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## Middles and Reflexivity

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This article investigates the argument structure of middle predicates. It argues that middle verbs syntactically project the entire argument grids of their active counterparts; however, middle verbs, like passive verbs, project the external (Agent) arguments of their active counterparts as adjuncts. These demoted Agent arguments can appear, in middle constructions, as the objects of *for*-PPs.

*Keywords:* Argument Demotion, middle constructions, reflexivity, semantic predicate

## 1 Introduction

The derivation of middle constructions has generated much recent debate. Theorists such as Keyser and Roeper (1984), Roberts (1987), Carrier and Randall (1992), Stroik (1992, 1995), Hoekstra

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and Roberts (1993), and Authier and Reed (1996) argue that middle formation requires the suppression or demotion of an external argument and the syntactic promotion of an internal argument. On the other hand, theorists such as Fagan (1988, 1992), Zribi-Hertz (1993), and Ackema and Schoorlemmer (1994, 1995) argue that middle formation is strictly a presyntactic operation. In this article I present an argument in support of the former analysis, showing that a middle verb projects all its arguments syntactically, including its external argument.

My analysis pursues an observation made by Hoekstra and Roberts (1993) and by myself (1992) that the prepositional objects in (1a–b) are linked to the syntactically projected Agents of middle verbs.

- (1) a. Physics books always read slowly for Lou.  
 b. Bureaucrats bribe easily for Sam.

This is a very controversial claim, as Ackema and Schoorlemmer (1995) note. However, if the claim is correct, then the middle verbs in (1) will project the entire argument grids of their active counterparts and middle formation must involve a syntactic reconfiguration of the middle verb's argument structure. Confirming (or disconfirming) this claim then is significant to theories of middle formation.

Importantly, we can use Reinhart and Reuland's (1993) analysis of the relationship between reflexivity and predication to test Hoekstra and Roberts's and my claim. Applying Reinhart and Reuland's analysis to middle constructions that have reflexive prepositional objects, I demonstrate that these objects are arguments of the middle verbs. I then use Roberts's (1987) analysis of adverbs to show that these prepositional objects are Agent arguments (akin to the Agent argument licensed by a *by*-preposition in passives) that have been demoted in accordance with Larson's (1988:352) principle known as Argument Demotion.

(2) *Argument Demotion*

If  $\alpha$  is a [thematic] role assigned by  $X^i$ , then  $\alpha$  may be assigned (up to optionality) to an adjunct of  $X^i$ .

That is, I show that middle formation crucially involves the demotion of the external (Agent) argument to an adjunct position. (In the remainder of this article, I will refer to  $\theta$ -marked XPs that have been demoted to adjuncts as *demoted arguments*.)

## 2 On the Argument Structure of Middles

Hoekstra and Roberts (1993) and I (1992, 1995) assume that all the semantic arguments of a middle verb are obligatorily projected syntactically. That is, we assume that the lexicosemantic structure of a middle verb is the same as that of its active counterpart. Hence, on this view, the middle verb *bribe* in (1b) projects the same thematic grid,  $\langle$ Agent, Theme $\rangle$ , that the active verb *bribe* does. Importantly, this assumption not only requires that the internal Theme argument be projected syntactically as the object of the middle verb, but also necessitates that the Theme subject be derived via DP-movement from its object position.

Although Hoekstra and Roberts and I posit the syntactic projection of all the semantic arguments of a middle verb, we do so in different ways. Hoekstra and Roberts assign the external Agent role to *pro* in the VP-internal subject position and derive syntactic structure (3b) for (3a).

- (3) a. Bureaucrats bribe easily.  
 b. [<sub>IP</sub> bureaucrats<sub>i</sub> [<sub>I</sub> I [<sub>VP</sub> *pro* [<sub>V'</sub> bribe t<sub>i</sub> easily]]]]

On the other hand, I propose that the Agent argument is assigned to *PRO*, which is demoted to a VP-adjunct position in accordance with Argument Demotion; and I derive syntactic structure (4) for (3a).

- (4) [<sub>IP</sub> bureaucrats<sub>i</sub> [<sub>I</sub> I [<sub>VP</sub> [<sub>VP</sub> [<sub>V'</sub> bribe t<sub>i</sub> easily]] *PRO*]]]

To support these analyses, both Hoekstra and Roberts and I appeal to the fact that middles can contain a *for*-PP (as in (5)), and we argue that the prepositional object is in some way syntactically linked to the Agent argument.

- (5) a. Bureaucrats bribe easily for Bill.  
 b. That book read quickly for Mary.

Hoekstra and Roberts argue that prepositional objects such as those in (5) receive an Experiencer thematic role from the adverbs and that the Experiencer's content licenses the *pro* argument in [Spec, VP]—hence the connectedness between the Experiencer argument and the external argument of the middle verb. I construe an even closer relationship between the PP object and the Agent of the middle verb. On my approach, the DP in the *for*-PP is the Agent of the middle verb: it is the overt counterpart of the *PRO* argument.

Ackema and Schoorlemmer (1995) maintain that the above syntactic analyses of middle formation are untenable. They point out that Hoekstra and Roberts's analysis requires that the *for*-PP be assigned a thematic role by an Experiencer-assigning adverb. However, as the data in (6) demonstrate, these PPs need not cooccur with such an adverbial.

- (6) a. Smart bureaucrats don't bribe for anyone.  
 b. Unwise bureaucrats will bribe for anyone.

Examples such as these, according to Ackema and Schoorlemmer, call Hoekstra and Roberts's analysis into question.

Ackema and Schoorlemmer also argue that my analysis is empirically inadequate, suggesting that it is both too weak and too strong. It is too weak because it says nothing about why "identical" *for*-phrases occur in nonmiddle sentences without any implicit argument (as in (7)). It is too strong because it wrongly predicts that all middles can contain a *for*-PP, when in fact some middles cannot do so, as in (8).

- (7) That book is too thick for Mary.  
 (8) a. These books don't sell (\*for the average shopkeeper).  
 b. (on shoe chest) Stows on floor or shelf (\*for tidy people).

For Ackema and Schoorlemmer, the data in (7) and (8) clearly show that the *for*-PP “does not depend on a middle verb’s purported ability to project its logical subject argument in syntax” (1995:180).

Even though Ackema and Schoorlemmer have raised some serious problems for Hoekstra and Roberts’s syntactic analysis of middles, they do not invalidate my analysis, as I will show here. Their claim that my analysis is too weak assumes that the *for*-PP in middles and the *for*-PP in (7) are identical, both possessing Experiencer objects. However, as I (1992, 1995) argue, these PPs are not identical. The prepositional object in middles is not merely an Experiencer, as it is in (7); instead, it is an Agent (on my approach, Bill in (5a) is the Agent doing the bribing and Mary in (5b) is the Agent who did the reading). If the prepositional objects in (5) and (7) are not identical, then Ackema and Schoorlemmer’s claim that my analysis is weak loses its force. (I will return to this point later in the article.)

Ackema and Schoorlemmer’s claim that my analysis is too strong is also not compelling, for two reasons. First, notice that, despite Ackema and Schoorlemmer’s claim to the contrary, the middles in (8) can cooccur with *for*-PPs.

- (9) a. These kinds of books just don’t sell for any shopkeeper.  
 b. (on shoe chest) Stows on floor or shelf for anyone with half a brain.
- (10) a. These books won’t sell for the average shopkeeper.  
 b. (on shoe chest) Should stow on floor or shelf for you.

The fact that the examples in (9) and (10) are syntactically well formed suggests that the data in (8) do not disprove my analysis; that is, given the evidence in (9) and (10), the data in (8) do not prove, as Ackema and Schoorlemmer assert, that there are middle verbs that will not occur with a *for*-PP. Second, since the difference between the ill-formed examples in (8) and the relatively well formed examples in (10) seems conditioned not by the middle verb itself but by the tense/modal elements that encase the verb, the data in (8) do not in themselves provide an argument about the ability of a middle verb to cooccur with a *for*-PP. Importantly, the data in (11) lead to similar conclusions.

- (11) a. (next to a line of poetry) Didn’t/Doesn’t translate into Polish (\*for the average interpreter).  
 b. (next to a line of poetry) Won’t translate into Polish (for the average interpreter).  
 c. (next to a line of poetry) Didn’t/Doesn’t translate into Polish (for me).

Under Ackema and Schoorlemmer’s analysis, we should be able to conclude from (11a) that *for*-PPs do not cooccur with some middle verbs. However, (11b) and (11c) demonstrate that such a conclusion is unwarranted. The data in (11), then, require an alternative explanation. What I would like to suggest is that rather than leading to Ackema and Schoorlemmer’s conclusion, the data in (11) indicate that there is a semantic or pragmatic constraint on the relationships permitted between the tense/modal elements and the prepositional argument. Now if the data in (11) are sensitive to nonsyntactic factors and if, as I argue in Stroik 1992, 1995, the prepositional objects in (11) are the Agents of the middle verb, then I would predict that the active counterparts to

(11) should display grammaticality judgments similar to those in (11). The data in (12) test this prediction.

- (12) a. \*The average interpreter didn't/doesn't translate this line into Polish.  
 b. The average interpreter won't translate this line into Polish.  
 c. I didn't/don't translate this line into Polish.

It is noteworthy that the grammaticality judgments involving sentences with the (generic) average interpreter are exactly the same in (11) and (12). This suggests that whatever semantic or pragmatic constraint rules out (11a) also rules out (12a). Hence, Ackema and Schoorlemmer's claim that (8a) (and therefore (11a)) is ill formed because the middle verb does not tolerate a *for*-PP is not empirically supported.<sup>1</sup>

Given that Ackema and Schoorlemmer's analysis does not refute my syntactic theory of middle formation, we still need some strong arguments that can tell us whether the prepositional argument contained in some middles is an argument of the verb (as I maintain) or not.

### 3 Middles and Reflexivity: Condition B Effects

To decide the argumenthood of the prepositional objects in middles such as (5), I appeal to Reinhart and Reuland's (1993) theory of reflexivity. According to Reinhart and Reuland, reflexivity is a property of a predicate—that is, predicates are reflexive.<sup>2</sup> They argue, in particular, that a predicate will be reflexive if (and only if) two of its arguments are coindexed; and that if a semantic predicate is reflexive, either it must have a morphologically complex SELF anaphor (such as *himself* or *herself*) as one of its arguments or it must be a lexically reflexive predicate (such as *behave*).<sup>3</sup> Reinhart and Reuland (p. 678) formalize these relations between reflexivity and predicationality as Condition B, which is stated in (13).<sup>4</sup>

<sup>1</sup> An analysis of (8a), (11), and (12) is further complicated by the fact that the verb *sell* has properties not shared by verbs such as *translate*. In particular, whereas middle verbs such as *translate* require some sort of verbal modification, the middle verb *sell* does not.

- (i) a. Novels translate \*(easily).  
 b. Novels sell (quickly).

Further, although (12a) is ungrammatical, its counterpart with the verb *sell* is well formed.

- (ii) The average shopkeeper doesn't sell those books.

I will not attempt to explain the lexicosemantic differences between the verbs *sell* and *translate* in this article.

<sup>2</sup> Similar analyses of the relationship between predication and reflexivity have been made by Reinhart and Reuland (1991) and by Pollard and Sag (1992).

<sup>3</sup> A lexically reflexive predicate requires that its object argument not be referentially distinct from its subject; that is, the object must be a reflexive anaphor, as (i) attests.

- (i) Mary<sub>i</sub> always behaves herself<sub>i</sub>/\*her<sub>r</sub>/*\*her<sub>j</sub>/\*him.*

In my analysis, I will not be investigating lexically reflexive predicates; rather, I will be focusing on reflexive semantic predicates that are reflexive-marked morphologically by a SELF anaphor.

<sup>4</sup> According to Reinhart and Reuland (1993), in addition to Condition B, a second constraint holds on the relationship between reflexivity and predicationality, which they posit as Condition A (p. 678).

- (i) *Condition A*

A reflexive-marked syntactic predicate is reflexive, where

(13) *Condition B*

A reflexive semantic predicate is reflexive-marked, where

- a. the semantic predicate formed of P is P and all its arguments at the relevant semantic level;
- b. a predicate is reflexive iff two of its arguments are coindexed; and
- c. a predicate (formed of P) is reflexive-marked iff either P is lexically reflexive or one of P's arguments is a SELF anaphor.

Significantly for our purposes, Reinhart and Reuland's Condition B allows us to determine whether any two DPs are coarguments of a semantic predicate. As Reinhart and Reuland point out, if two DPs are coarguments (of a nonlexically reflexive predicate), then coindexing them will reflexivize the predicate, thereby requiring one of the arguments to be a morphologically complex SELF argument. On the other hand, if two DPs are not arguments, then coindexing them will not require one of them to be a SELF argument. These situations arise in (14).

- (14) a. Max<sub>i</sub> criticized himself<sub>i</sub>/\*him<sub>i</sub>.
- b. Max<sub>i</sub> criticized Mary and himself<sub>i</sub>/\*him<sub>i</sub>.
- c. Max<sub>i</sub> saw a gun near himself<sub>i</sub>/him<sub>i</sub>.

In (14a) the coindexed DPs are semantic arguments of the verb *criticize*; hence, this coindexing reflexivizes the (nonlexically reflexive) predicate. As a result, the predicate must be reflexive-marked, which will be the case if and only if one of the arguments is a SELF anaphor (notice

- 
- a. the syntactic predicate formed of (a head) P is P, all its syntactic arguments, and an external argument of P (subject); the syntactic arguments of P are the projections assigned  $\theta$ -role or Case by P;
  - b. a predicate (formed of P) is reflexive-marked iff either P is lexically reflexive or one of P's arguments is a SELF anaphor;
  - c. a predicate is reflexive iff two of its arguments are coindexed.

Whereas Condition B applies to semantic predicates, Condition A applies to syntactic predicates, requiring that any reflexive-marked syntactic predicate be reflexive. That is, Condition A will rule out sentences such as those in (ii) that have syntactic predicates that are reflexive-marked by the SELF anaphor but are not reflexive because they do not have coindexed arguments.

- (ii) a. \*That woman likes himself.
- b. \*Lou<sub>i</sub> thinks that John likes himself<sub>i</sub>.

Even though Condition A is relevant to the reflexivity of predicates, I will not appeal to it in my analysis of reflexivity and middle predicates, for two reasons. First, in this article I am trying to determine whether or not the prepositional object expressible in middles is a semantic (thematic) argument of the middle verb; however, given that Condition A applies to syntactic predicates (which include the predicate head plus all thematic arguments, as well as all Case-marked arguments and a subject), it does not sufficiently narrow the domain of the predicate to bear directly on the relationship between semantic argumenthood and reflexivity. Second, there is reason to believe that Condition A needs to be reformulated. As currently stated, Condition A will wrongly predict that the sentences in (iii) should be ungrammatical.

- (iii) a. That sort of thing should be done by oneself.
- b. He<sub>i</sub> made sure that it wouldn't wear himself<sub>i</sub> out to do such work.
- c. She<sub>i</sub> wants the check to be made out to herself<sub>i</sub>.
- d. I don't believe that it will bother myself much if I'm not reelected.

The fact that the SELF anaphors in (iii) are in reflexive-marked syntactic predicates that are not reflexive suggests that Condition A does not accurately express the relationship between syntactic predication and reflexivity. Therefore, I hesitate to use Condition A in my analysis of middles.

that in (14a) only the SELF pronoun is possible). Furthermore, since (according to Reinhart and Reuland) Condition B operates on semantic predicates, it applies to (15), which is a semantic representation for (14b).

(15) (Max criticized Mary) & (Max<sub>i</sub> criticized himself<sub>i</sub>/\*him<sub>i</sub>)

Notice that the conjunction in (15) includes a reflexive predicate: the coindexed arguments in the second conjunct reflexivize the predicate. Applied to semantic representation (15), Condition B will require the reflexivized semantic predicate in the second conjunct to be reflexive-marked; hence, (14b) is well formed when its bound anaphor is a morphologically complex SELF anaphor but not when it is a bound pronoun. Finally, in (14c) the coindexed DPs are not semantic coarguments (the pronoun is an argument not of the verb but of a locative predicate). Since the coindexed DPs are not coarguments, this coindexing does not reflexivize the predicate; consequently, none of the DPs is required to be a SELF anaphor. In (14c), then, the DP subject may be licitly coindexed with the prepositional object regardless of whether it is a SELF anaphor or a pronoun.

If Condition B provided an exhaustive account of anaphor binding within a semantic predicate, then we could use it alone to decide the argument status of the prepositional objects in middle constructions. However, as Reinhart and Reuland note, Condition B does not provide such an exhaustive account; for example, it cannot account for the ungrammaticality of the sentences in (16).

- (16) a. \*He<sub>i</sub> assigned him<sub>i</sub> to himself<sub>i</sub>.  
 b. \*Himself<sub>i</sub> criticized Max<sub>i</sub>/him<sub>i</sub>.  
 c. \*Himself<sub>i</sub> criticized himself<sub>i</sub>.

Since all the semantic predicates in (16) have coindexed arguments and therefore are reflexive predicates, and since all these reflexive predicates have a morphologically complex SELF anaphor, all the sentences in (16) satisfy Condition B. Hence, the ungrammaticality of the coindexing relations in (16) must result from a source other than Condition B.

To account for the binding effects exhibited in sentences such as those in (16), Reinhart and Reuland appeal to the Chain Condition, which, as stated in (17), constrains the well-formedness of any sequence of coindexed A-positions (cf. Reinhart and Reuland 1993:696–697).<sup>5</sup>

(17) *Chain Condition*

A maximal A-chain ( $\alpha_1 \dots \alpha_i, \alpha_{i+1} \dots \alpha_n$ ) contains exactly one link— $\alpha_1$ —that is both +R(eferentially independent) and Case-marked, where

- a. a DP is +R iff it carries full specification for  $\phi$ -features and structural Case;  
 b.  $\alpha_i$  c-commands  $\alpha_{i+1}$ ; and  
 c. there is no barrier, as defined in Chomsky 1986, between any  $\alpha_i$  and  $\alpha_{i+1}$ .<sup>6</sup>

<sup>5</sup> My discussion of the Chain Condition follows from observations made by an anonymous *LI* reviewer.

<sup>6</sup> According to Chomsky (1986), a category  $\alpha$  will be a barrier between  $\beta$  and  $\gamma$  iff (a)  $\alpha$  is a blocking category (BC), other than IP, that intervenes between  $\beta$  and  $\gamma$  or (b)  $\alpha$  immediately dominates a BC intervening between  $\beta$  and  $\gamma$ . (In the foregoing definition, take  $\alpha$  to be a BC iff it is not  $\theta$ -marked by a lexical category.)

According to Reinhart and Reuland, the ungrammaticality of the coindexing relations in (16) follows from the Chain Condition. That is, the A-chain in (16a), ( $he_i$ ,  $him_i$ ,  $himself_i$ ), is illicit because it contains two +R, Case-marked links (the pronouns); and the A-chains in (16b) and (16c) are both ruled out by the Chain Condition because their  $\alpha_1$  links are SELF anaphors, which are not specified for  $\phi$ -features—hence, these chains are not properly headed by +R chain links.

It is important to note that Chain Condition binding effects and Condition B binding effects overlap: for example, (18) is ruled out by both the Chain Condition and Condition B.

(18) \* $Mary_i$  criticized  $her_i$ .

This overlap has significance for our analysis of the argument structure of middle constructions. In particular, if we are to use Condition B effects to determine the argument status of the prepositional object in middle constructions, we must ensure that the binding effects we analyze in middle constructions are Condition B effects and not Chain Condition effects.

We can, however, isolate Condition B effects from Chain Condition effects, as Reinhart and Reuland observe, if we look at constructions that have conjoined DPs within a  $\theta$ -marked DP, as in (19).

(19) \* $Max_i$  criticized Mary and  $him_i$ .

The ungrammaticality of the binding relations specified in (19) cannot result from the Chain Condition because the Chain Condition does not apply to (19). This is so because the conjoined DPs in (19) are not L-marked by the verb (although the conjunct itself is); hence, the conjunct becomes a barrier between the subject DP and each of the conjoined object DPs and consequently there is no chain linking  $Max_i$  and  $him_i$ . On the other hand, as previously discussed (see (14b) and (15)), Condition B does apply to the semantic representations of constructions such as (19). In particular, it applies to (20), the semantic representation of (19).

(20) (Max criticized Mary) & (Max<sub>i</sub> criticized  $him_i$ )

In (20) the semantic predicate in the second conjunct has two coindexed arguments; hence, it is a reflexive predicate and therefore it must be reflexive-marked, in accordance with Condition B. Since this predicate is not reflexive-marked, it is ill formed. The ungrammaticality of sentences such as (19) that have semantic predicates with conjoined arguments, then, is a Condition B effect and not a Chain Condition effect.

The fact that we can separate Condition B binding effects from Chain Condition binding effects means that we can isolate Condition B effects and use them to decide the coargumenthood of any two DPs. For our purposes, this means that we can apply Condition B to middles with *for*-PPs to determine whether the prepositional object is an argument of the middle verb. To this end, consider the following examples:

- (21) a.  $Mary_i$  photographs well (only) for  $herself_i$ /\* $her_i$ .  
 b. Bureaucrats<sub>i</sub> always bribe easily for each other<sub>i</sub>/themselves<sub>i</sub>/\* $them_i$ .

If we assume that Condition B is valid, then the data in (21) suggest that the Theme argument

in subject position and the prepositional object are semantic coarguments of the middle verb because coindexing these arguments requires that one of them be reflexively marked, which will happen, according to Condition B, if and only if the arguments are coarguments of a semantic predicate. Hence, the *for*-PP is not an argument of the adverb, as Hoekstra and Roberts claim, nor is it some nonargument adjunct of the middle verb, as Ackema and Schoorlemmer assume; rather, it is an argument of the middle predicate, as I have argued.

However, to ensure that the binding relations in (21) are indeed Condition B effects rather than Chain Condition effects, we must look at the conjunction data in (22).

- (22) a. \*Mary<sub>i</sub> photographs well (only) for Max and her<sub>i</sub>.  
 b. Mary<sub>i</sub> photographs well (only) for Max and herself<sub>i</sub>.

Significantly, the ungrammaticality of (22a), which escapes the Chain Condition (recall that A-chains cannot have links from within conjuncts), will follow naturally from Condition B if we assume that the prepositional object is an argument of the middle predicate. That is, under this assumption, (22a) will have semantic representation (23), and this representation will have a reflexive semantic predicate in the second conjunct that is not reflexive-marked, in violation of Condition B.

- (23) (Mary photographs well for Max) & \*(Mary<sub>i</sub> photographs well for her<sub>i</sub>)

On the other hand, (22b) is grammatical because in its semantic representation (see (24)) the reflexive semantic predicate in the second conjunct is reflexive-marked.

- (24) (Mary photographs well for Max) & (Mary<sub>i</sub> photographs well for herself<sub>i</sub>)

The sentences in (22), then, reinforce my Condition B analysis of the data in (21).

Thus far I have demonstrated that the prepositional objects in middle constructions are arguments of the middle predicate. But what argument? What semantic role is assigned to this argument by the middle verb? We can gain some insight into these questions if we integrate some of Roberts's (1987) observations about adverb classes into the proposed analysis. According to Roberts, there is a class of adverbs, which he calls class II adverbs, that require an Agent. That is, a class II adverb (e.g., *slowly*, *quickly*) can cooccur with a predicate that has an Agent, as in (25a), but not with one that does not, as in (25b).

- (25) a. Lou paints houses slowly.  
 b. \*Lou admires John quickly.

Now, as (26) shows, middle verbs do in fact cooccur with class II adverbs.

- (26) a. This book read slowly for Mary.  
 b. Latin texts always translate quickly for Lou.

Since class II adverbs require an Agent and since the prepositional objects in (26a–b) are the doers/Agents of the reading and translating that transpire in (26a) and (26b), respectively, we seem to be led to the conclusion that the prepositional objects in (26a–b), and therefore in (21a–b)

as well, must be the Agent arguments of the middle verbs.<sup>7,8</sup> Given this conclusion, it follows that the middle verb *translate* in (26b) syntactically projects the entire ⟨Agent, Theme⟩ argument grid of the active verb *translate*. It must be stressed, however, that although the Agent arguments of the active verbs are syntactically projected as subjects, the Agent arguments in middle constructions such as those in (21) and (26) are syntactically projected as prepositional objects. Condition B effects, then, in combination with Roberts's observations about the behavior of class II adverbs, would seem to corroborate my (1992, 1995) analysis of the argument structure of middles, which hypothesizes that the prepositional objects in (21) are Agent arguments of the middle verbs that have been demoted, in accordance with Argument Demotion, to adjunct status.<sup>9</sup>

From the foregoing discussion we can conclude (a) that Condition B binding effects in middle constructions with *for*-PPs demonstrate that the prepositional object is in fact a semantic argument of the middle verb, and (b) that the semantic/thematic role this prepositional object receives from

<sup>7</sup> An alternative hypothesis would be that the Agent of the middle verb is some DP other than the prepositional object. In such a case the middle verb would have to be a triadic predicate, assigning an Agent role, a Theme role, and some third thematic role to the prepositional object (which I have already demonstrated to be an argument of the middle predicate). However, there are several reasons for not taking this proposal seriously. First, this proposal could not account for the fact that the prepositional object is the doer of the event expressed by the middle verb unless the nonovert Agent were somehow linked to the prepositional argument, as in (i) (recall that Hoekstra and Roberts (1993) do something similar to this).

- (i) Those books read Agent<sub>i</sub> slowly for \*himself<sub>i</sub>/him<sub>i</sub>.

Since the Agent and the prepositional object are coindexed coarguments, Condition B will apply to (i), requiring that one of the coarguments be a SELF anaphor. However, as (i) illustrates, it is the SELF anaphor (rather than the bound pronoun) that is disallowed; hence, (i) is an impossible representation for the argument structure of a middle predicate because it violates Condition B. Second, the proposal would leave us with the problem of explaining why the prepositional object can be linked to a subject-contained anaphor in (iia), whereas the nonovert Agent cannot—even though this Agent appears to link to such an anaphor in (iib).

- (ii) a. Books about herself<sub>i</sub>/\*oneself<sub>j</sub> always read Agent<sub>j</sub> well for Mary<sub>i</sub>.  
b. Books about oneself<sub>i</sub> always read Agent<sub>i</sub> well.

And third, the proposal leaves us with the problem of determining what thematic role is assigned to the prepositional object, an especially acute problem since, as I argue regarding (29)–(30), this object cannot be assigned the point-of-view Experiencer role that Zribi-Hertz (1993) would assign to it. So what role could it be assigned?

<sup>8</sup> As (i) illustrates, middle constructions that do not have *for*-PPs tolerate Agent-oriented class II adverbs.

- (i) a. This book reads quickly.  
b. Such memos always compose slowly.

The evidence in (i) indicates that middles without *for*-PPs still have Agents. In Stroik 1992, 1995, I argue that the Agent argument in sentences such as (ia–b) is PRO, which is demoted in accordance with Argument Demotion to a VP-adjunct. For the details of my PRO analysis, see Stroik 1992, 1995.

<sup>9</sup> According to proposals in Stroik 1992, 1995, middle constructions are derived as follows. Since the Agent argument in middles is syntactically demoted via Argument Demotion, a middle verb lacks an external subject argument at base argument structure; hence, as Burzio's Generalization requires, the middle verb will not be able to assign or check the Case features for its Theme object. As a result, the Theme must be promoted to the subject position to have its Case features checked (for a detailed discussion of Case checking, see Chomsky 1993, 1995). The demotion of the Agent argument in middles, then, necessitates the promotion of the Theme argument. Furthermore, if the demoted Agent is lexical, it is syntactically projected in a *for*-PP to ensure that it has its Case features checked (i.e., the *for*-preposition shows up in middles because it has a Case-checking function).

For additional discussion of how middles are derived—including middles with demoted PRO arguments—see Stroik 1992.

the middle verb is the Agent role. Interestingly, the behavior of prepositional objects in passive constructions leads to a similar conclusion. Consider the data in (27).<sup>10</sup>

- (27) a. Mary<sub>i</sub> was photographed by herself<sub>i</sub>/\*her<sub>i</sub>.  
 b. The bureaucrats<sub>i</sub> were bribed by themselves<sub>i</sub>/\*them<sub>i</sub>.  
 c. Mary<sub>i</sub> was photographed by Max and \*her<sub>i</sub>/herself<sub>i</sub>.  
 d. The book was being read slowly by her.

If we apply Condition B to the passive constructions in (27a–b), we see that when the prepositional object is coindexed with the subject, it must be a morphologically complex SELF anaphor; however, a morphologically complex anaphor will be required in (27a–b) only if the coindexed constituents are coarguments of a semantic predicate. (This conclusion is further supported by the fact that only a Condition B analysis can account for (27c).) We can conclude, therefore, that the prepositional objects in (27) are arguments of the passive predicate; we can further conclude, if we look at the class II adverb in (27d), that the prepositional objects are Agent arguments that must have been demoted to prepositional objects.

What is striking about the above data is how closely the Condition B effects in passives parallel the Condition B effects in middles (compare (27) with (21) and (22)).<sup>11</sup> These parallel behaviors obviously need to be explained. Under my analysis, such parallel behaviors are quite expected since they arise for the same reason: the prepositional objects in both passives and middles are demoted Agent arguments that engage in similar binding relations with their coarguments. Note that analyses such as Ackema and Schoorlemmer's, which assume that the prepositional objects in middles are not arguments of middle predicates, would seem to have difficulty explaining not only the binding data in middles but also why these data parallel the binding data in passives.

Furthermore, not only do Condition B effects demonstrate that the prepositional objects in passives and middles behave similarly, they also show that *for*-PPs in middles are not similar to the point-of-view *for*-PP in (7), repeated here.

<sup>10</sup> Postal (1971) maintains that sentences such as (ia) are ill formed; however, these sentences are clearly more grammatical than sentences such as (ib).

- (i) a. Mary<sub>i</sub> was photographed by herself<sub>i</sub>.  
 b. \*Mary<sub>i</sub> was photographed by her<sub>i</sub>.

<sup>11</sup> Although middles and passives share many grammatical properties, they do not have exactly the same properties. For example, passives tolerate Roberts's (1987) class I adverbs such as *deliberately* and *intentionally* (see (i)); middles do not (see (ii)).

- (i) a. John was fired deliberately.  
 b. The book was destroyed intentionally.  
 (ii) a. ?\*The book reads well deliberately.  
 b. ?\*Such texts translate easily intentionally.

We can build upon some observations made by Roberts to explain why the sentences in (i) are grammatical whereas those in (ii) are not. Roberts observes that class I adverbs must be both Agent-oriented and eventive; these adverbs cooccur naturally with passives because, according to Roberts, passive predicates both have an Agent and are eventive. On the other hand, class I adverbs do not cooccur with middle predicates even though these predicates take Agent arguments, because they are stative predicates, according to Roberts (see Roberts 1987:195–207 for his discussion of the stativity of middles).

(28) That book is too thick for Mary.

Recall that Ackema and Schoorlemmer (1995) cite examples such as (28) to argue that my Argument Demotion analysis of middles cannot explain why the *for*-PPs in nonmiddles are ‘‘identical’’ to the *for*-PPs in middles.

We are now in a position to test whether the *for*-PPs in sentences such as (28) are indeed identical to the *for*-PPs in middles; that is, we can test the *for*-PP in (28) for Condition B binding effects and for compatibility with Agent-oriented class II adverbs. Let us first examine whether or not sentences such as (28) display Condition B effects. Consider the data in (29).

- (29) a. They<sub>i</sub> are too unbearable for \*themselves<sub>i</sub>/\*them<sub>i</sub>.  
 b. He<sub>i</sub> is too tall for \*himself<sub>i</sub>/\*him<sub>i</sub>.  
 c. You<sub>i</sub> are too unfriendly for \*yourself<sub>i</sub>/\*you<sub>i</sub>.  
 d. They<sub>i</sub> don’t shop long enough for \*themselves<sub>i</sub>/\*them<sub>i</sub>.  
 e. \*He<sub>i</sub> is much too nice for Lou and himself<sub>i</sub>.

What is readily apparent is that the point-of-view *for*-PPs in (29) do not behave like the *for*-PPs in middles. In middle constructions, when the prepositional object is coindexed with the subject of the middle, the semantic middle predicate becomes reflexivized and the prepositional object has to be a morphological SELF anaphor to satisfy Condition B (see (21)); on the other hand, in point-of-view constructions such as (29a–e), when the prepositional object is coindexed with the subject, this object cannot be a morphological SELF anaphor (needless to say, the binding facts in (29) need to be explained, but I shall not attempt to do so here). Hence, Condition B binding effects clearly demonstrate that the *for*-PPs in middles are not ‘‘identical’’ to the *for*-PPs in point-of-view constructions.

Support for this conclusion comes from point-of-view constructions with class II adverbs.

- (30) a. John is easily too tall for me.  
 b. \*John is quickly too tall for me.  
 c. \*The concert slowly lasted too long for me.

Although a point-of-view construction is compatible with a non-Agent-oriented adverb, as in (30a), it does not tolerate Agent-oriented adverbs, as (30b) and (30c) attest. It follows that the prepositional objects in (30) cannot be Agentive arguments. On the other hand, middles are compatible with Agent-oriented adverbs (see (26)); and this is so, I have argued, because the prepositional objects in middles are Agents.

#### 4 Conclusion

I have argued here that despite Ackema and Schoorlemmer’s (1995) objections to the contrary, middles do syntactically project their entire thematic grid and they do so, in accordance with my (1992, 1995) analysis of middles, by demoting the Agent argument. Further, I have demonstrated that if my analysis of middles is correct, then middles are like passives in that they demote the external argument, which can emerge either as a nonovert DP or as an overt DP that occurs in an adjunct position and must be Case-licensed inside a PP.

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