of a logophoric role as in (iii).

- (iii) PRO<sub>i</sub> to fall on its side would damage the lamp's<sub>i</sub> paint job.

And, this last point holds also for cases of backwards control that actually would satisfy Condition A at d-structure, if the Condition A driven theory should turn out to be correct. This is seen, for example, in the contrast between the acceptable (iv) and, in which the controller is animate, and the unacceptable (v), in which the controller is inanimate.

### 4.3. A Generalization Emerges in which the Distinction Between Local and Logophoric Dependencies Cuts across both Reflexive Binding and Control.

In this subsection I argue that, when binding relations are conceived as I have proposed, an important distinction emerges between local and logophoric dependencies, which can be generalized across both reflexive binding and control.

It turns out that relations both of binding and control are sensitive to a similar kind of locality effect. In short, when control is viewed in the proper light, it is apparent that the local (i.e. non-logophoric) case of each of these dependencies can hold only between constituents that are attached to the same phrasal projection.

First, since a reflexive bound under Condition A must be a coargument of its binder (cf. (233)), it follows that the reflexive and binder must be attached to the same phrasal projection, namely to that projection of whose head they form the complement and subject, respectively.<sup>74</sup>

Second, as was established in Chapter Three, an argument can control into an infinitival clause by direct predication only if it is the subject of that phrasal projection to which the infinitival clause happens to be attached. From this it obviously follows that control by direct predication is possible only when both the controller and infinitival clause are attached to the same projection.

Now I assume that, following the spirit of a proposal in Williams, relations of control by direct predication hold between the

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- (iv) PRO<sub>i</sub> to fall would humiliate Mary<sub>i</sub>.
  - (v) \*PRO<sub>i</sub> to fall would damage the lamp<sub>i</sub>.

Of course, I am assuming that the controllers in question here can be assigned logophoric roles, though I have not actually discussed how this might work for sentences of these particular sorts. I leave the (attempted) working out of these matters for future research.

<sup>74</sup> Since the binder has to c-command the reflexive (cf. my formulation of Condition A), the binder will always have to be the subject, and the reflexive always the complement.

controller and the entire infinitival clause, so that the infinitival clause itself literally is a controlled item.<sup>75</sup> If this is correct, then it follows that control by direct predication, like reflexive binding under Condition A, can hold only between constituents that are attached to the same phrasal projection.

I conclude that reflexive binding and control alike obey the generalization (258). (Note that here the term "binder" refers equally to the binder of a reflexive or the controller of a PRO; and "bindee" refers equally to the reflexive or the infinitival clause.)

(258) In any dependency of binding under Condition A or control by direct predication, both the binder and bindee must mutually theta-command each other.

I believe that (258) represents a principle of locality intrinsic to the nature of the dependencies I have examined. When this locality is satisfied, such dependencies succeed automatically. And when it is violated, they succeed only if they are logophoric.

Conclusion.

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<sup>75</sup> This idea is along the lines of a proposal in Williams (19??). Without addressing the specifics here, I want to point out that in any given control construction, any relation of control by direct predication will be established unambiguously. In other words, regardless of which projection the infinitival clause happens to attach to, there will only be one matrix argument capable of controlling by direct predication, namely the subject of the projection in question. And, regardless of which projection the infinitival clause attaches to, there will only be one infinitival-clause position capable of being controlled by direct predication.

This last point holds also for cases in which there are two control relations: Here, only the object can be controlled by direct predication. This ultimately follows as a consequence of my rendition and expansion of Faraci's observation that a logophoric role cannot be assigned to the controller of (an operator raised from) an object position. (See note ?). The point here is that, since only one dependency of control by direct predication will be possible, that dependency cannot account for control of the infinitival-clause subject since, if it did so, there would be no controller left available for the infinitival-clause object.

In this chapter I have argued that the "dividing line" between local and logophoric binding or control should reflect the pattern revealed by the distribution of cases in which the success of these dependencies requires the assignment of a logophoric role. If my arguments are on the right track, then a shortcoming of the Condition A driven theory is that it pushes Condition A into areas of the logophoric realm that are beyond its proper purview, and obscures the essential parallelism between reflexive binding and control.

In closing, it must be noted that my arguments do not constitute an explanatory theory of logophoric reflexive binding and control. However, I believe this work can contribute toward the development of such a theory, and suggests that such a theory might ultimately unify these relations under a general theory of logophoric dependencies.<sup>76</sup>

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<sup>76</sup> There clearly are cases of logophoric control that are beyond the purview of the theory I have proposed. For example, the contrast between (i) and (ii) suggests that some forms of logophoric control are akin to backwards binding.

- (i) PRO<sub>i</sub> to fall down in public would hurt Mary's<sub>i</sub> pride.
- (ii) ??PRO<sub>i</sub> to fall down in public would hurt Mary's<sub>i</sub> elbow.

I leave it to future research to determine whether logophoric reflexive binding and logophoric control might be fully reduced to a single common set of principles.

## CHAPTER FIVE

### CONCLUSION

One of the crucial claims of this thesis is that there are general principles of syntax that govern the distribution of "logophoric roles," i.e. of those so-called "thematic roles" that are distinguished by the fact that they require animacy (sometimes metaphorically) in the arguments to which they are attributed.

If this claim is correct, it has important implications for the theory of lexical syntax. For one thing, it means that the semantic content of "thematic roles" is constructed at least in part through the interaction of distinct factors, rather than being the expression of irreducible atoms of meaning. In other words, for example, roles such as AGENT, VOLUNTEER, and BENEFICIARY are not wholly distinct notions but are, rather, the product of a single logophoric principle applied to the more basic roles of CAUSER, THEME, and GOAL.

Also, this work supports the basic lexico-semantic intuition behind Hale and Keyser's hypothesized Lexical Relational Structure since it shows that the permissibility of logophoric roles is determined configurationally as the product of abstract principles applied to lexical phrase structure.

In addition, I believe that the Logophoric Role Constraint brings into focus certain intuitions that have been asserting themselves in the literature for many years, for example in works by Gruber, Jackendoff, Baker, Belletti and Rizzi, and Pesetsky.

Many such works have argued that the structure of the clause is conditioned by a requirement that certain thematic roles should be syntactically higher than others. In particular, it has been claimed that the AGENT role must be higher than all others; that, at d-structure, the EXPERIENCER must be higher than the THEME; and that, also at d-

structure, the "GOAL" (in my terms the BENEFICIARY) must be higher than the THEME as well.

I believe it is significant that the thematic role that each of these claims asserts to be the syntactically higher one has the property of requiring its referent to be animate (at least in a metaphoric sense), while the lower role in each case makes no such demand.<sup>77</sup> I believe these claims have been on the right track in a certain fundamental sense but that, for many years, the accuracy of the intuitions behind them had been limited by the state of the theory of phrase structure.

In other words, I believe it ultimately is true that argument structure is conditioned by the need an AGENT, VOLUNTEER, BENEFICIARY, or EXPERIENCER<sup>78</sup>—in general, the need of any "logophoric role"—to be higher, but the way in which this conditioning occurs could not be clearly discerned without the benefit of binary branching phrase structure. This is so because, as the Logophoric Role Constraint makes clear, these logophoric roles exact their hierarchical demands at the level of individual binary-branching phrasal projections, not at the level of the whole clause. For example, a VOLUNTEER needs to occupy the highest theta position within the (embedded) VP, not within the clause as a whole; a BENEFICIARY needs to occupy the highest theta position within either the (one-level embedded) VP in a double-object construction or the PP in a dative/locative, and not within the clause as a whole.

Another crucial claim made by this thesis is that there is an essential distinction between local and logophoric dependencies which cuts across both reflexive binding and control.

On the one hand, the local dependencies are licensed purely by structural factors.

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<sup>77</sup> In other words, an argument must be animate if it is to be an AGENT, EXPERIENCER, or BENEFICIARY, but it need not be animate to be a THEME.

<sup>78</sup> I have not in fact demonstrated anything about the EXPERIENCER role in this work. Hence, anything I say about this role here is intended purely as speculation.

On the other hand, the logophoric dependencies are licensed by structural and semantic factors combined. For one thing, such dependencies require the "binder" to be assigned a logophoric role; for another, the permissibility of such a role is constrained by syntax.

These findings extend directly to some of the dependencies that have been deemed "logophoric" in the literature, for example to various cases of backwards binding, and to relations of "logophoric control" in the sense of Williams. Whether they in fact extend to all logophoric dependencies cross-linguistically is a matter for future research.

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