Rethinking control

A movement-based account from a Dutch perspective

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1. Introduction

As with any formal science, a key principle of theoretical linguistics is elegance; the empirical coverage being equal, a theory with less moving parts is preferred over one making more assumptions for reasons of parsimony. The Minimalist Program (Chomsky, 1995) is generativists' exercise in formal elegance, as its key idea is a return to theoretical simplicity. One of the assumptions of pre-Minimalist theorizing was the existence of a control module, presupposed to explain the relationship between matrix subjects/objects and embedded subjects through a construal. It makes sense then that, since Minimalism, the control module has become an object of scrutiny; one of the core questions being whether theoretical syntax can do without it, relying instead on independently motivated properties of syntax to account for control data. In a series of works, Hornstein (1999, 2000, 2003) does exactly this: doing away with thematic restrictions on A-movement, he proposes an account of control appealing to movement and shows how English control data can be captured by it. Based on the empirical domain of Dutch, the goal of this thesis is to test Hornstein's account, thus potentially expanding its empirical coverage. I hypothesize that his theory can account for Dutch control data. This hypothesis is borne out. The relevance of this exercise extends beyond the narrow domain of control into the broader issue of the architecture of grammar.

Section 2 sketches an overview of the traditional account of control, presents different types of control, and discusses the difference between control and raising. Section 3 explains Hornstein's Movement Theory of Control. Before turning to Dutch control data, section 4 probes into the validity of one of the core assumptions of Hornstein's theory: the assumption that Θ-roles are syntactic features, insofar as they can motivate movement. Section 5 focusses on the Dutch control data to demonstrate how it can readily be accounted for by Hornstein's theory. Finally, section 6 concludes the present thesis.

2. Control in a Principles and Parameters framework

2.1. Control

Government and Binding (GB) theory (Chomsky, 1981) introduced the control module to account for how the subject of the non-finite embedded clause in (1a) is interpreted as being the same entity as the subject of the finite matrix clause. Specifically, in (1a), the interpretation is roughly the following: "what Hannibal wants is for Hannibal to eat". It assumes that there is a phonologically null DP in the embedded subject position and coindexed with *Hannibal*. This DP is called PRO and it is the only DP that is licensed to occur in the Caseless [Spec, IP/TP] of non-finite clauses. The control module is said to link the DP *PRO* to its antecedent or 'controller' *Hannibal* through a construal for interpretative purposes.

1) a. Hannibal wants to eat
   b. [Hannibal$_i$ wants [PRO$_i$ to eat]]

Not all control configurations are the same; there are cases of subject-/ and object-control configurations, as well as obligatory and arbitrary control configurations. Both of these distinctions will be relevant to us here.[1]

In subject-control configurations, the subject of the matrix clause is the controller of PRO ((1) is an example of such a structure). In object-control, the object of the matrix clause controls PRO (see (2) below for an example of object-control).

> 2) a. Hannibal persuaded Misha to eat
>   b. [Hannibal persuaded Misha$_i$ [PRO$_i$ to eat]]

Crosslinguistically, many object-control predicates exist, whereas subject-control predicates are relatively scarce. Researchers in general agree the control module is part of syntax proper, with the identity of the controller (either the subject or the object of the matrix clause) being determined by the lexical-semantic properties of the embedded predicate in question (see Jackendoff & Cullicover, 2003).

Apart from the subject-/object-control differences, there are more distinctions in the type of control structures, the most important of which is the one between obligatory and arbitrary control. In obligatory control (OC) structures, PRO necessarily takes an antecedent as a controller; (1) is an example of this: the subject of the matrix and of the embedded clauses must pick up the same individual as a referent. In arbitrary control structures, however, PRO does not need a controller and can receive a general meaning like 'one'. This is illustrated in (3), where Hannibal wants eating for anyone, people in general to be fun.

> 3) a. Hannibal wants eating to be fun
>   b. [Hannibal wants [PRO eating to be fun]]

2.2. Control vs. raising

In pre-Minimalist literature, the difference between the matrix verbal predicates in (4) and (2) (reproduced here as (5)) has been thought of as a difference between raising and control constructions, respectively. As the structural analyses in (4b) and (5b) illustrate, they account

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[1] One distinction I will not further address is the one between Dutch control configurations that optionally allow the non-finite complement to be headed by the complementizer *om*, as in (i), and those that do not, as in (ii).

> i)   Hannibal probeert (om) PRO te eten
>   Hannibal tries   (C)   PRO to eat
>   "Hannibal tries to eat"

> ii)   a. *Hannibal hoopt om PRO te eten
>   Hannibal   hopes   C   PRO   to eat
>   b. Hannibal hoopt PRO te eten
>   Hannibal hopes PRO to eat
>   "Hannibal hopes to eat"

Model (1991) discusses this distinction extensively in relation to the status of PRO as a pronoun or as a reflexive: having characteristics of both, PRO is explained to behave as a pronoun in control configurations that do allow complements headed by *om* and as a reflexive in those that do not.

in two different ways for the fact the subject of the matrix clause and the embedded clauses in both cases picks out the same referent – Hannibal. Trees have been added for ease of exposition.

4) a. Hannibal seems to eat
   b. [Hannibalᵢ seems [tᵢ to eat]]

c.

5) a. Hannibal wants to eat
   b. [Hannibal$_i$ wants [PRO$_i$ to eat]]
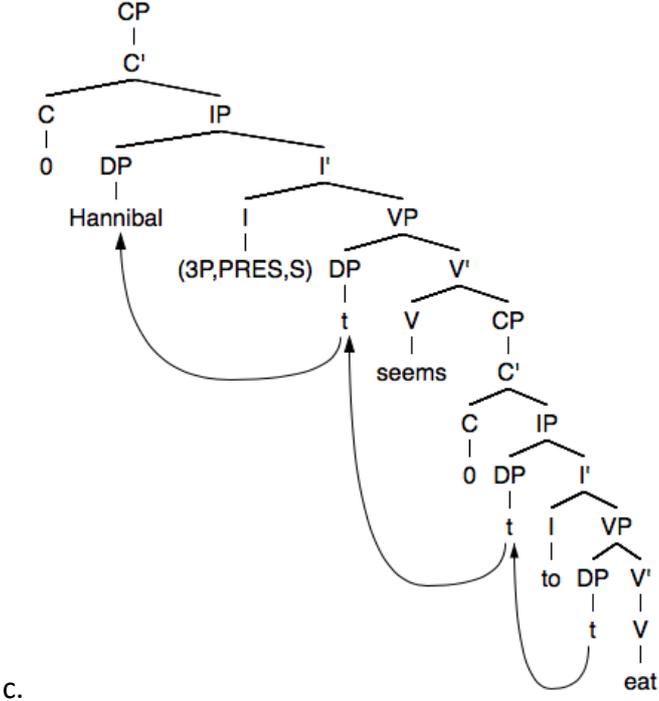
```
                    CP
                    |
                    C'
          _____|_____
          C                    IP
          |          _____|_____
          0         DP                    I'
                    |              _____|_____
                Hannibal           I              VP
                    ↑          (3P,PRES,S)      ___|___
                    |              DP          V'
                    |              |       ____|____
                    |              t      V        CP
                    |              |      |         |
                    └──────────────┘    wants      C'
                                                ___|___
                                                C      IP
                                                |   ___|___
                                                0  DP    I'
                                                   |    /\
                                                  PRO  I  VP
                                                   |   |  |
                                                   to  V'
                                                       |
                                                       V
                                                       |
                                                      eat
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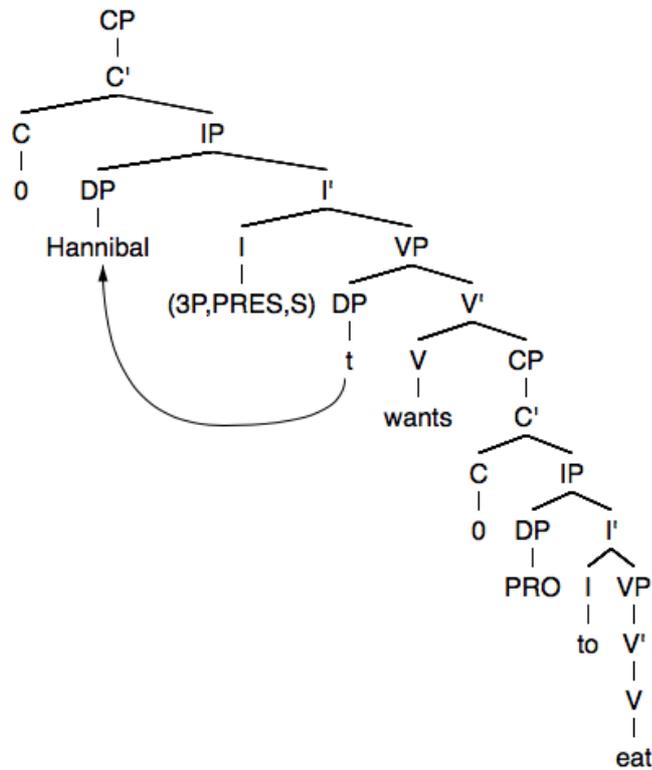
   c.

In the case of (4a), this is accounted for by having the DP *Hannibal* move or 'raise' from the embedded subject position of (4) to the matrix subject position, leaving a trace as it does so.[2] The derivation of (5) is different. Given the premises of P&P, the derivation of (5) along the lines of (1) (such as in (6)) would crash for multiple reasons.

6) *[Hannibal$_i$ wants [t$_i$ to eat]]

First, as Hornstein (2003) explains, the nature of D-structure throws a spanner in the works as it is where any and all Θ-roles are distributed through lexical insertion of arguments and what constitutes the input to the transformational operations – and thus comes prior to any and all movement. In (5) and (6) *Hannibal* is understood to be both the 'wanter' and the 'eater', requiring two Θ-roles. For *Hannibal* to acquire these two Θ-roles through raising (a movement operation) is impossible on the grounds of D-structure requiring Θ-roles to be discharged before movement takes place. Second, according to Hornstein (2003), the derivation of (6) crashes because of the bi-uniqueness constraint on arguments and Θ-roles the Theta Criterion imposes: again, the single element *Hannibal*, in the analysis of (6), is understood to fulfill two thematic roles, which is in clear violation of the Theta Criterion. However, as Rodriguez (2004) notes, in the GB theory the Theta Criterion was already deemed too strong (see Chomsky (1981), cited in Rodriguez (2004)). Also, as Marelj (2004) explains (in fn. 39, see also the references therein), Chomsky both stipulates the Theta Criterion as a bi-uniqueness constraint

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[2] The embedded subject DP *Hannibal* must be assigned Case, which the non-finite embedded T cannot provide but the matrix one can, motivating movement. Also, raising to the matrix clause satisfies the EPP, again motivating movement.

and weakens it in the very same work. He explains it is not supposed to prevent arguments from getting more than one Θ-role *per se*, but to prevent them from getting more than one Θ-role in the course of the derivation, for instance, through movement. Such a ban on moving into Θ-positions was incorporated into the Chain Condition, later proposed by Chomsky in (1986), which is as follows.

7) *Chain condition*
   If C = (α_1,…, α_n) is a maximal chain, then α_n occupies its unique Θ-position and α_1 its unique Case-marked position.

This successor to the Theta Criterion rules (6) out on thematic grounds: the DP *Hannibal* moves from one Θ-position to another, which violates the Chain Condition because the chain *Hannibal* and its traces/deleted copies form has multiple chain links α in Θ-positions. Raising structures like (4) are unproblematic from the point of view of either the Theta Criterion or the Chain Condition. The verb *seem* has only one Θ-role – Theme – and it assigns it to its only argument, the embedded clause. Hannibal gets the thematic role from its own predicate *eat* and moves for Case or EPP reasons (quite like a deep objects/surface subject in a canonical passive derivation. Neither the nature of D-structure nor the Theta Criterion can thus object to Moving *Hannibal* from the embedded subject position to the matrix subject position in (4).

Nonetheless, the derivation of (5) still must be accounted for. To do this, the pre-Minimalist control module base-generates PRO in the embedded subject position (thereby circumventing the D-structure counterargument). Also, crucially, PRO now receives the Θ-role the embedded predicate discharges, leaving the matrix one for *Hannibal* to receive through lexical insertion, resolving any gripes the Theta Criterion would have with (5). Finally, as I explained before, the control module links OC PRO to its antecedent or controller for interpretative purposes.

The difference between predicates such as *to seem* and *to want* (with a non-finite CP complement) thus reduces to the difference in derivation motivated by the requirements of D-structure and the Theta Criterion, with the former kind deriving by movement and the latter by construal through the control module. For an explanation of how PRO is interpreted through construal, I refer the reader to Chomsky (1981).

2.3.   Obligatory control and non-obligatory control

For the purposes of this thesis, it is important to understand not all PROs are born equal. Consider the paradigms of control constructions in (8) and (9) below (reproduced from Hornstein (2003), my parentheses). In (8), PRO is a part of OC configurations, in (9), the construction PRO is a part of is called Non-obligatory control (henceforth NOC). OC and NOC differ in that OC predicates obligatorily determine what argument PRO is coindexed with and thus refers to, whereas NOC predicates do not. Hornstein uses these paradigms to illustrate some key features of OC and NOC.

8) a. *It was expected PRO to shave himself
   b. *John thinks that it was expected PRO to shave himself
   c. *John's campaign expects PRO to shave himself
   d. John expects PRO to win and Bill does too (i.e. Bill expects himself to win/*Bill expects John to win)[3]
   e. *John$_i$ told Mary$_j$ PRO$_{i+j}$ to leave together/each other
   f. The unfortunate expects PRO to get a medal (i.e. the unfortunate expects himself to get a medal)
   g. Only Churhill remembers PRO giving the BST speech (i.e. only Churchill remembers himself giving the BST speech)

9) a. It was believed that PRO shaving was important
   b. John$_i$ thinks that it is believed that PRO$_i$ shaving himself is important
   c. Clinton's$_i$ campaign believes that PRO$_i$ keeping his sex life under control is necessary for electoral success
   d. John thinks that PRO getting his resumé in order is crucial and Bill does too
   e. John$_i$ told Mary$_j$ that PRO$_{i+j}$ leaving together/each other was important to Bill
   f. The unfortunate believes that PRO getting a medal would be boring (e.g. the unfortunate thinks that for anyone to get a medal would be boring)
   g. Only Churchill remembers PRO giving the BST speech was momentous (…but no one else remembers Churchill giving the BST speech was momentous)

Comparing the minimal sentence pairs of (8) and (9) with each other reveals that

10) a. OC PRO requires an antecedent, whereas NOC PRO does not
    b. OC PRO requires the antecedent be local, whereas NOC PRO does not
    c. OC PRO requires the antecedent c-command it, whereas NOC PRO does not
    d. OC PRO allows only a sloppy identity under VP-ellipsis, whereas NOC PRO allows a strict identity of the elided PRO.
    e. OC PRO does not allow split antecedents, whereas NOC PRO does
    f. OC PRO has only a *de se* reading, whereas NOC PRO does not
    g. OC PRO has to be bound to the *only*-DP, whereas NOC PRO does not

As will become clear in section 3, this distinction between OC and NOC is vital in the next sections. As such, I will rely on these to distinguish between the two, like others have before me as well (for instance, see Boeckx, Hornstein & Nunes, 2010).

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[3] Hornstein also more or less holistically notes OC PRO can be likened to reflexives, whereas NOC PRO is more like pronouns, which is consistent with replacing the elided OC PRO here with the reflexive *himself*. The reader is invited to replace OC and NOC PROs with reflexives and pronouns respectively to see this is borne out with these data.

3. Hornstein's (1999, 2000, 2003) Movement Theory of Control

3.1. OC as overt A-movement

In the Minimalist Program launched by Chomsky (1995), control has received renewed attention. In this rethinking of generativism, Occam's razor is run past every theory to cull anything lacking in formal elegance to reduce the complexity of the generativist theoretic apparatus and thereby improve it.

With D-structure eliminated from the grammar,[4] the control module becomes especially suspicious as a specialized module of grammar which not only presupposes an idiosyncratic lexical primitive (PRO), but also an entire set of rules for its distribution and interpretation. Therefore, as Hornstein (2003) explains, it makes sense to ask whether control can't be rethought of in terms of mechanisms of the grammar that are independently motivated. Movement is one such mechanism. In line with this assumption, he proposes a Movement Theory of Control (henceforth MTC) that analyzes PRO as a DP trace created through overt A-movement. Let's take a look at how this analysis extends to (5a), reproduced as (11a) below:

11) a. Hannibal wants to eat
    b. [$_{IP}$ Hannibal [$_{VP}$ PRO [$_{VP}$ wants [PRO to [PRO eat]]][5]

Note that if PRO is reconceptualized as a DP trace, raising and control predicates are no longer distinct in the theoretical apparatus underlying their derivations, but only in their thematic properties. Raising involves movement from a Θ-position into a non-Θ-position, whereas control involves movement from one Θ-position into another Θ-position. As Rodrigues (2004) argues, contrary to the stipulation of the Chain Condition that bans movement of an argument into a Θ-position, this should not raise any eyebrows. First, she explains this ban on saturating Θ-positions via A-movement is conceptually unjustified. Second, she presents empirical evidence suggesting some Θ-roles can indeed "be saturated by derived objects [e.g. moved arguments]".

As PRO thus reduces to a DP trace/copy deleted at PF, this account of control easily explains the way the grammar interprets PRO as being identical to its controller. As for the distribution of PRO, Hornstein (2003) explains the MTC interprets NOC PRO as the Elsewhere condition: the properties of A-movement explain OC PRO's distribution and NOC PRO, he argues, is an

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[4] D-structure is eliminated in Minimalist Syntax as it is a module-internal, non-interface level of grammar and therefore prone to potential formal redundancy.

[5] In the Copy+Merge conceptualization of Move, the derivation of (10b) looks like the one in (iii) below.

     iii)   [$_{IP}$ Hannibal [$_{VP}$ ~~Hannibal~~ [$_{VP}$ wants [~~Hannibal~~ to [~~Hannibal~~ eat]]]

It is a purely notational choice to write PRO instead of copies deleted at PF, but it serves its purpose in making it clear what the MTC deals with is the distribution and interpretation of what traditionally was known as PRO as an element wholly different from traces and deleted copies alike. As such I will continue using PRO (understood to be a DP trace) in what follows, until I start reanalyzing Dutch OC PRO as deleted copies in section 5.3.

entirely different creature altogether, arising through lexical insertion (much like *pro*) and thus being outside the MTC completely.[6]

Note the MTC is built on one remaining premise. Recall the Chain Condition was one of the reasons control was initially conceived of as distinct from raising. Indeed, Hornstein (2003) rejects the Chain Condition's stipulation that movement from one Θ-position into another is not possible. Finally, the movement in the MTC, like any movement, must be motivated. It follows that Hornstein's assumption on the nature of Θ-roles is that they can drive movement.[7] This core assumption of the MTC and its implications are explicated in section 4 below.

4. A core assumption of the MTC: Θ-roles are features

The literature on thematic roles is marked by much debate regarding their (linguistic) reality and exact nature. Sometimes they are thought of as primitive linguistic notions and are used as such in theories, at other times they are thought of as nothing more than a convenient way of thinking about the ways in which arguments relate to their predicates and each other. It is not surprising then that after decades of research, the jury is still out on whether they are creatures syntactic, semantic or even pragmatic in nature (see Dowty (1991) for a more extensive overview of approaches to thematic roles and the challenges such an enterprise invariably faces). As such, it is hard to give a unified account of what exactly thematic roles are. As Parsons (1995) puts it, one of the only things theoreticians seem to agree on is that they have yet to be specified in accurate ways. Still, he goes on to try his hand at a 'definition' of his own: according to him thematic roles "correspond to relations between events (or states) and things". Examples of well-known different types of these relations taken to exist by different theoreticians are Agent, Theme and Experiencer, though the accounts differ in the number and types of thematic roles.

As Dowty (1991) explains, in Government and Binding theory (see Chomsky (1981)) adopts an 'argument-indexing view' of thematic roles; each DP argument of a predicate acquires one and only one Θ-role over the course of the derivation in order to distinguish expletives from "semantically contentful" arguments and to be able to keep track of and tell apart these latter arguments from each other during the derivation. Clearly, Θ-roles hail from somewhere in the lexicon-syntax interface. This is in stark contrast to an approach to thematic roles like

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[6] Hornstein (2003) also discusses some potential problems for the MTC, the most challenging of which, according to him, being nominal control (in which a nominal predicate gives rise to a control configuration, as demonstrated in (iv) below).

    iv)   This is [Hannibal's plan [PRO to eat]]

According to Hornstein, however, nominal control is not a case of OC, but rather NOC. As NOC is outside the scope of the MTC, it poses no threat to it. For an account of NOC, I refer the reader to Boeckx *et al.* (2010).

[7] Another potential force driving the movement of PRO one could consider is Case feature checking. However, as Marantz (1991) explains, abstract Case as a licenser of arguments can be eliminated from syntax on the grounds that the EPP and dependent (morphological) case (ERG and ACC) already provide means to explain the licensing of arguments. Thus, the MTC cannot take recourse to Case, seeing it would revive a redundant syntactic concept.

Jackendoff (1983)'s (cited in Dowty (1991)) that conceptualizes them as having their origin not in syntax or semantics, but in the conceptual structure, to be distilled from exposure to use of lexical items and their meanings.

In a post-GB world, with D-structure, the former locus of Θ-assignment, eliminated from the grammar in more modern generativist syntax, there are two ways Θ-roles can be assigned/discharged. One account is a configurational view of Θ-roles, which goes back to Baker (1988, 1997)'s Uniformity of Theta Assignment Hypothesis, which is as follows:

12) *Uniformity of Theta Assignment Hypothesis* (UTAH)
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure

This means that the Theme of the predicate *kill* (the *killed*) will be base-generated in exactly the same structural position relative to *kill* as the Theme of *eat* (the *eaten*) will be base-generated in relative to *eat* (namely, in the complement to V; the trees in (13) exemplify this).

13) a.

b.
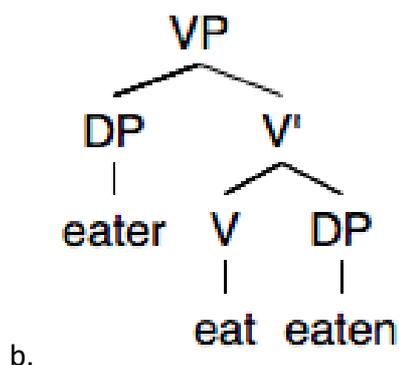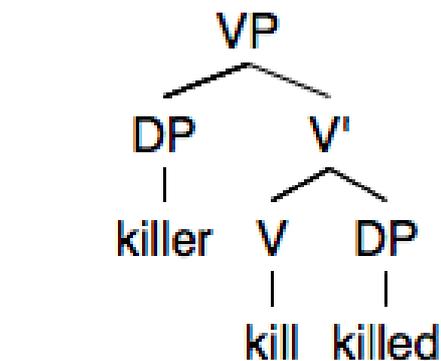
Hale and Keyser (1993, 1999, 2002) further developed the UTAH towards its logical end, turning it, essentially, into a bi-directional entailment. Simplifying somewhat and staying with the example of a Theme, in their theory, not only is every Theme element base-generated in the complement to V, every element base-generated in the complement to V comes out as Theme. This goes for all Θ-roles and their privileged structural positions relative to their predicates. Abstracting away from the examples given, a configurational view of the Theme looks like the tree in (14) below.
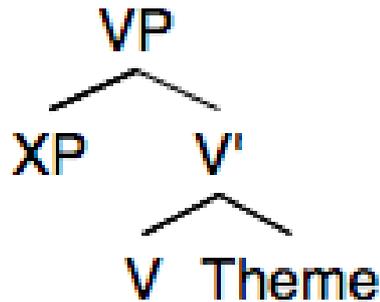
```
        VP
       /  \
     XP    V'
          /  \
         V   Theme
```
14)

Another account of Θ-roles is the featural account, which likens Θ-roles to other syntactic features like Φ- and WH-features. In this view of Θ-roles, they are features of predicates that need to be checked by arguments in appropriate positions in order for a derivation to converge. Rodriguez (2004), in arguing for A-movement into Θ-positions and creating thematic chains, concludes "there are no strong conceptual arguments supporting the idea that Θ-roles have a special syntactic status". That is to say, there are no strong conceptual arguments supporting the idea that Θ-roles are any different from other syntactic creatures like the aforementioned Φ- and WH-features. The evidence she provides supporting her claim also presents a way of illustrating a feature-conception of Θ-roles. Consider secondary predication, of which an example is given in (15). *Mary* in (15) is predicated over by two predicates: the verbal predicate *arrived* and the adjectival predicate *sad*. Mary receives two Θ-roles, being both the one who arrives and the one who is sad.

15) Mary arrived sad

As Baker ((1997), cited in Rodriguez (2004)) and Romero ((1997), also cited in Rodriguez (2004)) point out, in some languages, including English, secondary predication is impossible of indirect objects, a becomes clear from (16) below. In both a prepositional object construction (16a) and a double object construction (16b), *hungry* cannot predicate over *Mary*, resulting in ungrammaticality.

16) a. *I gave the meat to Mary$_i$ hungry$_i$
    b. *I gave Mary$_i$ the meat hungry$_i$

However, Koizumi ((1994), cited in Rodriguez (2004)) points to the fact that secondary predication is possible over a logical indirect object that has been moved through passivization to the subject position, as *Mary* has been in (17).

17) Mary$_i$ was given the meat hungry$_i$

A featural view of Θ-roles explains the ungrammaticality of (16b) in light of the grammaticality of its counterpart (17) by the fact that *hungry* in (16b) fails to discharge its Experiencer-role to *Mary* in its indirect object position, whereas *Mary* can check it in its derived Spec,TP/IP subject position in (17). To put it shortly, under a feature-based view of Θ-roles, they are features on predicates that need to be checked just like Φ- and WH-features in order for the derivation to converge and, crucially, can be checked through movement.

Configurational accounts of Θ-roles thus assume Θ-roles to be different in nature from syntactic features like Φ- and WH-features. Instead, Θ-roles are just that: a syntactic construct in their own right that is analyzed differently from features. Θ-roles are analyzed as privileged structural constructs which, by virtue of occupying such a specific structural position in a semantic relation, are treated as such. In a configurational account of Θ-roles, a phrase acquires its Θ-role by being base-generated in such a position; Θ-roles therefore cannot drive movement. This is why the MTC is incompatible with a configurational view of Θ-roles; the movement of an argument from the embedded base-generated position to the matrix one must be motivated. In lieu of an alternative motivation of this movement, the Minimalist MTC must make the assumption Θ-roles are syntactic features in so much as to drive movement (see Marelj (to appear) on Θ-roles as interface features).

In the MTC, a base-generated embedded Agent like *Hannibal* in (5a) and (11a), repeated below as (18), moves to the matrix subject position to check the [Experiencer]-feature there which was waiting to be checked by an appropriate phrase.

    18) Hannibal wants to eat

Rodriguez (2004) explains this reconceptualization of Θ-roles as features is not just a conceptual choice that needs to be argued for further. It already follows from our current understanding of Move, which is incompatible as is with a configurational account of Θ-roles as movement of phrases into Θ-positions, like I explained above, is empirically attested. The assumption at the heart of Hornstein's MTC thus seems less like an interesting train of thought to entertain and more like a logical idea that must be explored.

The main aim of the current thesis is to determine whether data of Dutch OC-constructions support or argue against Hornstein (2003)'s MTC. However, as the assumption of Θ-roles being syntactic features is at its core, the conclusions of this study, will, by extension, also relate to this feature-account of Θ-roles, indirectly supporting or refuting it. In the next section, I will turn to Dutch examples of control-constructions to see what they can add to the discussion.

5. The case of Dutch OC

In this section, I will consider some Dutch control constructions to see if they are compatible with the MTC. First, I will explore the diagnostics for OC discussed in section 2.3. explaining them using example sentences with Dutch *proberen* (to try). Second, I will present more Dutch control verbs to see if they violate any of these diagnostics. Third, for this set of Dutch control verbs, I will determine whether they can be accounted for under the MTC.

5.1.   Checking for O(bligatory)C(ontrol)-hood

Below, I examine all the diagnostics for OC I discussed briefly in section 2.3., demonstrating how these can be used for determining the OC-hood of Dutch control structures.

5.1.1. OC PRO must take a (referential) antecedent/controller

The first diagnostic for OC Hornstein (2003) postulates is the requirement of a referential antecedent or controller for PRO. As sentences (19) and (20) show, it becomes clear the Dutch verb *proberen* (to try) requires such an antecedent: expletive *het* cannot serve as antecedent and thus (19) is ungrammatical, as opposed to (20), which is well-formed. *Proberen* thus passes this test for OC, as its PRO cannot take an expletive as a controller.

19) *Het   probeert PRO te eten
      Expl.   tries   PRO to eat

20) Hannibal probeert PRO te eten
     Hannibal tries   PRO to eat
     "Hannibal tries to eat"

5.1.2. OC PRO must be local to its antecedent/controller

Second, the controller of OC PRO must be local. In sentence (21), the non-local *Hannibal* cannot serve as an antecedent for PRO in the embedded clause, resulting in ungrammaticality as the only possible local antecedent for PRO is another expletive.[8] The local pronoun *ik* in (22), however, can serve as a controller to PRO, hence why (22) is grammatical. *Proberen* thus passes this test for OC as well, as its PRO can only take a local antecedent as a controller.

21) *Hannibal denkt dat   het   probeert PRO te eten
      Hannibal thinks that expl.   tries   PRO to eat

22) Hannibal denkt dat ik probeer PRO te eten
     Hannibal thinks that I try   PRO to eat
     "Hannibal thinks I try to eat"

5.1.3. OC PRO must be c-commanded by its antecedent/controller

Third, the controller of OC PRO must c-command PRO. (23) shows the antecedent of PRO must c-command it: coindexation of *Hannibal* and PRO results in ungrammaticality, whereas coindexation of the entire subject constituent *Hannibals zus* and PRO is grammatical. Again, *proberen* passes this test for OC, as its PRO requires its controller c-command it.

23) $Hannibals_i$ zus_j probeert $PRO_{*i/j}$ te eten
     $Hannibal_i$'s $sister_j$ tries $PRO_{*i/j}$ to eat
     (*Hannibals zus* and PRO coindexed) "Hannibal's sister tries to eat"

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[8] It should be noted that, if *het* were read as a referential pronoun (which would be glossed as *it*), (21) would in fact be grammatical. That is, a reading of (21) meaning, for instance, *Hannibal thinks that it (= the monster) tries to eat*, exists under which (21) is perfectly well-formed. However, as it has been glossed (with *het* as an expletive), (21) is ungrammatical.

5.1.4. OC PRO cannot take strict identity under VP-ellipsis

Fourth, in OC constructions, PRO must take sloppy identity under VP-ellipsis and cannot retain strict identity, as demonstrated in (24): only the reading with sloppy identity of the elided PRO is available. This is another test for OC *proberen* passes: its PRO can only take sloppy identity under ellipsis.

24) Hannibal probeert PRO zichzelf te scheren en ik ook
Hannibal tries   PRO himself to shave   and I too
"Hannibal tries to shave himself and I do too" (i.e. …and I too try to shave myself/*…and I too try to shave Hannibal)

5.1.5. OC PRO cannot take split antecedents

Fifth, OC PRO cannot take split antecedents. As *proberen* is a two-place verb it cannot be tested for (dis)allowing split antecedents *Proberen* does not fail the diagnostic per se; the diagnostic simply cannot apply to it. *Beloven* (to promise), however, can be used to test this diagnostic, as it also takes an indirect object. The ungrammaticality of the reciprocal sentence (25) demonstrates *beloven* cannot take a split antecedent for PRO. (26) provides an example of a well-formed sentence with *beloven*. *Beloven* thus passes this test for OC-hood, as its PRO cannot take split antecedents.

25) *Hannibal$_i$ belooft   mij$_j$ PRO$_{i+j}$ elkaar   niet meer te bezoeken
Hannibal   promises me PRO   eachother   not longer to visit

26) Hannibal belooft   mij hem niet meer   PRO te bezoeken
Hannibal promises me him no   more   PRO to visit
"Hannibal promises me to visit him no more"

5.1.6. OC PRO must receive a *de se* reading

Sixth, OC PRO must receive a *de se* or 'of oneself' reading, meaning the referent of PRO is aware the predicate in question applies to oneself, not to someone of something else and not even to another entity whom they do not realize is them. The reading of (27) is one in which Hannibal could be said to want to win. That is, his motivation for trying to win is a thought along the lines of *I want to win* (i.e. a *de se* reading of PRO). A non-*de se* reading of (27), in which Hannibal's motivation for trying to win is thinking something like *I want this man in the mirror to win* (in which the man in the mirror just so happens to be Hannibal without him realizing it) is impossible: trying to win requires a conscious mental effort to keep exerting oneself to realize the goal of winning and as such it seems inappropriate to say someone is trying to win when whom they want to win is not they themselves. It follows *proberen* passes this test for OC-hood as well.

27) Hannibal probeert PRO te winnen
Hannibal tries   PRO to win
"Hannibal tries to win"

5.1.7. OC PRO must be bound to the *only*-DP

Seventh and finally, OC PRO must interpreted as a bound variable when associated with an *only*-DP in quantified sentences, as in (28): the only reading available is one in which PRO is bound to the quantified matrix subject and thus covaries with it. A reading in which PRO does not is unavailable. *Proberen* passes this final test for OC-hood as well.

28) Alleen Hannibal probeert PRO zichzelf te scheren
    Only   Hannibal tries   PRO himself to shave
    "Only Hannibal tries to shave himself" (i.e. …and no one else tries to shave himself/*…and no one else tries to shave Hannibal)

5.2.   Some Dutch control verbs

In table 1, I present the set of Dutch control verbs currently under investigation. They are organized qua likeness of the control structures they enter into: two-place subject-control verbs (*proberen* (to try), *hopen* (to hope), *beginnen* (to begin)), a two-place subject-control particle verb (*streven naar* (to strive)), a three-place subject-control verb (*beloven* (to promise)), a three-place object-control verb (*bevelen* (to order)) and a three-place object-control particle verb (*aanraden* (to recommend)).

Table 1:
Dutch control verbs (rows) and diagnostics for OC-hood (columns), indicating a diagnostic is passed by (+), failed by (-) or is inapplicable to a verb (0).

	1	2	3	4	5	6	7
Proberen, hopen, beginnen	+	+	+	+	0	+	+
Streven naar	+	+	+	+	0	+	+
Beloven	+	+	+	+	+	+	+
Bevelen	+	-	+	-	+	+	+
Aanraden	+	-	+	-	+	+	+

Bevelen and *aanraden*'s failure to pass diagnostics 2 and 4 deserves further clarification:

As sentences (29) and (30) illustrate, both *bevelen* and *aanraden* allow a grammatical construction in which the controller of PRO, the object *hem*, is not local to PRO. They thus fail to pass diagnostic 2.

29) Hannibal denkt hem te bevelen PRO te eten
    Hannibal thinks him to order   PRO to eat
    "Hannibal thinks he orders him to eat"

30) Hannibal denkt hem aan te raden   PRO te eten
    Hannibal thinks him prt. to recommend PRO to eat
    "Hannibal thinks he recommends him to eat"

As for failing to pass diagnostic 4, (31) and (32) bring to light that *bevelen* and *aanraden*'s PROs respectively can take strict identity under VP-ellipsis: the given reading of (31) shows the one ordered to eat by Hannibal and Misha is understood to be one and the same person. This is because, contrary to what happens to the subject in VP-ellipsis of subject-control verbs, the object (as part of the VP) is elided too and thus can be taken to be the same in the elided VP. However, note (31) can also be read with sloppy identity of PRO: instead of the subject of the elided VP, *Misha* could also be taken as the indirect object, resulting in a sloppy identity reading of the elided PRO. A comparable analysis extends to (32).

31) Hannibal beveelt mij PRO te eten en Misha ook
Hannibal orders   me PRO to eat and Misha too
"Hannibal orders me to eat and Misha does too"/"Hannibal orders me to eat and orders Misha to do so too"

32) Hannibal raadt   mij aan PRO te eten en   Misha ook
Hannibal recommends me prt. PRO to eat   and Misha too
"Hannibal recommends me to eat and Misha does too"/"Hannibal recommends me to eat and recommends Misha to do so too"

5.3.   Dutch control in the MTC

In what follows, I will turn to the syntactically distinct subsets of the set of Dutch control verbs discussed above to see if they can be accounted for using the MTC.

5.3.1.   *Proberen, hopen, beginnen*

The Dutch two-place subject-control verbs *proberen*, *hopen* and *beginnen* fit nicely within the MTC. As they all behave syntactically on a par, I will use *proberen* as an example, with the understanding that everything I say about *proberen* extends to the other verbs in this set.

Take a look at (20), repeated here as (33); I conclude *proberen* can be accounted for using the MTC, as nothing stands in the way of reanalyzing PRO, in the embedded clause as a trace left by moving *Hannibal* from the embedded clause up into the matrix subject position, via the relevant intermediate position as illustrated in (34).

33) [Hannibal probeert [PRO te eten]]
Hannibal tries   PRO to eat
"Hannibal tries to eat"

34) [IP Hannibal [probeert] [VP ~~Hannibal~~ [[~~probeert~~] [IP ~~Hannibal~~ [te] [VP ~~Hannibal~~ [eten]]]]]]

As explicated in (34), *Hannibal* moves from its base-generated position in the external argument position of the embedded verb *eten* to the subject position of the embedded clause to satisfy the EPP. Next, it moves up into the Spec,VP position of the matrix verb *probeert* to check the [Agent] feature of *probeert*, after which it moves into the matrix subject position at Spec,IP, again to satisfy the EPP.

5.3.2. *Streven naar*

The Dutch two-place subject-control verb *streven naar* fits in the MTC like *proberen* as well, the only difference being that it is a particle verb, requiring an expletive *er*: see (35).[9]

35) Hannibal streeft er-naar PRO te eten
Hannibal strives expl.-to   PRO to eat
"Hannibal strives to eat"

36) [IP Hannibal [streeft] [VP ~~Hannibal~~ [[[V ~~streeft~~ er-naar]] [~~Hannibal~~ [te] [VP ~~Hannibal~~ [eten]]]]]]

The presence of the particle verb poses no problem for the MTC, as *Hannibal* is perfectly capable of moving up from the embedded clause into the matrix clause in exactly the same way *Hannibal* in (34) does.

5.3.3. *Beloven*

Now let's consider the Dutch three-place subject-control verb *beloven*, of which an example sentence is given in (37). Note that the second reading of (37) is also possible, in which Hannibal promises to eat her. However, this second reading is not relevant to us as it contains a non-realized indirect object. This ambiguity is resolved in the structural analysis of the sentence in (36), which gives an analysis of the fully realized three-place verb *beloven* along the lines of the MTC.

37) Hannibal belooft   haar PRO te eten
Hannibal promises her PRO to eat
"Hannibal promises her he will eat"

38) [IP Hannibal [belooft] [VP ~~Hannibal~~ [[[~~belooft~~] [haar]] [IP ~~Hannibal~~ [te] [VP ~~Hannibal~~ [eten]]]]]]

The presence of an indirect object again poses no problem for the *beloven* in the MTC; *Hannibal* is free to move up from the embedded clause for reasons of Θ-feature-checking and thus I conclude *beloven* to be consistent with the MTC as well.

5.3.4. *Bevelen*

Here, I will turn to the Dutch three-place object-control verb *bevelen*. (39) is an example sentence using *bevelen*. Again, (39) has a reading in which the indirect object is unrealized. As this reading is irrelevant to us, I will not go into it here. (40) provides a structural analysis of (39) in accordance with the MTC.

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[9] There are multiple ways of analyzing Dutch particle verbs, such as a small clause analysis and a complex predicate analysis (opted for here). However, as demonstrating using a different analysis would not affect the outcome of the analysis of *streven naar* within the MTC and it is therefore completely tangential to the current thesis, I will not go into details on this here. However, see Wurmbrand (2000) for an account detailing these different analyses of particle verbs.

39) Hannibal beveelt Misha PRO te eten
   Hannibal orders   Misha PRO to eat
   "Hannibal orders Misha to eat"

40) [IP Hannibal [beveelt] [VP ~~Hannibal~~ [[[~~beveelt~~] [Misha]] [IP ~~Misha~~ [te] [VP ~~Misha~~ [eten]]]]]]

As becomes clear from (40), the Dutch object-control verb *bevelen* too fits nicely within the MTC: *Misha* can freely move from the embedded clause into the matrix object position to check the indirect object Θ-feature of *bevelen*. *Bevelen* too is thus is consistent with the MTC.

5.3.5. *Aanraden*

Finally, I consider here the Dutch three-place object-control particle verb *aanraden*, which is similar to *bevelen* in the same way *streven naar* is to *proberen*. (41) is an example of a sentence using *aanraden*.

41) Hannibal raadt   Misha aan PRO te eten
   Hannibal recommends Misha prt. PRO to eat
   "Hannibal recommends Misha to eat"

42) [IP Hannibal [raadt] [VP ~~Hannibal~~ [[Misha] [[V aan ~~raadt~~]] [~~Misha~~ [te] [VP ~~Misha~~ [eten]]]]]]

Like how with *streven naar* the presence of the particle does not impede an analysis along the lines of the MTC, the presence of the particle in (42) does not impede *Misha* from moving from the embedded clause into the matrix object position for the purposes of Θ-feature-checking. Thus, *aanraden* too is consistent with the MTC.

6. Conclusion

In this thesis, I have considered Hornstein's MTC, an alternative to the standard – P&P theory of control. If the MTC is tenable, it should be preferred to this more traditional account of control for the sake of formal elegance. To determine whether it is, I have tested the MTC on the empirical domain of Dutch control verbs, which haven't (to my knowledge) yet been examined. I conclude that the Dutch control verbs can be accounted for by the MTC. My findings therefore support the MTC directly and, indirectly, also add to the long discussion on the nature of Θ-roles, namely supporting the idea that they are syntactic features to the extent that they can drive movement. Finally, they not only serve as an impetus to reconsider control, but add to the discussion on issue of the architecture of grammar as well.
Of course, my findings are only consistent with, not conclusive of, the MTC. Data from control verbs from languages more typologically diverse still have to be considered in order to determine whether the MTC's empirical coverage is extensive enough to conclusively decide whether or not it is on the right track. Also, it is unclear whether or not the control module as a whole can be eliminated from the grammar: for instance, though nominal control is not covered by the MTC, it is a case of control nonetheless. Finally, my investigation of Dutch control is preliminary in the sense that I have not inspected closely all the nuances between

Dutch OC configurations, like for instance those that optionally allow *om* complement and those that do not. It remains to be seen what this and further distinctions between control configurations could add to the discussion still. These questions I leave for future research to answer.

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