HYPER-RAISING UNDER CONTROL

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Abstract

Hyper-raising (HR) is a cross-clausal dependency where the DP subject of a finite complement clause surfaces as an apparent argument of the matrix verb (Alboiu and Hill, 2016; Carstens, 2011; Ferreira, 2004; Fong, 2017; Halpert, 2019; Lee and Yip, 2020; Nunes, 2008; Ura, 1994, 1995). HR is puzzling because it involves apparent DP raising from a finite complement, even though the driving mechanism of raising - the non-finiteness of the complement clause - is absent. Nonetheless, the majority of the existing literature argues that HR is, like raising, A-movement. In this thesis, I present novel data on HR from Brazilian Portuguese that contradicts these analyses. Specifically, I show that HR displays signature properties of a control dependency. Thus, I argue that HR is not an instance of A-movement, but an instance of control into a finite complement clause. I demonstrate a technical implementation of the Agree Model of Control (Landau, 2000, 2004, 2006, 2007, 2008, 2010, 2013) in the context of HR in Brazilian Portuguese that accounts for the relevant data while also providing novel predictions and extensions.

Keywords: hyper-raising, control, finite control, Romance, Brazilian Portuguese

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List of glosses

1 = FIRST PERSON 2 = SECOND PERSON 3 = THIRD PERSON COND = CONDITIONAL MOOD FEM = FEMININE FUT = FUTURE IMPERF = IMPERFECT MOOD INF = INFINITIVE MASC = MASCULINE PART = PARTICIPLE PST = PAST PL = PLURAL REFL = REFLEXIVE SG = SINGULARSUBJV = SUBJUNCTIVE

List of abbreviations

- AMC = AGREE MODEL OF CONTROL
- BP = BRAZILIAN PORTUGUESE
- $\mathrm{CMA}=\mathrm{CLAUSE}\ \mathrm{Modified}\ \mathrm{Adjective}$
- EPP = EXTENDED PROJECTION PRINCIPLE
- $\mathrm{HR}=\mathrm{Hyper}\text{-raising}$
- MTC = MOVEMENT Theory of Control
- MP = MINIMALIST PROGRAM
- NOC = NON-OBLIGATORY CONTROL
- $\mathrm{NC} = \mathrm{No} \ \mathrm{Control}$
- OC = OBLIGATORY CONTROL
- PIC = PHASE IMPENETRABILITY CONDITION
- QR = Quantifier raising
- TTM = TWO TIER MODEL OF CONTROL
- WCO = Weak crossover effect

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Chapter 1

Introduction

Consider the sentences below from Brazilian Portuguese (henceforth, BP):

(1) a	•	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ivro] book]
b).	<u>A</u> <u>Julia</u> parece [$_{CP}$ que _i escreveu _i The Julia seems [$_{CP}$ that _ write.3SG.PST a "It seems that Julia wrote a book "	um livro] a book]

Sentences (a) and (b) differ only in the position of the underlined DP. In (a), the DP sits at the embedded clause as the subject of a finite verb. In (b), the DP surfaces at the matrix clause co-indexed with an embedded gap. In this context, sentence (b) is adequately described as a *cross-clausal dependency*: there is a structural relation between the matrix DP "a Julia" and an embedded gap. This thesis aims to explain the structural relation behind the dependency in (b). In this context, this thesis is centered on three fundamental questions

- 1. What kind of dependency is (1-b)?
- 2. What kind of syntactic derivation is behind (1-b)?
- 3. What does the the understanding of (1-b) reveal about cross-clausal dependencies?

At the end of this thesis, these three questions will be answered in detail. In this introductory chapter, I state the primary observations and introduce the relevant theoretical issues for the proposal to be put forward.

The core observations concerning (1) are as follows. In (1-a, b), the matrix verb, "seem", has a clausal complement. The verb inside the complement in (a-b) displays finite tense (past perfect, glossed as PST). An overt complementizer heads the complement, and the absence of a complementizer renders (1) ungrammatical:

(2)	a.	*Parece [CP a Julia escreveu um livro]	
		Seems [CP the Julia write.3SG.PST a book]	
	b.	$\label{eq:alpha} \begin{array}{ll} ^{*}\underline{A} & \underline{Julia}_{i} \mbox{ parece [CP \{i} escreveu} & um \mbox{ livro]} \\ The Julia \mbox{ seems [CP _ write.3SG.PST a book]} \\ "It \mbox{ seems that Julia wrote a book."} \end{array}$	

Moreover, the subject of the finite complement surfaces at the embedded clause in (1-a) and at the matrix clause in (1-b). In (1-b), the subject of the embedded verb, "to write", is absent at the complement clause, as shown by the gap indicated by an underscore. The subject surfacing at the matrix clause in (1-b) is obligatorily co-referent with the gap at the complement CP.

Another important observation about structures like (1) concerns agreement. Notably, the embedded DP that surfaces at the matrix clause may agree in person/number with the matrix verb. This optional agreement with the matrix verb is shown in (3). Since we only see subject-verb agreement in a language like BP, the fact the matrix DP in (3) may trigger agreement with the matrix verb is significant evidence that this DP is in subject position (e.g., SpecTP).footnoteOptional plural agreement is commonly found in contemporary spoken BP, specially in informal contexts, the relevant pattern in subject-verb agreement being one where the DP subject maintains plural morphology whereas the verb is inflected for singular number. The crucial observation here is that only grammatical subjects can trigger subject-verb agreement in BP, independent of whether morphological plural agreement is optional or not.

(3)Parece [CP que as meninas escreveram um livro] a. Seems [CP that the.PL girls.PL write.3PL.PST a book b. <u>meninas</u> parece/parecem [CP que _ escreveram As um The.PL girls.PL seems.3SG/seems.3PL [CP that _ write.3PL.PST a livro book "It seems that the girls wrote a book."

The first puzzling fact about structures like (3) is that these sentences are strikingly similar to a well-known instance of A-movement, raising. Raising has been a subject of investigation within the generative enterprise from its early days (Postal, 1976; Rosenbaum, 1967). Example below illustrates raising in English and BP.

- (4) Raising in English and BP
 - a. Julia seems [to be writing a book]
 - b. A Julia parece [_ estar escrevendo um livro] The Julia seems.3SG _ **be.INF** writing a book "Julia seems to be writing a book."
 - c. As <u>meninas</u> parece/parecem [_ estar escrevendo um livro] The.PL girls.PL seems.SG/seems.PL [_ **be.INF** writing a book] "The girls seem to be writing a book."

The raising sentence in (4-b) is similar to (b) in (1), repeated below as (5-b). In both sentences an embedded DP surfaces at the matrix clause as the subject of a matrix verb, "seem"; moreover, the matrix DP in both sentences is coindexed with an embedded gap and may optionally agree with the matrix verb.

(5) a. A Julia parece [_ estar escrevendo um livro] The Julia seems _ **be.INF** writing a book "Julia seems to be writing a book."

b. <u>A</u> <u>Julia</u> parece [CP que _ escreveu um livro] The Julia seems [CP that _ **write.PST** a book] "It seems that Julia wrote a book."

Raising in (5-a) contrasts with the sentence in (5-b) in two ways. One, raising surfaces with an embedded *non-finite* verb, e.g., the infinitive auxiliary in (5-a). Two, in raising, an overt complementizer is never grammatical:

- (6) No complementizer in a raising complement
 - a. *Julia seems that [_ to be writing a book]
 - b. *A Julia parece [que _ estar escrevendo um livro] The Julia seems that _ be.INF writing a book "Julia seems to be writing a book."

To summarize the relevant observations thus far: BP displays sentences where the subject of a finite embedded CP complement may surface as the subject of a matrix verb. These sentences are similar to raising, but they differ from raising in two crucial ways: i) in raising, the embedded CP is non-finite and ii) in raising, no overt complementizer can head the embedded CP.

While there is extensive literature on raising, the investigation of sentences like (1-b) is a more recent enterprise (Carstens, 2011; Carstens and Diercks, 2009; Halpert, 2019; Martins and Nunes, 2009, 2010; Nunes, 2008, 2019; Ura, 1995). Within the literature, the term *hyper-raising* (henceforth, HR) has been coined to refer to structures like (1-b), repeated below in (7-b).

- (7) a. Parece [$_{CP}$ que a Julia escreveu um livro] Seems [$_{CP}$ that the Julia write.PST a book]
 - b. <u>A</u> <u>Julia</u> parece $[_{CP}$ que _ escreveu um livro] The Julia seems $[_{CP}$ that _ write.PST a book]

"It seems that Julia wrote a book."

HR is reported in a wide range of languages and surfaces in different configurations. For example, while the HR attested in BP necessarily targets an embedded subject DP that moves to a matrix subject position, HR in languages like Mongolian, Cantonese and Romanian involves embedded subject DPs moving into a matrix position where they surface with accusative morphology (Alboiu and Hill, 2016; Fong, 2019; Lee and Yip, 2020). Despite the crosslinguistic variability, the basic HR pattern is always the same: an embedded argument DP surfaces out of its finite complement domain in a seemingly argumental matrix position.

HR became a topic of inquiry by the field due to its unexpectedness, particularly in the context of its non-finite sibling, raising. The term "hyper-raising" reflects this parallelism with raising: HR is, at surface, an instance of raising without the driving force behind raising. In raising, DPs are driven to raise into a matrix position due to licensing¹ conditions: the non-finite clause is not able to fully license the DP, hence the DP moves to the matrix (finite) clause to be licensed.

The crucial fact here is that the widely-assumed view on raising ties raising to the non-finiteness of the complement clause. Non-finite complements, for one reason or another, can't fully license DPs. Therefore, DPs in non-finite complements of verbs like "seem", termed *raising verbs* in the literature, move from the complement cause into the matrix. This type of approach correctly predicts the distribution of raising in languages like English, where raising is licit only with non-finite complements of raising verbs. Conversely, HR seems to be an instance of raising that contradicts the view that raising and non-finiteness are strictly stringed together: HR surfaces in the same configurations as raising and is restricted to the same subset of matrix verbs (e.g., "seem"), but HR is

¹Licensing here is used as a broad term to indicate "satisfying a structural requirement", e.g., DP licensing could be reduced to case-assigning, checking an abstract case feature, ϕ -feature checking, and so on. The precise formulation is irrelevant at this point of the discussion.

attested with finite complements.

If raising is a byproduct of non-finiteness of a clausal complement, HR must be the byproduct of something else: the driving force of raising is entirely absent in HR, e.g., the finite complement clause is not, at surface level, unable to license DPs in its domain. This problem stems multiple questions about what could be driving force of HR and what exactly is the nature of a dependency like (7-b): is it the case that HR, as its name implies, is some exceptional form of raising? why is HR attested in some languages but not others? why is HR simultaneously similar and entirely different to raising?

In other words: the broad question at hand is what type of syntactic mechanism is behind (7-b). In the context of raising, a possible logical hypothesis is that HR is, like raising, A-movement. If that hypothesis holds, a theory of HR must explain what is the driving force of HR and what syntactic mechanisms are involved, and why these mechanisms are seemingly absent in most languages.

Within the inquiry of HR, the field has widely assumed the movement hypothesis, that is, the hypothesis that HR is an exceptional form of cross-clausal A-movement. I refer to this hypothesis as the "A-movement hypothesis" (Carstens, 2011; Farghal, 2020; Halpert, 2019; Lohninger et al., 2022; Ura, 1994, 1995). Under the A-movement hypothesis, HR sentences like (7-b) have a structure like (8),² where "t" represents a trace left by movement or a lower deleted copy of the matrix DP:

(8) A Julia_i parece [$_{CP}$ que t_i escreveu um livro] The Julia seems [$_{CP}$ that wrote a book] "It seems Julia wrote a book."

Existing proposals argue for varying movement steps and driving mechanisms to derive (8). Independent of the proposal adopted, the literature in its vast majority motivates the

 $^{^{2}}$ The structure at the relevant example is a simplification for illustrative purposes; proposals vary in the number of movement steps and the intermediate syntactic positions involved in the dependency.

A-movement hypothesis on the grounds of three syntactic diagnostics: island constraints, idiomatic readings and A-binding. Notably, HR patterns with A-movement in these three diagnostics: HR is constrained by syntactic islands, it preserves idiomatic readings and it feeds into A-binding. These diagnostics are briefly illustrated below and discussed in depth in Chapter 2.

- (9) HR impossible out of complex DP and subject island (Nunes, 2008)
 - a. Parece $[_{CP}$ que $[_{DP}$ o bolo que o João comeu] não estava bom] Seems that the cake that the John ate not was good
 - b. $*\underline{O}$ <u>João</u>_i parece [CP que [DP o bolo que _i comeu] não estava bom] the João seems that the cake that _ ate not was good "It seems that the cake that João ate was not good."
- (10) HR preserves idiomatic readings (Nunes, 2008)
 - a. A vaca foi para o brejo The cow went to the swamp "Things didn't go well."
 - b. Parece que a vaca foi para o brejo. Seems that the cow went to the swamp
 - c. A vaca parece que _ foi para o brejo the cow seems that _ went to the swamp "It seems things didn't go well."
- (11) HR can create new antecedents for binding
 - a. *Para $\underline{seus_i}$ filhos parece que o professor_i desmaiou To his children seems that the professor fainted
 - b. O professor_i para <u>seus</u>_i filhos parece que __i desmaiou The professor to his children seems that _ fainted "To the professor's children, it seems the professor fainted."

This thesis argues for two central ideas. First, I show that even though the data in (9), (10) and (11) paints a compelling picture for the A-movement analysis, there is no immediate reason to rule out an alternative analysis where HR is a base-generated *control* dependency between a DP and PRO.

Second, and more crucially, I bring forth novel data from Brazilian Portuguese that constitute an empirical gap for existing movement analyses of HR. This data paints a very different picture than A-movement analyses predict because it shows HR patterns with control rather than raising in core syntactic and semantic diagnostics.

The central claim in this thesis is thus that hyper-raising is not raising in any way, but *finite control*, that is, the result of a *control* dependency between two syntactic objects: a matrix DP and an embedded empty category, PRO, base-generated at a finite complement clause. In contrast to A-movement analyses, I propose HR has the structure in (12):

(12) Hyper-raising as finite control

A Julia_i parece [CP que PRO_i escreveu um livro] The Julia seems [CP that PRO worte a book] "It seems Julia wrote a book."

The goal of this thesis is to argue for (12) and to show it is better suited to account for HR from both empirical and theoretical standpoints.

This thesis is organized as follows. Chapter 2 presents a review of the existing data on HR and the core data employed by the literature to argue for A-movement analyses. Likewise, in Chapter 2 I present and discuss the novel data that is at the core of the empirical inquiry of this thesis.

Chapter 3 is a review of the existing literature on HR where I show no existing proposal can properly account for the relevant data at hand. In that context, I propose the literature on control brings forth much more suitable tools to account for HR. Specifically, I argue the Agree Model of Control (Landau, 2000, 2004, 2006, 2008, 2013) gives us the necessary framework to derive HR and address the empirical gap posed by the BP data.

In Chapter 4 I show a technical implementation of the Agree Model of Control in the context of HR in BP. I argue this implementation straightforwardly predicts the empirical patterns that are of concern in this thesis. Moreover, I show that HR is not an exceptional instance of finite control attested in BP but part of a broader pattern. Namely, I show how the Agree Model implementation accounts for two other understudied cross-clausal dependencies in BP: modal-be constructions and Clause Modified Adjectives, both of which are illustrated below.

- (13) Clause Modified Adjectives in BP
 - a. É fácil de [essas linguistas publicarem papers] Is.3SG easy of these linguists publish.3PL.INF papers
 - b. Essas linguistas_i são fáceis [de _i publicarem papers] These linguists are.3PL easy of _ publish.3PL.INF papers "It's easy for these linguists to publish papers."
- (14) Modal-be constructions in BP
 - a. Pode ser que o gato fugiu May.3SG.PRS be.INF that the cat escaped.3SG
 - b. O gato_i pode ser que _i fugiu The cat may.3SG.PRS be.INF that _ escaped.3SG "The cat may have escaped."

Chapter 5 offers concluding remarks and discusses some of the theoretical implications of the proposal.

Chapter 2

Background

Hyper-raising (henceforth, HR)¹ is puzzling for several reasons. First, HR is a construction that looks *exactly* like raising apart from the fundamental property behind the derivation of raising, the non-finiteness of the complement clause, e.g., (15). Moreover, HRis restricted to a small subset of languages, but in every language HR is attested, it is attested with raising verbs (Carstens and Diercks, 2009; Halpert, 2019; Lohninger et al., 2022; Nunes, 2008; Ura, 1994, 1995).

(15) Hyper-raising and raising

- a. Os passarinhos parece que _ cantaram The birds seem that _ **sing.3PL.PST** "It seems the birds sang."
- b. Os passarinhos parece terem cantado The birds seem **have.SUBJV.PST.PL** sing.PST.PART "The birds seem to have sung"

Finally, HR systematically alternates with an expletive² construction where the embedded

¹Unless stated otherwise, whenever I refer to "hyper-raising" I am referring to the type of hyper-raising attested in Brazilian Portuguese, e.g., hyper-raising that targets a matrix subject position.

²Unlike English, BP does not display overt expletives. I use the term "expletive" to refer broadly to the baseline counterpart of HR where no overt DP is the subject of "seem". I don't commit to any specific theory of what exactly is the subject of "seem", e.g., I don't assume there is something like covert

DP stays in situ, e.g., (17), in contrast to its non-finite sibling, raising, which disallows the expletive construction, i.e., (17-c).

(16) Hyper-raising alternates with expletive construction, raising does not

- a. Os passarinhos parece que _ cantaram The birds seem that **sing.3PL.PST**
- b. Parece que os passarinhos cantaram Seems that the birds **sing.3PL.PST** "It seems the birds sang."
- c. *Parece os passarinhos terem cantado Seems the birds **have.SUBJV.PST.PART** sing.PST.PART Intended: "the birds seem to have sung."

In sum, HR simultaneously reassembles raising and radically contrasts with raising. In this context, the emerging question is: if not raising, *what is* hyper-raising? To answer this question we need to map precisely the empirical landscape we are dealing with.

This chapter aims to provide the empirical description of HR in two parts. I first outline the empirical motivation for the existing analyses of HR. I then argue the data used by the literature to sustain these analyses is not strong enough to rule out alternative analyses. Afterwards, I show existent analysis can't account for empirical gaps in light of novel data from Brazilian Portuguese. Namely, existing analyses over and under-generate a set of properties of HR in BP.

2.1 What is Hyper-raising?

At its most basic level, HR is a cross-clausal dependency: a relation between Syntactic Objects (henceforth, SO) established across a clause boundary. Example below illustrates

expletives in BP nor that subjects of "seem" may be entirely absent from syntactic representation. As it stands nothing hinges on this matter for the discussion in this chapter and to the proposal I argue for later in this thesis.

a cross-clausal dependency between α and $\beta :$

(17) A cross-clausal dependency between α and β



The fundamental question this thesis aims to answer concerning (17) is *what is the nature* of the relation between α and β . I approach this question by framing it in terms of two basic hypotheses:

- (18) Two basic hypotheses
 - a. Hypothesis A: α originates at β 's syntactic position.
 - b. Hypothesis B: α and β are separate syntactic objects that originate in separate positions.

Choosing between hypothesis A and hypothesis B ultimately defines the type of theoretic proposal to be put forward to account for (17). For example, if we decide Hypothesis A holds, we require a theory explaining how one SO originates in a lower clause but surfaces at the matrix. Conversely, if we adopt Hypothesis B, we require a theory explaining how an SO at the matrix clause enters into a structural relation with a syntactic position at a lower clause.

Notice that the two hypotheses in (18) have different theoretical implications. Hypothesis A points to a theory where α and β are, at some level of syntactic representation, in an *identity* relation. Assuming two SOs can't occupy a single position, if α originates at β 's syntactic position, it must be the case α and β are the same SO at the point α enters the derivation (or vice-versa). Conversely, Hypothesis B points to a different theory, where α and β are related through some other mechanism other than syntactic identity.

To illustrate the potential theories that may stem from (18), we can consider the two approaches to syntactic dependencies: movement versus base-generation.

A movement theory adopts Hypothesis A and proposes α originates at β 's position and then *moves* into the matrix clause, driven by some syntactic mechanism (e.g., feature checking requirements, case-licensing). "To move" in a movement theory may mean different things, e.g., it could mean α is copied and re-merged into the matrix clause (a *copy theory of movement*) or that α is removed from the complement clause and merged into the matrix, leaving some indexing category behind to represent its relation to β 's position (a *trace theory* of movement). For concreteness, I will assume the former, e.g., a copy-theory of movement, for the remainder of this thesis.

On the other hand, a base-generation theory adopts Hypothesis B and proposes α and β are separate SOs that originate in different syntactic positions. In this regard, a base-generation theory argues for syntactic mechanisms that can establish a *long-distance relation* between α and β , e.g., binding of a pronoun or empty category, control of covert PRO, and so on. Importantly, this long-distance relation is not the same as syntactic identity. Under a copy-theory of movement, if Hypothesis B holds, α and β are not in a syntactic identity relation because at no point in the syntactic representation α occupies the position where β originates.³ In other words, a base-generation theory does not explain the relation between α and β in terms of displacement but of a long-distance syntactic

 $^{^3\}mathrm{Notice}$ that this statement holds iff we adopt a copy-theory of movement.

operation that links two separate SOs.

In this context, choosing one of the two hypotheses in (18) is a pivotal decision that requires empirical motivation. In this chapter, I show there is robust evidence for adopting Hypothesis B, but not A.

Notably, within the inquiry of HR dependencies, the literature has largely adopted Hypothesis A. Specifically, the literature on HR argues that HR is an instance of movement where α and β are in an identity relation, e.g., α originates at the lower clause and is displaced into the matrix position. Although the literature adopts different views on how movement proceeds - some works adopt a trace-theory (Ura, 1994, 1995) while others (Fong, 2019; Nunes, 2008) assume the copy-theory of movement as proposed in Chomsky (1995) - the basic blue-print of movement theories of HR argues (18) has the structure in (19), where a solid arrow indicates movement from the lower position at CP₂ into CP₁:

(19) A movement approach to a cross-clausal dependency



Movement approaches face two fundamental problems. First, while the literature correctly argues that HR displays properties consistent with a movement analysis like (19), these properties are not incompatible with an alternative base-generation analysis. Specifically, the syntactic evidence employed by the literature to motivate (19) is equally consistent with a different analysis, one that adopts Hypothesis B and proposes α and β are different SOs linked by a long-distance syntactic mechanism.

Second, there is significant evidence that HR contrasts with raising and patterns with control in several syntactic and semantic diagnostics that target the raising versus control distinction.

Under the view that control is a base-generation dependency (Landau, 2000, 2003, 2004, 2006, 2007) and raising is not, a view adopted in this thesis, it follows HR is *not* movement, but a base-generation dependency between a matrix DP and a lower base-generated empty category, PRO.⁴

The main point to be made in this chapter is that a base-generation control analysis of HR is not only feasible but desirable from an empirical point of view. Such an analysis takes the basic form in (20), where a dashed arrow corresponds to a long-distance syntactic mechanism that links α and PRO.

⁴Importantly, a group of works argue for the opposite view, e.g., that control really is A-movement (Boeckx and Hornstein, 2006; Boeckx et al., 2010; Hornstein, 1998; Hornstein and Polinsky, 2010). This group of works constitute the basis of what is labelled the Movement Theory of Control (MTC). The debate on whether or not the MTC is an adequate theory of control is ongoing and spans at least two decades (Bobaljik and Landau, 2009; Boeckx and Hornstein, 2004, 2006; Boeckx et al., 2010; Culicover and Jackendoff, 2001, 2006; Landau, 2003; Modesto, 2010; Nunes, 2019; Wood, 2012). I will discuss the matters pertaining to the MTC versus base-generation debate in Chapter 3.

(20) A base-generation control approach to a cross-clausal dependency



In what follows, I first review the the empirical arguments present in the literature for adopting a movement approach to HR. Afterwards, I present a discussion on why the syntactic diagnostics used by the literature can't rule out a control analysis of the type in (20). Finally, I present novel data from BP that shows HR patterns with control in signature diagnostics that target the raising/control distinction.

2.2 Literature consensus: HR is movement

The consensus in the field is that HR is an A-movement dependency (Carstens and Diercks, 2009; Halpert, 2019; Lohninger et al., 2022; Nunes, 2008; Ura, 1994). The relevant diagnostics for the movement hypothesis in the literature are i) island constraints, ii) idiomatic readings, and iii) anaphor binding. The former two are taken by the literature as evidence that HR involves movement (in general), while the latter is used as complementary evidence favouring an A-movement analysis. I will present each one of these diagnostics individually.

2.2.1 Islands

A known property of movement dependencies is its adherence to so-called *island constraints* (Ross, 1967). In virtually every work on HR, island data is employed to argue that HR involves syntactic movement. The BP example from Nunes (2008) for example shows that HR is ungrammatical if the embedded gap sits inside a complex DP island/a subject island:⁵

- (21) Complex DP and subject islands (Nunes, 2008)
 - a. Parece $[_{CP}$ que $[_{DP}$ o bolo que o João comeu] não estava bom] Seems that the cake that the João ate not was good
 - b. $*\underline{O}$ <u>João</u>_i parece [CP que [DP o bolo que _i comeu] não estava bom] the João seems that the cake that _ ate not was good 'It seems that the cake that João ate was not good.'

In (21), Nunes shows that an embedded gap within a syntactic island makes HR ungrammatical. In (21-a) the sentence is grammatical because there is no HR: the DP sits in situ inside the complex DP.

(22) Coordination and subject islands

- a. [A Julia e o Marcos]_i parece que __i venderam a casa The Julia and the Marcos seems that sold the house "Julia and Marcos seem to have sold the house."
- b. *A Julia_i parece que [o Marcos e __i] venderam a casa The Julia seems that the Marcos and sold the house Intended: "Julia and Marcos seem to have sold the house."
- c. A Julia parece que [_i vendeu a casa e _i se mudou pro The Julia seems that sold the house and REFL moved to-the Canadá] Canada

⁵Because HR in BP necessarily involves the *subject* of a complement clause, any island diagnostic necessarily involves two island constraints: the relevant constraint being tested, e.g., the complex DP constraint, *and* the constraint on extraction from subjects.

"It seems Julia sold the house and moved to Canada."

Example (22-a) shows that hyper-raising both conjuncts of a DP coordination is grammatical in BP. In contrast, (22-b) shows a coordination island violation: one conjunct moved out of the coordination. Conversely, (22-c) shows that HR is grammatical in across-theboard movement dependencies, e.g., the matrix DP is co-indexed with both subject gaps in the embedded verbal conjunct.

Island evidence is not restricted to BP. Fong (2019),⁶ for example, shows HR in Mongolian follows the same patterns, as in (23). In (23-c), we see that HR in Mongolian is ungrammatical if the HR DP is moved from a coordination island, analogously to the BP example in (22).

(23) Mongolian: HR impossible out of coordination islands (Fong 2019)

- a. Nara [muur bömbög-öör toglo-dog baa nokhoi yas-aar Nara [cat.nom ball-INSTR play-HAB CONJ dog.NOM bone-INSTR toglo-dog gej] khel-sen. play-HAB COMP] say-PST
- b. Nara muur-iig bömbög-öör toglo-dog baa nokhoi-g yas-aar Nara cat-ACC ball-INSTR play-HAB CONJ dog-acc bone-INSTR toglo-dog gej khel-sen. play-HAB COMP say-PST
- c. *Nokhoi-g Nara muur-iig bömbög-öör toglo-dog baa ____yas-aar dog-acc Nara cat-ACC ball-INSTR play-HAB CONJ ___ bone-INSTR toglo-dog gej khel-sen play-HAB COMP say-PST 'Nara said that the cat plays with a ball and the dog plays with a bone.'

Similarly, Lee and Yip (2020) provide further island-based evidence in Cantonese, (24)

⁶Of notice here is that Mongolian is languages where HR targets an (apparent) object position, unlike in BP. The relevant data is meant to illustrate how the diagnostic applies crosslinguistically to HR in general. The same HR pattern is found in the Romanian and Cantonese data illustrated in the examples that follow.

and Alboiu and Hill (2016) in Romanian, (25)

(24) Cantonese: HR and complex DP islands Lee and Yip (2020)

*Aamingi tinggong waa _ jiging zau-zo ge siusik hai gaa ge Ming hear C _ already leave-PERF MOD rumor be false SFP '(I) hear that the rumor that Ming already left is false.'

(25) Romanian: HR and coordination islands (Alboiu and Hill, 2016)

- a. Dan mirosise [ca Luca si Ana vroiau sa plece] Dan smelled that Luca and Ana wanted SUBJ leave.3.SUBJ
- b. *Dan o mirosise pe <u>Ana</u> [ca Luca si ea vroiau sa plece] Dan her smelled DOM Ana that Luca and she wanted SUBJ leave.3.SUBJ 'Dan figured out that Luca and Ana wanted to leave.'

To conclude this subsection: island data provide initial evidence that HR involves movement. Crosslinguistically, island data on HR is quite robust: HR is ungrammatical across complex DP and coordination islands in a range of different languages. On its own, island data reveals a locality restriction that allows us to pinpoint the embedded gap within a syntactic domain (the embedded clause). Together with the following two diagnostics discussed in the next sections, islands present a case for analyzing HR as a movement dependency that targets an A-position.

2.2.2 Idioms

The second argument commonly found in the literature for an A-movement analysis comes from idiomatic expressions. Unlike the island argument, idioms provide a diagnostic that sheds light into the *type of movement* HR might be. Namely, idioms provide evidence that, if HR is movement, it is A-movement.

As pointed out in Postal $(1974)^7$, idiomatic expressions maintain their idiomatic mean-⁷The argument is often attributed to Fraser (1970) or Postal (1974), although, as pointed out by ing in the context of raising, an A-movement dependency, but not of non-finite control, a (presumably) non-movement dependency. The relevant contrast is shown in the examples below from Postal (2004) and Davies and Dubinsky (2008):

- (26) Raising versus control and idioms (Postal, 2004)
 - a. They believe the shit to have hit the fan. \rightarrow Idiom \checkmark
 - b. They convinced the shit to hit the fan. \rightarrow Idiom X
- (27) Raising versus control and idioms (Davies and Dubinsky, 2008)
 - a. The cat seems to be out of the bag. \rightarrow Idiom \checkmark
 - b. The cat wants to be out of the bag. \rightarrow Idiom X

In (26) and (27), raising (to object in (26-a) and to subject in (27-b) from a non-finite clause maintains the idiom reading available. On the other hand, non-finite object control, (26-b), and subject control, (27-b), do not preserve the idiomatic reading of the relevant expressions.

The general understanding of why idioms are preserved in A-movement dependencies, like raising, but not non-movement dependencies, such as control, is generally stated in terms of *thematic relations* (Fraser, 1970; Jackendoff et al., 1977; Postal, 1974). To state the problem broadly without delving into theories of argument structure, the general idea is that the syntactic structure of raising gives rise to a thematic interpretation where the matrix DP is interpreted thematically only once, as a participant of the embedded predicate. Conversely, the syntactic structure of control produces a thematic interpretation where the matrix DP is interpreted thematically twice: as a participant of both the matrix and embedded predicates.⁸

Bruening (2015), it is first found in an unpublished manuscript by Brame (1968), cited in Schachter (1973); Vergnaud (1974).

⁸Later in this chapter, I return to this matter and discuss the raising/control argument structure distinction formally. For now, let us focus on the discussion on idiom data and assume that different

To illustrate the contrast through an Event Semantics framework (Kratzer, 1996), consider again (27). In (27-a), "the cat" is interpreted thematically as a participant of the event of "being out of the bag", but the matrix predicate produces no thematic interpretation because "seem" is generally assumed to be an *athematic* verb, e.g., there is no participant in the event of "seeming". Consequently, the thematic relations of the original idiomatic expression are preserved in (27-a): "the cat" remains thematically the participant of a single event, the one denoted by the lower predicate.

Conversely, in (27-b), "the cat" is interpreted as the participant of *two* events: the event of "being out of the bag" and the event of "wanting [to be out of the bag]". Unlike "seem", "want" is a thematic verb. Consequently, (27-b) does not preserve the thematic relations of the original idiomatic expression: "the cat" is interpreted as a participant of two events.

Getting back to HR, notice that idioms provide an interesting diagnostic. If HR, like raising, maintains idiomatic readings available, we have evidence HR is an A-movement dependency like raising. Nunes (2008) is, to my knowledge, the first author to use idioms as a diagnostic for HR as A-movement,⁹ (28):

- (28) Brazilian Portuguese: HR preserves idiomatic readings (Nunes, 2009)
 - a. A vaca foi para o brejo The cow went to the swamp "Things didn't go well."
 - b. Parece que a vaca foi para o brejo. Seems that the cow went to the swamp
 - c. A vaca parece que _ foi para o brejo the cow seems that _ went to the swamp

predicates give rise to different thematic interpretations of their arguments *and* that this a matter of syntax-semantics interaction.

⁹Importantly, Nunes argues HR is finite-control in BP while also adopting the idea that control really is A-movement, e.g., the Movement Theory of Control (Hornstein, 1998). Like Nunes, I will propose HR is finite-control, although I depart from Nunes in that I do not follow the MTC. I elaborate on this point in Chapters 3 and 4.

"It seems things didn't go well."

In (a), we have the baseline idiomatic expression. In (b), the baseline sentence with no HR shows that the idiomatic reading is maintained when there is no movement, as expected. Crucially, in (c), the DP "the cow" undergoes HR into the matrix clause, and the idiomatic reading stays available. Nunes (2008) takes (28) as evidence in favour of analyzing HR as A-movement. Other idioms in BP seem to behave similarly:

(29) Idioms and HR in BP

- a. O pau comeu The stick ate "Some conflict ensued."
- b. O pau parece que _ comeu The stick seems that ate "It seems some conflict ensued."
- c. A ficha caiu The coin fell "(Someone) suddenly realized something."
- d. A ficha parece que _ caiu
 The coin seems that _ fell
 "It seems (someone) suddenly realized something."
- e. O circo pegou fogo The circus caught fire "Chaos ensued."
- f. O circo parece que _ pegou fogo The circus seems that _ caught fire "It seems chaos ensued."

More works on HR employ the idiom test to support the A-movement hypothesis. The literature shows that the test holds across languages:

(30)Cantonese (Lee and Yip, 2019) Ni-zek laaihaamoui gamgok waa ti soeng sik tinngojuk] a. this-CL toad feel.like C want eat swan.meat '(I) feel like (s/he) is aiming at the moon.' (Lit.: '(I) feel like that this toad wants to eat swan meat.') (31)Greek (Petersen and Terzi, 2014) O kombos fenete ftasi a. na exi sto xteni seem-3SG subj have-3SG reached to-the comb the knot 'Things seem to have come to an end'

(Lit: the knot seems to have reached the comb.)

(32) Mongolian (Fong, 2019)

a. Dorj chang-aar Bat-iin nüd(-iig) oree deer-ee gar-san Dorj loud-INSTR Bat-GEN eye(-ACC) top on-REFL.POSS climb-PST gej khel-sen COMP say-PST
'Dorj said loudly that Bat was very surprised.'
(Lit.: 'Dorj said loudly that Bat's eyes climbed on top of themselves.')

As shown in the examples above, the idiom test is cross-linguistically robust for HR. Together with the island diagnostics discussed in the previous subsection, we now have two pieces of evidence supporting A-movement analyses. One, islands provide evidence HR involves movement *in general*. Two, under the working assumption that HR is movement, idioms provide evidence we are dealing with a specific type of movement, A-movement.

2.2.3 A-binding

The third argument for the A-movement analysis of HR comes from binding. The binding diagnostic is simple: the matrix DP in an HR construction can bind matrix anaphors. Consequently, under standard assumptions on binding, it follows this DP must be in a c-commanding A-position at the matrix clause. If HR has movement properties, A-binding data constitutes evidence that the relevant movement operation targets an A-position at the matrix clause.

The A-binding diagnostic is presented in both Fong (2019) and Lee and Yip (2020) for Mongolian and Cantonese, respectively, (33) and (34).

(33) Mongolian: HR can create new antecedents for binding (Fong, 2019)

- a. $\underline{\ddot{Oor-iin-kh}}_{self-GEN-EPTH} \xrightarrow{n'*_{i/j}}_{POSS.3} bagsh oyuutan bür(-iig)_i sain oyuutan self-GEN-EPTH <math>\overline{POSS.3}$ teacher student every(-ACC) good student gej khel-sen COMP say-PST b. Oyutan bür-iig_i <u>öör-iin-kh</u> n'_i bagsh [t_i sain
- b. Oyutan bur-ng_i <u>oor-nn-kh</u> <u>n'i</u> bagsh [t_i sam student every(-ACC) self-GEN-EPTH POSS.3 teacher t ood student oyuutan gej] khel-sen. COMP say-PST 'Their_i teacher said that every student_i is a good student.' ('For every student x, x's teacher said that x is a good student.')

The contrast between (a) and (b) in (33) shows that HRing an embedded DP into a binding position allows the DP to bind the lower underlined anaphoric expression. In (33-a) the anaphor cannot refer to the embedded DP, as expected, given that the DP is non-local and in a lower non-c-commanding position. Conversely, in (33-b), the DP has undergone HR to the matrix clause and can locally bind the anaphor that is now unambiguously correferent with it. The data on Cantonese is analogous:

- (34) Cantonese: HR can create new antecedents for binding (Lee and Yip, 2020)
 - a. *[On keoii caande_i ge m-tung] ngo tengman [waa accord it origin MOD difference 1SG hear.say C mui-lap-zyunsek_i dou jau m-tung gwongzaak]
 every-CL-diamond all have different luster
 'According to its_i origin, I heard that every piece of diamond_i will have different lusters.'
 - b. Mui-lap-zyunseki [on keoii caandei ge m-tung] tengman [waa ti every-CL-diamond accord it origin MOD difference hear.say C all dou jau m-tung gwongzaak] have different luster

(Lit.) 'Every piece of ${\rm diamond}_i,$ according to its_i origin, (I) heard, will have different lusters.'

While the literature on BP does not use anaphor-binding evidence, the argument holds similarly. In (35), I provide novel data showing that a possessive pronoun - an anaphor for binding in BP - is bound by the matrix DP in HR configurations, as shown in (34-b):

(35) Brazilian Portuguese: HR can create new antecedents for binding

- a. *Para $\underline{seus_i}$ filhos parece que o professor_i desmaiou To his children seems that the professor fainted
- b. O professor_i para <u>seus</u>_i filhos parece que $_i$ desmaiou The professor to his children seems that _ fainted "To the professor's children, it seems the professor fainted."

2.3 Against the consensus: HR is control

The data outlined in the previous section constitutes the empirical foundations upon which the literature argues HR is A-movement. Proposals vary in how they account for HR-as-A-movement. This variation is a reflex of both different theoretical positions taken by the authors and of the fact the inquiry into HR spans across different frameworks in the development of generative grammar. In this thesis, I assume, following the more recent literature on HR Fong (2019); Halpert (2019) the copy-theory of movement (Chomsky, 1993) advanced in the Minimalist Program (Chomsky, 1993, 1998, 2000, 2001, 2004, 2005). Under the copy theory of movement, an A-movement analysis of HR takes the form in (36), where a single DP corresponds to the two SOs in the dependency and the matrix
position targeted by movement is an A-position (in the case of (36), SpecTP):¹⁰

(36) [TP Yara parece [CP que [TP Yara comprou uma casa]]] Yara seems that bought.PST a house "It seems Yara bought a house."

Notice that the analysis in (36) puts HR together with raising - HR's non-finite, more widely attested counterpart - in terms of its basic derivation: raising and HR are instances of cross-clausal A-movement from complement clauses, e.g., compare (36) (HR) and (37) (raising):

(37) [TP Yara parece [TP Yara ter comprado uma casa]]] Yara seems have.INF bought.PART a house "Yara seems to have bought a house."

Under an A-movement analysis, the difference between HR and raising reduces to the finiteness of the embedded clause. Consequently, the task at hand for A-movement analyses is to explain how both raising and HR are instances of cross-clausal A-movement in light of their contrasting clausal properties. Moreover, an A-movement analysis predicts that HR should pattern with raising in syntactic and semantic diagnostics that disambiguate raising from other cross-clausal dependencies.

While the empirical evidence for an A-movement analysis is cross-linguistically robust, it fails to rule-out an alternative base-generation analysis, one where the matrix DP and the embedded gap correspond to different SOs. More specifically, the data discussed in the previous section is equally suited for a base-generation *control* analysis of HR, e.g., one where a DP is base-generated at the matrix clause and controls an empty category (e.g., PRO) at the embedded clause. I refer to this kind of base-generation analysis as

¹⁰The relevant assumption here is that subjects occupy SpecTP in a language like BP.

the control analysis. A control analysis of HR takes roughly the following form:

(38) [TP Yara; parece [CP que [TP PRO; comprou uma casa]]] Yara seems that PRO bought a house "It seems Yara bought a house."

This thesis's first empirical contribution is showing there is good reason for adopting the analysis in (38). In the remainder of this chapter I argue against the A-movement analysis from two angles: one, I show that the evidence supporting the A-movement analyses cannot rule out a base-generation *control* analysis of HR and two, I present novel data showing that HR displays properties inconsistent with A-movement analyses but consistent with a base-generation control analysis.

2.3.1 A control analysis can't be ruled out

From the three diagnostics discussed thus far, we end up with the picture summarized in Table 2.1: HR patterns with A-movement in three significant syntactic diagnostics islands, idioms and A-binding.

	Hyper-raising	A-movement
Island sensitive	1	1
Maintains idioms	\checkmark	\checkmark
Matrix DP A-binds	\checkmark	\checkmark

Table 2.1: HR and A-movement diagnostics.

The patterns in Table 2.1 constitute the empirical motivation for A-movement analyses of HR (Carstens and Diercks, 2009; Halpert, 2019; Lohninger et al., 2022; Nunes, 2008; Ura, 1994), but they can't, crucially, rule out alternative analyses. To frame things in terms of the basic hypotheses stated in (18), repeated in (39), the diagnostics discussed thus far favor Hypothesis A, but don't allow us to rule out Hypothesis B.

- (39) Two basic hypotheses
 - a. Hypothesis A: α originates at β 's syntactic position.
 - b. Hypothesis B: α and β are two separate SOs.

Specifically, every argument for an A-movement analysis is also compatible with an alternative base-generation *control* analysis of HR. Such a control analysis assumes Hypothesis B and proposes the matrix DP and the embedded gap in HR are base-generated in their respective clauses, the structural relation between α and β being the result of a long-distance syntactic mechanism. This type of control analysis is at the root of the proposal I argue for in this thesis.

Below, I review each of the three sets of data (islands, A-binding and idioms) used to support the A-movement consensus and I show that none of the three arguments adequately rules out a base-generation control analysis because the relevant data is either accounted for by existing control analyses or empirically a pattern of both movement *and* control.

Islands

Islands are the first stepping-stone for the A-movement analysis of HR since they provide widely-agreed-upon evidence for syntactic movement. On the other hand, the island data discussed does not rule out a control analysis based on local syntactic mechanisms, such as agree. We find this type of control analysis in the Agree Model of Control (henceforth, AMC) (Landau, 2000, 2004, 2006, 2007, 2008, 2010, 2013), the control framework I adopt in this thesis. Under the AMC, control is a dependency between a base-generated matrix DP and base-generated PRO. This dependency is established through the basic syntactic operation *agree* (Chomsky, 2000, 2004). In the AMC, agree targets either PRO directly or C heading the clause containing PRO. Crucially, under standard assumptions, agree is a local operation that can target only elements within the same phase domain (Chomsky, 2001). Consequently, whenever agree can't target PRO or C, control is predicted to be banned.

In this context, the island data relevant to HR is compatible with a control analysis of the type found in the agree model. If HR is control and control is a DP-PRO relation established through agree, it follows that whenever we expect DP-PRO agree to be impossible, HR should also be impossible. While the details of the AMC are not relevant now, its basic idea pertaining agree is: the AMC assumes agree in control must target either PRO directly or the complementizer heading the clause that contains PRO. In the context of the island data discussed in Section 2.2.1, the AMC makes the same predictions a movement theory does. By extension, island data of the type found in the literature is not sufficient to rule out a control analysis, even though it does provide evidence in favor of a movement analysis.

To illustrate this problem, consider again the complex DP island example from Section 2.2.1 repeated below:

- (40) Complex DP islands (Nunes, 2008)
 - a. Parece $[_{CP}$ que $[_{DP}$ o bolo que o João comeu] não estava bom] Seems that the cake that the João ate not was good
 - b. $*\underline{O}$ <u>João</u>_i parece [CP que [DP o bolo [CP que _i comeu] não estava bom] the João seems that the cake that _ ate not was good 'It seems that the cake that João ate was not good.'

If HR is control and not movement, a control analysis of the type found in the AMC proposes (40-b) requires agree between the matrix controller DP, "João", and base-generated PRO, the gap. Notice that, under the assumptions of the AMC, agree between the matrix DP and PRO is impossible: PRO sits in a position separated by two clause boundaries from the matrix DP. Therefore, agree can not target PRO or C heading the clause containing PRO because both are outside the phase-domain of the matrix DP, e.g., at least one phase-head intervenes, the higher C heading the whole complement "that the cake that ate was good". The tree in (41) illustrates the problem:



(41) Agree can't target PRO or C within a complex DP

Furthermore, notice that even if we disregard the agree model of control entirely, it is an empirically robust generalization that control requires a minimally local configuration between the matrix DP and the controlled gap, e.g. PRO must be controlled by the closest c-commanding eligible controller at the next highest clause. This generalization was coined initially by Rosenbaum (1967) as The Minimal Distance Principle (MDP)¹¹. In this context, complex DP islands are independently ruled on grounds of minimality: the matrix DP can never control a gap in a complex DP because said gap is local to the DP heading the DP-CP complex, not the matrix DP. In other words, in a structure like

¹¹There has been much inquiry into the MDP, and current generative theories formulate it in different ways. For a more recent discussion, see Landau (2001, 2004); Larson (1991). I refer to the MDP here plainly as an empirical generalization on the locality between PRO and controller.

(41), PRO is minimally local to "the cake", not "João".

Therefore, the complex DP island data discussed in the previous section is compatible with a control analysis if we assume control is base-generation and enabled through agree. The coordination island data presents a different problem, it is not immediately obvious how a control-through-agree analysis accounts for data like (42):

- (42) Coordination islands and HR
 - a. [A Julia e o $Marcos]_i$ parece que _i venderam a casa The Julia and the Marcos seems that sold the house "Julia and Marcos seem to have sold the house."
 - b. *A Julia_i parece que [o Marcos e __i] venderam a casa The Julia seems that the Marcos and sold the house Intended: "Julia and Marcos seem to have sold the house."
 - c. A Julia parece que [_i vendeu a casa e _i se mudou pro The Julia seems that soldeu the house and REFL moved to-the Canadá] Canada "It seems Julia sold the house and moved to Canada."

Nonetheless, while it is true movement is not possible from a coordination island structure like (43), the same is true about control. Consider (43)

- (43) Coordination islands and control
 - a. A Julia_i quer PRO vender a casa Julia wants PRO sell.INF the house "Julia wants to sell the house."
 - b. A Julia, quer que [ela, e o Marcos] vendam a casa A Julia wants that she and the Marcos sell.SUBJV.PL the house "Julia would like for her and Marcos to sell the house."
 - c. *A Julia, quer $[{\rm PRO}_i \, e \, o \, {\rm Marcos}]$ vender a casa The Julia wants PRO and the Marcos sell.INF the house "Julia wants for her and Marcos to sell the house."

In (43-a), we have a baseline non-finite control construction with "want" and a non-finite complement containing PRO as the subject. In (43-b) we have a no-control construction where the subject of the lower subjunctive verb is a conjunction containing a lexical pronoun and "Marcos". Finally, in (43-c), we see the same non-finite construction as (43-a), except PRO now sits in a conjunction and the sentence is ungrammatical.

In sum, island data is not sufficient to rule out a base-generation control analysis because complex DP islands are predicted by an agree account of control and coordination islands are empirically a property of both movement *and* control.¹²

Binding

As discussed, the binding diagnostic is used in the literature under the working assumption that HR is movement. In the context of this assumption, A-binding data allows for the conclusion that HR is A-movement because it targets an A-position at the matrix clause; the logic behind the argument being that if the matrix DP in HR can bind matrix anaphors and this DP has undergone movement into the matrix clause, it follows this movement targets an A-position.

Conversely, if the assumption that HR is movement does not hold, as suggested by the previous discussion on islands, the binding data on HR points only to the fact the matrix DP in HR constructions sits in a binding position, e.g., an A-position c-commanding a matrix anaphor. This fact is consistent with a base-generation control analysis where the matrix DP is base-generated. Unsurprisingly, matrix DPs in control constructions can also bind matrix anaphors:

(44) O Marcos_i prometeu para seu_i pai nunca mais PRO_i beber no The Marcos promissed to his dad never more PRO drink at-the

¹²I focus my attention in this thesis on the island constraints that are present in the literature on HR in BP, e.g., complex DP and coordination islands. I leave the matter of whether HR and control pattern together in more island constraints for future research.

volante steering-wheel "Marcos promised to his dad to never again drink and drive."

Idioms

While islands and A-binding are not problematic for a control analysis, the fact HR maintains idiomatic readings does pose a more significant problem. The contrast between raising/control regarding idioms is well known and widely attested, e.g., (45).

- (45) Raising versus control and idioms
 - a. A vaca tentou PRO ir pro brejo
 The cow tried PRO go.INF to-the swamp
 "The cow tried to go to the swamp." Idiom reading ✗
 - b. A vaca parece _ ter ido pro brejo
 The cow seems _ have gone to-the swamp
 "It seems things went sour. Idiom reading ✓

The fact HR patterns with raising, (45-b), but not control, (45-a), provides a compelling argument for the A-movement analysis. On the other hand, if neither islands nor A-binding sustain an A-movement analysis, idioms are *the only* robust evidence for believing HR is A-movement. As a *complementary* piece of data, the idiom argument is much stronger than as the only pillar sustaining the A-movement analysis. Specially problematic is the fact the idiom data in BP comes solely from two idiomatic expressions, but there is evidence that this is not a generalizable property of idioms in BP. Specifically, speakers are able to reconstruct idiomatic readings even when these idioms are inserted into control

constructions, as shown in (46).

- (46) Control and $idioms^{13}$
 - a. A casa caiu
 The house fell
 "A bad thing happened/*Things went bad*"
 - b. Vish, a casa está prometendo PRO cair
 Oh, the house is promising PRO fall.INF
 "Uh-oh, things are very likely to go south." Idiom reading ✓
 - c. Olha, a casa quis muito PRO cair, mas no fim deu Look, the house wanted very PRO fall.INF, but in-the end give tudo certo everything right "Look, things almost went south, but everything was fine in the end."
 - d. O circo pegou fogo The circus caught fire "Chaos ensued."
 - e. Eita, o circo tá prometendo PRO pegar fogo Oh, The circus is promising PRO catch.INF fire "Chaos is very likely to ensue."
 - f. O circo quis muito PRO pegar fogo, mas graças a deus ficou The circus want very PRO catch.INF fire, but thank to god stayed tudo ok everything ok "Chaos almost ensued, but thank god everything went fine."

In this context, the idiom test does not seem robust enough to single-handily sustain Amovement analyses. Moreover, a significant problem immediate problem arises concerning (46), given what we know about the idiom diagnostic and thematic relations, as discussed in section 2.2.2. If idioms are preserved only when the thematic relations of the original idiomatic expression are maintained intact, how can a control predicate like "want" (46-c)

¹³The sentences in (b-c) and (e-f) in this example were collected from spontaneous speech heard in conversations between native speakers in the states of São Paulo, Minas Gerais and Rio de Janeiro throughout the months of December and January, 2022.

select as its an external argument the subject DP of an idiomatic expression, while also maintaining the idiomatic interpretation? In (46-c), "the house" is no longer associated with only the thematic relations of the original idiomatic expression, (46-a), but with the thematic roles associated with the subject argument of both the matrix control verb and the embedded non-finite verb. Later on this thesis, I address this issue by postulating that control in BP may be *athematic*, e.g., that we observe instances of control where the control verb does not introduce a thematic argument, hence no clash in thematic relations occurs for the purpose of idiomatic interpretations.

In the next section I discuss in more detail the issues pertaining thematic relations in the context of a potential control analysis of HR.

2.3.2 The problem of thematic relations

Even though the discussion thus far points in the direction of a potential control analysis of HR, there is still reasonable grounds to rule out such analysis independently. A significant issue emerges for a control analysis of HR in light of what is understood about the semantics of control verbs. HR verbs and control verbs contrast in crucial semantic properties. These properties are related to thematic roles.

HR is attested only with verbs associated with zero-place predicates like "seem". These verbs that are semantically distinct to control verbs when it comes to thematic relations. As discussed in Section 2.2.2, raising predicates introduce no external arguments, whereas control predicates do. This contrast is typically illustrated by the fact raising predicates, like similar *athematic* predicates, i.e., "rain", license expletive subjects:

(47) It seems it's raining

Conversely, controlled predicates never license expletive subjects of any kind:

- (48) a. There seems to be a parrot in the garden
 - b. It seems there is a parrot in the garden
 - c. *There wants to be a parrot in the garden
 - d. *It wants to be a parrot in the garden

The contrast between raising and control illustrated in (47) and (48) is at the root of several contrasting properties between these two constructions, e.g., the contrast in idiomatic readings discussed in Section 2.2.2. The important generalization stemming from (47) and (48) is that raising predicates and control predicates are distinct in the thematic relations introduced at their argument structure, this generalization is stated in (49):

- (49) Control versus raising thematic relations
 - a. In control constructions, a single DP is interpreted with two different thematic roles, one at the complement clause and one at the matrix clause.
 - b. In raising constructions, a single DP is interpreted with a single thematic role, one at the embedded clause and none at the matrix clause.
 - c. Control predicates introduce an argument that is interpreted with a thematic role.
 - d. Raising predicates are zero-place predicates, e.g., they introduce no arguments.

To understand how and why (49) holds, we require a theory of argument structure. In this thesis, I adopt Kratzer (1996)'s semantic treatment of argument structure. Intuitively, the basic idea is as follows: predicates vary in the syntactic structure of the vP shell, some predicates involve vPs that introduce an external argument, while others do not. The different syntactic structures of the vP shell are interpreted differently at the interfaces. In Kratzer (1996)'s framework, we can state (49) in the following terms: raising predicates occur in a structure in which the v(oice) head lacks an external argument, while control predicates occur in structures in which v introduces an external argument.¹⁴

Mechanically, the semantic distinction between raising/control stems from the presence or absence of an external argument in v(oice)P: in a control structure, a vP introduces an (external) argument, whereas a raising structure lacks an external argument altogether. Consequently, control verbs end up with a structure and (simplified) denotation as in (50), where the argument of v, the DP in its specifier, is interpreted as an agent/participant of the event denoted by the vP.

¹⁴Naturally, the pressing question is what formally drives a functional head to introduce a specific argument structure into the syntactic derivation. A well known proposal is found in Legate (2002), where the author formalizes a system where variations in the feature content of v modulates the possible argument structure of the verbal complex. While this thesis is not concerned with the formalization of what features of v modulate argument structure, I assume the basic insight from Legate (2002) that the argument structure of a verb is ultimately determined by the verb's features.

(50) Argument structure of a control predicate



 $(Participant(try (paint a landscape)) Miranda) * = \lambda e_s [Participant(Miranda)(e) & tries(paint a landscape)(e)]$

Unlike (50), a raising predicate does not introduce v's external argument, so we end up with a minimal denotation of the vP where the whole vP introduces an event but no individual participant:

(51) Argument structure of a raising predicate



In this context, the idea that HR is control seems rather unorthodox. If HR is control, it is strikingly different to other control predicates in syntactic and semantic properties. For one, HR is seemingly an instance of *athematic* control where the matrix controller DP is not interpretable as a participant, e.g., the structure of the HR-as-control predicate is like (51), but not (50). Without non-trivial assumptions about the argument structure of "seem" in BP, the problem is difficult to escape from: it is clear "seem" normally surfaces in predicates where participant interpretation of the subject is available, as shown by the fact "seem" is a raising verb that licenses expletive subjects.

While the idea that HR is control does contradict well-known and robust generalizations about the raising/control distinction, there is good empirical reason to adopt a control analysis of HR. In the next subsections, I provide several syntactic and semantic diagnostics that target the raising/control distinction in the context of HR in BP. Surprisingly, HR patterns with control, but not raising, in every relevant diagnostic.

2.3.3 Non-identity of matrix DP and gap

The first control property of HR in BP concerns non-identity. HR in BP allows for *non-identity* between the matrix DP and the gap at the complement clause. For example, consider (52), where the gap in HR may correspond to different sets of individuals:¹⁵

(52) HR allows non-identity

- a. Pedro_i parece que __i+ brigamos Pedro seems that __ fight.1PL.PST "It seems Pedro and I/us fought."
- b. Pedro_i parece que __i+ viramos inimigos Pedro seems that __ turn.1PL.PST enemies "It seems that me and Pedro became enemies."
- c. Pedro_i parece ao seu pai_j que __i+j/i+ mudaram/mudamos Pedro seems to his dad that _ change.3PL.PST/change.1PL.PST muito much

 $^{^{15}}$ In this example and henceforth, whenever an index is represented as "i+" it refers to sets of individuals that include "i" plus contextually available, extrasentential referents. In most cases, these referents correspond to speech participants, e.g., the speaker.

"It seems to Pedro's dad that they two/we changed a lot."

d. *Pedro_i parece que __j briguei Pedro seems that __ fight.1SG.PST "It seems I fought with Pedro."

What (52) shows is that the gap in HR does not necessarily map 1:1 into the matrix DP the gap may correspond to *supersets* of the matrix DP. These supersets may include both overt DPs at the matrix clause and contextually available, extrasentential referents, e.g., the sentence's speaker in (52-b-c). Crucially, HR never allows for interpretations where the gap may correspond to a set that does *not* include the matrix subject DP at all, e.g., (52-d) is out.

The first basic observation concerning (52) is that non-identity between matrix DP and embedded gap is generally not possible in A-movement dependencies. For example, contextual or explicit referents can never be included into the reference of the gap in raising:

- (53) Raising: matrix DP is the only possible referent of the embedded gap^{16}
 - a. Pedro_i parece __i ter brigado (comigo) Pedro seems __ have.INF.3SG fought (with-me) "Pedro seems to have fought with me."
 - b. *Pedro parece __i+ termos brigado Pedro seems __ have.INF.1PL fought.PART Intended: "Pedro seems as if we have fought."
 - c. *Pedro_i parece ao seu pai_{j _i+j} terem mudado muito Pedro seems to his dad _ have.INF.3PL changed.PART much Intended: "Pedro seems to his dad as if they both have changed much."

The ungrammaticality of (53-b-c) is expected: since raising is A-movement, the lower gap at the complement clause corresponds to a deleted copy of the matrix DP, hence the only

¹⁶Notice that BP displays inflected infinitives that allows us to track with some degree of morphological transparency whether the reference of the gap is semantically singular or plural.

possible interpretation of the lower gap is one where DP and gap are in a identity relation.

Conversely, if HR is, like raising, A-movement, the grammaticality of (52-b-c) is entirely unexpected. If the gap in HR is a deleted copy of the matrix DP, how can it refer to super-sets of the DP? Independent of how we derive (52), the fact HR allows non-identity poses a serious problem for existing movement analyses. As it stands, no movement analyses of HR in BP predicts (52), quite the opposite, these analyses systematically rule out non-identity.

Notably, non-identity is commonly attested in control constructions. For example, it is well known that the gap in control may be in a super-set relation with the matrix controller DP, a construction termed *partial control* in the literature, illustrated in (54):

(54) The chair_i wants $_i$ + to gather at six.

In (54), the controller DP is singular, but the interpretation of the lower gap is a set of (extrasentential) individuals that include the matrix DP, e.g., a super-set relation. Consequently, DP and gap in (54) are in a partial identity relation: the DP (the chair) is part of the reference set of the gap, but it does not exhaust the interpretation of the gap. Moreover, the gap in partial constructions like (54) is always *syntactically singular* but *semantically plural*, a crosslinguistically well-attested generalization (Landau, 2000, 2001).

Apart from partial control, control also allows for exhaustive interpretations of the lower gap that include more than one overt DP, so called *split control*:

(55) John_i proposed to $Mary_{j-i+j}$ to meet each other at six.

The reference of the gap in (55) includes *both* John and Mary and its interpretation is exhausted by these two DPs, e.g., no other individual or set of individuals may be included in the reference of the gap in (55). The possibility of split and partial control is broadly tied to the fact control does not involve a 1:1 syntactic identity between the matrix controller and the embedded gap. Assuming the gaps in (55) and (54) are PRO, and that PRO behaves as a pronominal variable, the fact PRO may refer to larger sets than the controller is not entirely surprising: pronominal elements are also often flexible in their possible referents.

That is not to say split and partial control are trivially accounted for. As a matter of fact, the phenomena of split control remains an open question from both syntactic and semantic standpoints (Grano, 2012; Landau, 2010; Madigan, 2008), while partial control has seen a range of proposals and remains a matter of a rich debate in the literature (Barrie and Pittman 2004; Bowers 2008; Davies and Dubinsky 2008; Grano 2012; Jackendoff and Culicover 2003; Landau 2000, 2004, 2007, 2008; Madigan 2008; Martin 1996; Modesto 2010; Rodrigues 2007; Wurmbrand 2004, among many others).¹⁷

In other words: non-identity is difficult to account for through A-movement, but it is well attested in control. Since HR systematically allows non-identity, a feasible hypothesis is that HR is not A-movement, but *some form* of control relation between a DP and PRO. The immediate question is *what kind* of control do we have in HR when we observe nonidentity.

At first glance, it seems the HR non-identity data can be collapsed under partial and split control. For example, consider the HR sentence in (56), repeated from (89):

(56) Pedro_i parece que __i+ brigamos Pedro seems that __ fight.1PL.PST "It seems Pedro and I/us fought."

In (56), we have a pattern that is strikingly reminiscent of partial control: we have a matrix singular DP that is in a super-set relation with a semantically plural gap. Notice,

¹⁷For more recent approaches, see: Grano (2017); Landau (2016); McFadden and Sundaresan (2018); Pitteroff et al. (2017).

however, that the gap in (56) contradicts the generalization that partial control involves syntactically singular controlled gaps - the gap in (56) is both syntactically and semantically plural, as shown by the fact it triggers plural agreement with the embedded verb. Consequently, I rule out the possibility that HR sentences like (56) are straightforward instances of partial control.

Analogously, example (c) from (89) repeated in (57) is similar to split control:

(57) Pedro_i parece ao seu pai_j que __i+j/j+ mudaram/mudamos muito Pedro seems to his dad that __ change.3PL.PST/change.1PL.PST much "It seems to Pedro's dad that they two/we changed a lot."

Similarly to split control configurations, in (57) we observe a gap that refers to two matrix overt DPs. On the other hand, unlike in split control, the gap in (57) is not obligatorily interpreted *exhaustively* as containing Pedro and his dad. For example, the gap may be interpreted as including Pedro and *the speaker* of the sentence, who both changed in the eyes of Pedro's dad. This interpretation is attested by the possibility of 1st person plural inflection at the embedded verb, as shown in (57). Since (57) lacks the exhaustive interpretation restriction of split control, I discard a potential split control analysis of HR examples like (57).

In sum, while the HR non-identity data shares some properties with partial and split control, it displays properties incompatible with these types of constructions. For this reason, I will continue to the refer to these types of HR constructions as simply "nonidentity" or "non-identity HR", and I make no assumptions on whether we should reduce these constructions to the umbrella terms of partial and split control.

To conclude this subsection: HR systematically allows non-identity between matrix DP and gap in BP, a fact that is undergenerated by existing movement analyses.

2.3.4 Embedding under control

Consider (58), where a HR dependency is embedded under the control verb "try":

(58) [1 O general tentou [2 PRO parecer [3 que _ ganhou a guerra]]] The general tried PRO seem.INF that _ won the war "The general tried to seem as if (he) won the war."

If HR is A-movement, the sentence in (58) is unexpected for several reasons. One, assuming HR in BP targets the subject position of the higher clause¹⁸, the subject embedded in clause 3 has no possible landing position in clause 2: the subject position of clause 2 is already occupied by PRO. Moreover, if HR is A-movement, the sentence in (58) involves A-movement from a finite clause 3 into a *non-finite* clause 2, and then from a non-finite clause into a finite-clause (1). Given that A-movement is often tied to DP licensing conditions, i.e., case-licensing, which, in turn, is tied to clause finiteness¹⁹, the movement triggers for the three (at a minimum) instances of movement in (58)?

Furthermore, while HR can be embedded under a control predicate, raising can not:

(59) *O general_i tentou PRO_i parecer __i estar ganhando a guerra The general tried PRO seem.INF _ be.INF winning the war Intended: "The general tried to seem as if (he) is winning the war."

Unsurprisingly, HR patterns with control in the relevant diagnostic, e.g., nested control

¹⁸This assumption is supported by the fact the HR DP in BP triggers agreement with the matrix raising verb. Moreover, the idiom and A-binding tests discussed in the previous section show that the HR DP sits in a (pre-verbal) A-position. The only pre-verbal A-position in BP (apart from ditransitives) is SpecTP, the position that hosts subjects.

¹⁹Note, however, that the generalization correlating finiteness and case-licensing is too strong, a point I will discuss in detail in Chapter 3.

predicates are licit in BP:

(60) O general_i decidiu/quis/prometeu PRO_i tentar PRO_i ganhar a guerra The general decided/wanted/promised PRO try.INF PRO win.INF the war "The general decided to try to win the war."

2.3.5 Scope reconstruction

A third property where HR is inconsistent with A-movement concerns scope reconstruction. A known property of movement dependencies is their ability to reconstruct the structural positions from where a DP has moved for the purpose of scope relations.²⁰

For example, control and raising contrast in the possible scope interpretations available for quantifiers at the matrix clause, consider the example below from Landau (2013):

- (61) Scope reconstruction in control versus raising (Landau, 2013)
 - a. Seven civilians [are likely seven civilians to starve to death this weekend].
 - b. Seven civilians_i [are afraid PRO_i to starve to death this weekend].

Under the assumption that most control and raising predicates are scope-bearing elements on virtue of being intensional (Landau, 2013), the matrix quantifier "seven" and the bracketed predicate may outscope each other in the context of raising, but not control. In the raising sentence, (61-a), two scope interpretations are available, one where the matrix quantifier takes scope over the predicate (there are seven specific civilians who are likely to starve) and one where the predicate takes scope over the matrix quantifier (there are seven civilians, whoever they might be, that are likely to starve). Conversely, the control sentence in (61-b) allows only the scope interpretation where the matrix quantifier takes

²⁰There is, however, extensive debate on the robustness of this generalization, see: Boeckx (2001); Chomsky (1993, 1995); Hornstein (1998); Lasnik (1998, 1999); Sauerland and Elbourne (2002); Tanaka (2003), among others. I abstract from the discussion and assume the class of A-movement discussed (raising, HR) does reconstruct. The relevant data shown in this section favours this assumption.

scope over the predicate (there are seven specific civilians).

The contrast between raising/control in scope reconstruction is attributed in the literature (Landau, 2000, 2003, 2007, 2013; Polinsky, 2013) to the fact raising has a structure where the matrix subject DP has a lower copy at the complement clause, but control does not. Consequently, "seven civilians" in (61-a) can be reconstructed at the lower position where the predicate outscopes the quantifier. On the other hand, in the control construction, (61-b), there is no copy of the matrix quantifier at the lower clause, hence only the surface scope (quantifier over predicate) interpretation is available.

To illustrate the relevant property in the context of HR versus raising, consider the raising example in (62):

(62) Raising and reconstruction in BP

<u>Dois alunos</u> parecem ter visitado <u>três</u> professores Two students seem.3PL have.INF visited three professors "Two students seem to have visited three professors."

The example in (62) uses two quantifiers in two structural positions to probe for scope relations. The possible interpretations of (62) are as follows:

- (63) Possible interpretations of (149)
 - a. There is a pair of visiting students who visited three professors. For example: students Astrid and Luana visited the offices of professors Paula, Fernanda and Matheus.
 - b. There is a trio of professors such that these professors were visited by two students. For example: professors Carlos, Edson and Adriana were visited by two students. Carlos was visited by Astrid and Luana. Edson was visited by Beatriz and Tomás. Adriana was visited by Fábio and Sandro.

The ambiguity illustrated in (63) stems from the possible scope of the two quantifiers in (62), "three" and "two". In (63-a), the quantifier that quantifies the matrix DP, "two", has scope over the quantifier at the lower clause, "three". In (63-b), the quantifier "three" has scope over "two", e.g., the two students may vary with each professor within the group of three professors. We can state the possible scope of the two quantifiers in the following way:

- (64) Possible scope readings in (62)
 - a. There are two visiting students for three professors.
 - 2 > 3
 - b. For three professors there are two visiting students. $3>2 \label{eq:stability}$

The ambiguity illustrated in (64) is enabled by quantifier raising (QR) (May et al., 1985; May, 1978) and is a byproduct of raising: since raising is movement, the matrix quantified DP "two students" can be reconstructed in its base-generated embedded position, specvP at the complement clause. At this structural position in the complement clause in (67), the lower quantifier "tree" can outscope "two" through QR, and the 3 > 2 becomes available:

(65) seems [$_{CP}$ that two students TP have [$_{vP}$ three professors_{QR} <two students> visited <three professors>]

As shown in (61), control contrasts with raising in scope reconstruction:

(66) Dois alunos tentaram PRO_i visitar três professores
Two students tried PRO visit.INF three professors
"Two students tried to visit three professors."

2 > 3, * 3 > 2

In (66), the embedded quantifier can not scope over the matrix quantifier. In both examples, there is no reading available where varying pairs of students visited three professors professor. The lack of scope ambiguity in (66) follows from the clause-boundedness of QR: the 3 > 2 reading is not available because the matrix quantifier can not be reconstructed into an embedded position. In other words, because control involves basegeneration of two different SOs, reconstruction into the embedded gap is impossible.

Conversely, the ambiguity in (62) is possible because raising is movement: the matrix DP and the embedded gap are the same SO - the latter a pronounced copy of the former. Consequently, it is possible to reconstruct the scope reading available for the quantifier in the position of its lower copy left by movement. Due to QR, the matrix quantifier "two" can be reconstructed in a position where it is outscoped by the embedded quantifier "three", as in (67):

In the context of HR, a prediction is immediately available. If HR is A-movement, as proposed by existing theories, it should pattern with raising in reconstruction properties. This prediction is based on two assumptions: i) raising allows reconstruction, and ii) the similarities between HR and raising warrant predicting they share semantic properties. In other words, the HR equivalent of (67) should be scope ambiguous. HR, however, does not pattern with raising, but with control.

Consider the HR example in (68) and the corresponding possible scope relations under

it. The sentence in (68) mirrors the raising example in (62), the difference between (68) and (62) is that in (68) the DP raises from a finite complement CP, e.g., (68) is HR while (62) is raising. If HR is A-movement, we predict that the possible scope of the quantifiers is the same as in raising, e.g., the possible scope relations in (67). This prediction is, however, not borne out:

(68) Dois alunos parecem que _ visitaram três professores Two students seem that _ visit.PST three professors "It seems two students have visited three professors."

2 > 3, * 3 > 2

In raising, the two quantifiers can outscope each other, but that is not possible for the HR example (68). Crucially, the only scope reading available in (68) is the surface reading, e.g., the reading where the embedded quantifier does not scope over the matrix quantifier (2 > 3). The scope judgements for (68) have been collected with a sample of 14 adult speakers of Brazilian Portuguese. The speakers are all speakers of the *caipira* dialect spoken in central and south-eastern Brazil. To probe for scope readings, the sentence above was presented to speakers in writing together with the following scenario:

- (69) Scenario: students of the linguistics department at Unicamp are collecting data about how the professors at the department feel about the current state of funding for graduate students. In this context, students visited the offices of the department's professors to conduct short interviews. After all professors were interviewed, one student who was not part of the interviewing process asks a fellow student how were the interviews conducted. The student receives the following reply:
- (70) Dois alunos parecem que visitaram três professores Two students seem that visit.PST three professors

After reading the above scenario and relevant target sentence, speakers were asked to answer if the following statements about (70) could be true. Each statement aims to probe for the truth conditions of (70) in the context of the possible scope readings of "two" and "three": (a) corresponds to the surface reading ("two" > "three") and (b) to the reading possible only if "two" reconstructs into the embedded clause ("three" > "two")

- (71) Statements speakers were asked to judge.
 - a. Two students, Joana and Carla, visited three professors of the linguistics department. For example: professors Paula, Marcos and Susana were all visited by Joana and Carla.
 - b. Three professors of the linguistics department were visited by a pair of two students. For example, professor Paula was visited by Joana and Carla, professor Marcos was visited by Daniel and Julia and professor Susana was visited by Helena and Agnes.

Judgements fell solidly within the truth conditions that correspond to the surface scope reading, e.g., 2 > 3. Of the 14 speakers, 11 considered that only (71-a) could be true regarding (70). 2 speakers answered that (a) is "the most likely true statement", but (b) could be true too. One speaker answered that both (a) and (b) could be true.

Consequently, HR patterns with control and other base-generated dependencies for scope readings, e.g., HR does not allow scope reconstruction, contrary to what an Amovement analysis predicts.

To further support the argument that HR does not allow reconstruction, consider the example sentence below from Fox (1999):

(72) [At least one soldier] seems to Napoleon [CP to be likely _ to die in every battle].

1 > 3, 3 > 1

The surface scope of the matrix quantifier in (72) construes a strange meaning. Under the reading where the embedded quantifier scopes over the matrix quantifier, $1 > \forall$, Napoleon believes there is one seemingly immortal soldier who is likely to die multiple times. In that context, Fox (1999) argues that (72) is evidence that raising allows reconstruction. If speakers could not reconstruct the quantifier in (72) at the lower clause, the reading where "three" has scope over 'one' would never be available. Speakers can, however, construe the quantifier at the lower embedded position, e.g., the reading that for every battle, there is a number of soldiers likely to die, and this number is one.

The example in (72), thus, seems like a good candidate diagnostic for reconstruction in HR. The diagnostic works as follows. A raising sentence like (72) *requires* the possibility of reconstructing the matrix quantifier into the embedded clause. Because raising allows reconstruction, (72) is felicitous: speakers can reconstruct the quantifier at the embedded clause; therefore, they can interpret the sentence in (72) as not being about an immortal soldier. Conversely, if we assume HR does not have the reconstruction properties of raising, the HR equivalent of (72) should not be felicitous. If HR does not reconstruct like raising, the HR equivalent of (72) will not allow the felicitous reading of (72), e.g., the reconstructed reading.

Adapting (72) into an HR example in BP, the diagnostic just outlined points in the direction that HR does not reconstruct: (73-b) is reported as infelicitous for native speakers of BP.

(73) a. Parece para Napoleão [CP que pelo menos um soldado irá morrer em Seems to Napoleon [CP that at least one soldier will die in toda batalha]
every battle]
"It seems to Napoleon that at least one soldier will die in every battle".

b. #Pelo menos um soldado parece para Napoleão [CP que _ irá morrer em At least one soldier seems to Napoleon [CP that _ will die in toda batalha]
every battle]
"There is one soldier x who seems to Napoleon that x will die in every battle."

The judgements in (74) were collected with a group of adult speakers of the *caipira* dialect of Brazilian Portuguese. 12 speakers were shown the sentences in (74) in writing and asked to judge the sentences' felicity in a given scenario, as in (74):

- (74) Scenario: two friends, Ana and Luisa, are watching a documentary about the Napoleonic wars. The documentary is an accurate historical report of the events that unfolded during the time of emperor Napoleon Bonaparte. At a certain scene in the documentary, the narrator explains that when asked about the upcoming campaign against the British Empire, Napoleon said he believed France would lose at least one soldier in these battles. Luisa misses this scene of the documentary because she receives a phone call. After finishing her phone call, Luiza asks Ana what did she miss in the documentary. Ana then answers:
- Parece para Napoleão que pelo menos um soldado irá morrer em toda a. Seems to Napoleon that at least one soldier will die in every batalha battlel "It seems to Napoleon that at least one soldier will die in every battle". b. Pelo menos um soldado parece para Napoleão que __ irá morrer em toda At least one soldier seems to Napoleon that _ will die in every batalha battle "There is at least one soldier x who seems to Napoleon that x will die in every

battle."

Of the 12 speakers sampled, 9 reported the sentence in (74-b) as infelicitous and unlikely to be said by Ana. Some speakers remarked that (74-b) could be uttered if "Ana was joking". 2 speakers judged (a) and (b) as equally felicitous. One speaker considered both sentences "unnatural".

To summarize: if we trap reconstructed scope as in (74-b) in an HR construction, most speakers are unable to interpret the sentence felicitously. In other words, the fact speakers find (74-b) infelicitous shows that when the possible scope of the quantifier 'one' is restricted to the reconstructed reading, HR is infelicitous, (74-b). The only reading speakers can construe of (74-b) is the one where an immortal soldier exists, a reading that is not felicitous in the context of a historically accurate documentary.

Example (74) contrasts with raising in BP, as in (75). The difference between (74) and (75) is the finiteness of the embedded verb: in (74) we have a finite verb (e.g., (74-b) is HR), while in (75) the embedded verb is non-finite (e.g., (75) is raising). While (74) is consistently judged as infelicitous by BP speakers, (75) is not. Namely, speakers can construe the reconstructed reading of the quantifier in (75), therefore making the felicitous reading available.

(75) Só um soldado parece para Napoleão ter morrido em toda batalha Only one soldier seems to Napoleon have.INF died.PART in every battle "Only one soldiers seems to Napoleon to have died in every battle."

 $\# 1 > \forall, \forall > 1$

The judgements for (75) was collected through the same test illustrated in (75). To avoid potential speaker biases, a different set of 8 speakers, all adult speakers of the *caipira* dialect, was asked to judge (75). All 10 speakers judged (75) as entirely felicitous in the scenario provided.

2.3.6 Weak crossover effects

A fourth piece of evidence that poses a problem for the A-movement analysis comes from Weak Crossover Effects (henceforth, WCO). Notably, A-movement is able to repair a type of WCO where a pronominal element surfaces to the left of a quantifier that binds it from a non c-commanding position, e.g., (76) (adapted from Landau 2013).

(76) [Seus_i funcionários] parecem para [todo_i gerente] _ terem sido His employees seem to every boss _ have.INF.PL been surpreendentemente eficientes surprisingly efficient "To every boss, his own employees seem to have been surprisingly efficient."

Notice that the raising example (76) contrasts with control example (77). Control is not able to repair the WCO violation (Landau, 2013), and the resulting structure is illicit for the indexing relation where the pronominal element is bound by the quantifier:²¹

(77) *[Seus_i funcionários] prometeram para [todo_i gerente] PRO terem sido His employees promised to every boss PRO have.INF.PL been surpreendentemente eficientes surprisingly efficient Intended: "To every boss his employees promissed to have been surprisingly efficient."

In this context, WCOs provide a diagnostic for telling apart control and raising and, by extension, A-movement from base-generation. Under the A-movement analysis of HR, the relevant prediction is that HR patterns with raising, (76), but not control (77). HR,

 $^{^{21}}$ Example (76) is judged as highly degraded by BP speakers. Importantly, the pronominal element "seu(s)" in BP is the morphological realization of both 2nd and 3rd person referents. Consequently, speakers interpret (76) with the reading where the pronominal element refers to the addressee, e.g., "Your employees appear to every boss to have been surprisingly efficient.".

however, patterns with control, but not raising for this diagnostic:

(78) *[Seus_i funcionários] parecem para [todo_i gerente] que _ foram His employees seem to every boss that _ were surpreendentemente eficientes surprisingly efficient Intended: "To every boss it seems that his own employees were surprisingly efficient."

2.3.7 Control or other base-generation dependencies? Obligatory or Non-obligatory control?

Before concluding this chapter, some discussion on an important control diagnostic is in order in the context of HR. This diagnostic is important because it allows us to rule out two possibilities: first, we can rule out non-control but base-generation analysis of HR (e.g., *pro*-drop) and second, we can rule out the possibility that HR is some form of Non-obligatory Control.

The relevant diagnostic pertains what is termed the Obligatory Control (OC) signature (Landau, 2000), a set of semantic and syntactic properties used to diagnostic OC relations. The OC signature is stated below:

- (79) The OC signature (Landau, 2013)
 In a control construction [... X_i... [S PRO_i...]...], where X controls the PRO subject of the clause S:
 - a. The controller(s) X must be (a) co-dependent(s) of S.
 - b. PRO (or part of it) must be interpreted as a bound variable.

The OC signature is relevant because it allows us to rule out *other base-generation analysis* of HR, i.e., analyses based on different covert categories, such as *pro*, a covert operator,

and so on. Because the OC signature allows us to diagnose obligatory control between the controller and PRO, it serves as a useful set of diagnostics for disambiguating control from other base-generated empty categories. Notice that the OC signature on its own does not rule out an A-movement analysis - A-movement dependencies typically display both properties in (79), except the gap in A-movement is presumably not PRO but a deleted copy. In this context, the OC signature differs to the previous diagnostics in that it does not rule out A-movement analyses, although it serves another equally important role in the argumentation for a control account of HR.

Notably, HR displays the OC signature in three ways. One, the embedded gap in HR dependencies is always interpreted as a bound variable, e.g., it is necessarily controlled by a matrix DP. Two, the matrix DP in HR is co-dependent of the embedded complement CP because it needs to be in an argumental²² relation with the CP. For example, if the matrix DP and the CP are not clause-mates HR is impossible:

(80) *O Pedro_i parece que a Joana disse que __i comprou um carro The Pedro seems that the Joana said that __bought a car "It seems Joana said Pedro bought a car."

The data in (80) shows that separating matrix DP and gap with a full clause is not licit for HR constructions.²³ A second property of HR that confirms co-dependency is the fact that, like OC constructions, HR allows only for sloppy readings of the embedded gap in VP ellipsis contexts, e.g., (81), where the elided VP is bracketed

(81) Ao João, o Pedroi parece que __i está triste, e a/*à Mariaj To-the João, the Pedro seems that __ is sad, and the/to-the Maria também [vp parece que __*i/j is sad] also seems that __ is sad

²²Codependency also obtains in adjunct relations, the point here is that the DP and the complement CP need to be in the same clausal domain to be in an argumental configuration.

²³Notice that this property is predicted by locality restrictions on control briefly discussed in Section 2.2.1, e.g., the Minimal Distance Principle and its further reformulations in the control literature.

"Pedro seems to João to be sad and Maria does too."

The embedded gap at the elided VP in (81) may refer only to immediately available controller DP, Maria, but not to the higher controller Pedro. The example above relies on the fact that the feminine definite article "a" is phonetically syncretic with the preposition + article cluster "à". Consequently, when speakers hear (81) they have the option of interpreting the element immediately before "Maria" as either a definite article, rendering the sloppy reading, or as a preposition + article, rendering the strict reading. The former is consistently picked by BP speakers, as expected of an OC dependency.²⁴

In short, the gap in HR constructions is obligatorily controlled. This property on its own does not rule out an A-movement analysis because lower copies left by movement also display the OC signature. Nonetheless, HR displays properties that are consistent with control, but not A-movement. If HR displays the OC signature *and* patterns with control but not raising, we have significant evidence for a obligatory control analysis in opposition to other base-geenration analyses, i.e., *pro*-drop or non-obligatory control. On Chapters 3 and 4 I further discuss the issues related to *pro* in the specific context of HR in BP.

2.4 Conclusions

In the first half of this chapter, I showed that the literature at large argues for an Amovement analysis of HR and that this analysis follows from three core diagnostics: islands, idioms and A-binding. Afterwards, I showed none of these diagnostics is robust

²⁴Due to the fact the contrast in sloppy/strict readings relies on ambiguity caused by phonological syncretism, the relevant example was read aloud to speakers, and not shown in writing. Speakers were then asked to answer yes-no questions probing into the set of individuals who seemed sad and the set of individuals to whom at least one person seemed sad. Speakers were free to hear the relevant sentence as many times as they wanted. All 4 speakers answered yes only to sets that included Pedro and Maria in the group of people-who-seemed-sad and only João in the group of people-to-whom-someone-seemed-sad.

enough to rule out an alternative control analysis.

In the second half of this chapter I provided further empirical support for a control analysis of HR. I discussed seven novel sets of data that pose challenges to A-movement analysis. In every data set, I showed that HR displays the expected properties of a control dependency but not of an A-movement dependency. I also showed the gap in HR constructions displays the OC signature (Landau, 2000), a fact that further reinforces the hypothesis that HR is control but not raising. The relevant data sets and the corresponding properties are summarized in Table 2.2 below.

	Hyper-raising	Control	A-movement
Island sensitive	1	✓ / X	✓
Maintains idiom readings	\checkmark	✓ / X	1
Matrix DP binds anaphors	\checkmark	1	1
Reconstructs scope	X	X	\checkmark
Obviates WCOs	X	X	\checkmark
Embedding under control	\checkmark	\checkmark	X
Non-identity	\checkmark	\checkmark	×

Table 2.2: Contrasting properties of HR/Control/A-movement

In this context, the conclusion we reach is that HR displays properties consistent with control and properties consistent with A-movement. Crucially, the properties that support an A-movement analysis cannot rule out a control analysis, whereas the opposite is not true.

Consequently, a significant empirical gap surfaces in the context of HR in BP: no existing analysis can properly explain the control properties in Table 2.2. This empirical gap stems from two issues. First, the literature rules out control analyses - likely on grounds of independent generalizations on thematic relations and the properties of raising verbs, as discussed in Section 2.3.2 - but the relevant syntactic arguments employed in the literature do not allow for any generalization that restricts HR to movement and *only* movement. Second, the novel data discussed in Section 2.3 clashes directly with the predictions made by existing A-movement analyses because these analyses rule out the semantic and syntactic control properties attested in HR in BP.

The empirical gap presented by the data discussed in this chapter is the core empirical contribution of this thesis. Likewise, the final goal of this thesis is to provide a new theoretical approach to HR that can adequately address the empirical gap posed by the data discussed.

In the remainder of this thesis, I address the empirical gap presented in this chapter by putting forward a control account of HR. Specifically, I show that it is possible to account for HR through an implementation of the Agree Model of Control advanced on (Landau, 2000, 2004, 2006, 2007, 2008, 2010, 2013). Before moving into the proposal itself, I discuss and address some key points of the existing literature in Chapter 3.

Chapter 3

Literature review

The vast majority of the existing literature adopts a movement approach to HR (Alboiu and Hill, 2016; Carstens, 2011; Carstens and Diercks, 2009; Fong, 2017, 2019; Halpert, 2019; Lee and Yip, 2020; Martins and Nunes, 2009, 2010; Nunes, 2008, 2019; Petersen and Terzi, 2014; Ura, 1995). Notably, what the literature categorizes as "hyper-raising" is not an homogeneous pattern. There are at least two sets of empirical data in the literature that are referred to as hyper-raising. One set consists of data patterns like the one attested in BP, where we observe the subject of a finite complement clause surfacing as the logical *subject* of the matrix verb. Another very different data set reported in the literature is attested in languages like Mongolian (Fong, 2019) and Romanian (Alboiu and Hill, 2016), where the subject of a finite complement surfaces at the matrix clause at the (apparent) object position of the matrix verb.

For this reason, existing proposals vary significantly in how they account for the general phenomena of HR. Nonetheless, proposals in the literature share a common *blueprint* based on two ideas: i) HR is driven by a structural relation, e.g., long-distance agree, between a matrix head and the complement CP and ii) HR is driven by the DP licensing conditions of the complement CP. In this chapter, I outline how these ideas emerge in the
literature by separating them into two groups, those who argue for agree-based approaches and those who argue for licensing-based approaches.

Moreover, I argue the existing literature can't account for HR in BP in light of the novel data presented in Chapter 2. I discuss the literature specific to HR in BP in more detail (Nunes, 2008), and I argue against its claim that HR is finite-control *and* control is movement. Alternatively, I propose the main insights from (Nunes, 2008) are on the right track, but there is no strong evidence to assume control is movement - and not base-generation - in the context of HR in BP. I show the main theoretical insights from the cross-linguistic and BP-specific literature on HR are consistent with a control analysis in the lines of the Agreement Model of Control (Landau, 2000, 2004, 2006, 2008).

The second half of the chapter is a review of the Agreement Model of Control (henceforth, AMC), upon which I will build my proposal on Chapter 4. Finally, I rule out two alternative analysis stemming from the Movement Theory of Control and from a the literature on *pro*-drop in BP.

3.1 Agree approaches

An idea echoed in the literature is that some structural relation between a matrix head and the embedded complement clause drives HR. Generally, the type of structural relation is or involves an instance of agree. The probes for agree are either T (Halpert, 2019) or v (Alboiu and Hill, 2016).

In Halpert (2019), the author proposes HR in Zulu is A-movement driven by two instances of agree: one between matrix T and embedded C and one between matrix T and the embedded HR DP. The main empirical argument for these two instances of agree in Halpert (2019) is morphological. Specifically, in HR in Zulu, the matrix verb may surface with agreement morphology that tracks either of the two agree relations. Consider Example (82):

(82) HR: Matrix verbal agreement in Zulu (Halpert, 2019)

- a. uZinhle_i **u**-bonakala [ukuthi _i u-zo-xova ujeqe] AUG.1Zinhle **1S**-seem that t 1S-FUT-make AUG.1steam.bread
- b. uZinhle_i **ku**-bonakala [ukuthi _i u-zo-xova ujeqe] AUG.1Zinhle **17S**-seem that _ 1S-FUT-make AUG.1steam.bread

Both (82-a) and (82-b) are instances of HR in Zulu: the subject of the finite complement clause surfaces at the matrix subject position where it is co-indexed with an embedded gap.

Of note is that the verb in (82-a) displays agreement morphology that tracks the HR DP, e.g., agreement with noun class 1. Conversely, in (82-b) the matrix verb displays default agreement (noun class 17), which Halpert argues is the morphological realization of T agreeing with embedded C.

If Halpert (2019) is on the right track, an immediate question is whether the proposal can be extended to HR in BP. The immediate answer to this question is negative: the data profiles of BP and Zulu differ strikingly in movement diagnostics.

Notably, Halpert (2019) shows, building on Halpert (2015), that HR in Zulu contrasts with subject control in core diagnostics: idiom preservation, scope reconstruction and the type of complement clause selected (only indicatives for HR, infinitives and subjunctives for subject control).

The full range of Zulu data discussed in Halpert (2015) is irrelevant to the present discussion, the relevant observation being that HR in BP, unlike in Zulu, displays signature properties of subject control. Consequently, Halpert (2019) builds on assumptions based on data inconsistent with the BP data under investigation. Hence, extending the proposal in Halpert (2019) to HR in BP is not feasible from an empirical perspective since we

are dealing with languages with contrasting properties regarding the relevant empirical generalizations.

Apart from Halpert (2019), a second type of agree proposal is found in Alboiu and Hill (2016), which proposes HR in Romanian requires a structural relation between matrix v and embedded C. Alboiu and Hill (2016) proposes this structural relation is discoursive and is tied to *evidentiality*. Specifically, the authors propose that HR verbs in Romanian are endowed with a feature responsible for rendering indirect evidence readings. The empirical motivation for the proposal is the fact HR in Romanian creates a semantic contrast for evidentiality, as shown in (83):

(83) Romanian accusative subjects

a.	Am	auzit	ca	Mihai _k	repara_k	casa
	have.1SG	heard	that	Mihai	fixes	house.the
	"I've hear	d that	Miha	ai is fixi	ing the h	nouse."

b. L-am auzit pe <u>Mihai_k</u> ca repara_k casa him-have.1SG heard DOM Mihai that fixes house.the "I've heard Mihai (claiming that) he's fixing the house." (Only indirect evidence interpretation is available.)

In (83), (a) is the baseline (embedded subject DP stays in-situ) and (b) is HR: the embedded subject DP surfaces at the matrix clause to the left of the complementizer. Crucially, the interpretation of (83-b) is one where the speaker had *indirect evidence* of the proposition expressed at the complement clause. By extension, Alboiu and Hill (2016) argues that HR is a discourse-driven syntactic operation that is tied to evidentiality. Lee and Yip (2020) make a similar point for Cantonese/Vietnamese.

Again, we must ask ourselves whether Alboiu and Hill (2016) and similar proposals can answer the questions raised by the HR data from BP. Again, the answer is negative. These proposals are concerned with empirical facts *entirely* different from what is observed in BP.

For one, the evidential contrast is absent in HR in BP. To test for evidentiality readings, we can use the *absent cook test*, introduced in Asudeh and Toivonen (2012) to test for semantic contrasts in copy-raising constructions in English. The test is illustrated below in the contrast between (84) and (84):

- (84) <u>Scenario</u>: A and B walk into Tom's kitchen. There's no sign of Tom, but there are various things bubbling away on the stove and there are several ingredients on the counter, apparently waiting to be used. A says to B:
 - a. Tom seems to be cooking.
 - b. It seems like Tom is cooking.
 - c. #Tom seems like he is cooking.

(Asudeh and Toivonen 2012: ex. (26, 24, 25))

- (85) <u>Scenario</u>: A and B walk into Tom's kitchen. Tom is seen cooking a steak on a skillet. A says to B:
 - a. Tom seems to be cooking.
 - b. It seems like Tom is cooking.
 - c. Tom seems like he is cooking.

What the test in (85) and (84) shows is that while raising and the expletive baseline allow both indirect and direct evidence interpretation, copy-raising in English disallows indirect evidence interpretations, as shown in the infelicity of (85-c), where A has no direct perception of Tom cooking, only of the event of Cooking. Importing the test in (85) to HR in BP gives us the relevant diagnostic: HR patterns with raising in allowing both indirect and direct evidence interpretations.

(86) <u>Scenario</u>: A and B walk into Tom's kitchen. There's no sign of Tom, but there

are various things bubbling away on the stove and there are several ingredients on the counter, apparently waiting to be used. A says to B:

- a. Parece que o Tom está cozinhando Seems that the Tom be.3SG.PRS cooking
- b. Tom parece que __está cozinhando Tom seems that __be.3SG.PRS cooking "It seems Tom is cooking."
- (87) <u>Scenario</u>: A and B walk into Tom's kitchen. Tom is seen cooking a steak on a skillet. A says to B:
 - a. Parece que o Tom está cozinhando Seems that the Tom be.3SG.PRS cooking
 - b. Tom parece que __está cozinhando Tom seems that __be.3SG.PRS cooking "It seems Tom is cooking."

Apart from the lack of evidentiality contrasts, there is a crucial structural distinction between HR in BP and the type of HR attested in Romanian. HR in Romanian/Cantonese targets the matrix *object* position. In contrast, in BP the only licit position for HR DPs is the matrix *subject* position. Consequently, the proposals in Alboiu and Hill (2016) and Lee and Yip (2020) are unsuited for the BP data this thesis aims to address.

3.2 Structural licensing approaches

A second idea commonly seen in the literature is that the complement CP in HR displays clausal properties that enable or drive movement of a DP out of it. This idea takes one of two forms: i) the embedded CP is *enriched* in some way that drives movement out of it or ii) the embedded CP is *impoverished* in some way that forces DPs to move out of it.

For example, Fong (2019) argues embedded SpecCP in Mongolian is an argumental

position because embedded C is endowed with a ϕ -bundle. This proposal, however, does not fare well for HR in BP for two reasons. One, HR in Mongolian targets the matrix object position, e.g., the same type of HR attested in Romanian and Cantonese, discussed in the previous section. Two, Fong (2019) supports the argument that C is argumental through independent evidence that embedded subject DPs may surface at embedded SpecCP in Mongolian HR. Conversely, in HR in BP DPs never surface at embedded SpecCP, as shown in (88):

- (88) Embedded SpecCP is not a licit position for DPs
 - a. Parece $[_{CP} que_C a$ Carla ganhou a partida] Seems that the Carla won the match
 - b. *Parece $[_{CP} a$ Carla que_C _ ganhou a partida] Seems the Carla that _ won the match
 - c. A Carla parece [_{CP} que_C _ ganhou a partida] The Carla seems that _ won the match "It seems Carla won the match."

Without non-standard assumptions, arguing that embedded C is argumental in BP requires explaining why DPs never surface in the intermediate position in (88-b). The problem is further complicated by the fact that the matrix subject position in HR may be left empty, (88-a), thus explanations in terms of EPP restrictions on matrix T forcing lose strength.

A second type of approach in the same vein is found in Carstens (2011); Carstens and Diercks (2009). Unlike Fong (2019), who argues for enriching the featural specification of complement CPs, Carstens (2011) goes in the opposite direction and argues for a clause reduction approach. Specifically, the authors propose that complement CPs in Bantu are not full CPs but bare TPs. This proposal's empirical support is straightforward: HR is banned when an overt complementizer heads the complement clause in the Bantu languages under investigation. The remainder of Carstens (2011)'s proposal has to deal with DP-internal properties. Namely, the authors propose that DPs in Bantu are *hyperactive* for movement, which is the driving force for various unexpected movement dependencies, including HR.

Again, this proposal is ruled out for BP on empirical grounds. In contrast to Bantu, HR in BP is *only licit* when an overt complementizer heads the complement clause. Hence, clause reduction approaches are immediately ruled out: there is no reason to believe HR complements in BP are not fully specified CPs. In terms of DP internal properties, the hyperactive nature of Bantu DPs is unattested in BP: DPs in BP are as free as they are in Bantu in terms of their surfacing positions.

A final account based on licensing conditions is proposed in Nunes (2008). Unlike the works discussed thus far, Nunes (2008) directly addresses HR in BP and requires a more in-depth discussion.

3.3 Nunes 2008: HR is control (but control is movement)

Nunes (2008) is the first significant work on HR in BP. Like most existing literature, the proposal in Nunes (2008) adopts an A-movement analysis of HR based on the diagnostics discussed in Chapter 2 (islands, idioms and A-binding).

On the other hand, unlike the rest of the literature, Nunes proposes that HR is finite control. Nunes builds upon previous literature on BP (Ferreira, 2004, 2009, 2010; Rodrigues, 2002, 2004) that argues that embedded subject gaps in BP are generally controlled by overt DPs at the matrix clause, in finite and non-finite environments. Notably, both the work Nunes builds upon and Nunes' proposal adopt the Movement Theory of Control (Boeckx and Hornstein, 2006; Boeckx et al., 2010; Hornstein and Polinsky, 2010) instead of PRO-based approaches. By extension, even though Nunes (2008) argues HR is control, the analysis in this work is an A-movement analysis and the problems it aims to solve are problems relevant to cross-clausal movement.

The analysis in Nunes (2008) takes as a starting point the idea that BP's T-heads are not complete in their feature specification. Nunes argues that T in BP is not consistently specified for a full set of features. This idea is present in the literature on *pro*-drop in BP and is empirically motivated by BP's historical impoverishment of its verbal agreement morphology (Duarte, 1996; Kato and Negrão, 2000; Rodrigues, 2002).

Historical facts aside, the core idea Nunes puts forward is that BP is a language where *finite* T may be merged with an incomplete bundle of ϕ -features. Nunes calls this instance of T *incomplete* T, in contrast to complete T that is endowed with a complete ϕ -bundle. Incomplete T, unlike complete T, cannot license a DP in its local domain - a subject DP in SpecTP - because it cannot check a DP's features.

Consequently, Nunes (2008) argues that clauses endowed with incomplete T are not complete domains for licensing subject DPs. By extension, these DPs must move out of T-incomplete clause domains. In other words, Nunes (2008) argues that finite clauses in BP may behave like non-finite clauses in terms of their ability to license subject DPs. Therefore, HR is movement motivated by DP licensing conditions, precisely like raising.

After arguing for the complete/incomplete T distinction, Nunes (2008) introduces the second ingredient of his proposal: HR verbs enter into a special structural relation with their complement clauses. This idea surfaces due to an over-generation problem: if all there is to HR is incomplete T at the embedded clause, it is unclear why HR is restricted to specific matrix predicates (e.g., verbs like "seem").

Nunes deals with the over-generation problem by proposing that HR is restricted to unaccusative verbs that are unaccusative *and* can assign Inherent Case to their CP complements. The motivation for this argument is irrelevant to the current discussion; the important idea here is that HR is the byproduct of two sets of structural facts, one at the embedded complement clause (non-finite T) and one at the matrix predicate (verbs assigning Inherent Case).

The remainder of Nunes (2008)'s proposal deals with theory internal issues that surface in light of his A-movement analysis. These issues are related to locality and movement constraints and are irrelevant to the present discussion. Nonetheless, it is relevant to point out that these theory internal issues are a problem for every movement analysis of HR: if HR is A-movement, it is A-movement out of a finite CP, which in turn is a restrictive domain for syntactic operation (e.g., a phase) (Chomsky, 1993, 2001, 2004). A PRO-based control analysis, on the other hand, does not face these issues since it relies on base generation of two different SOs across two different clauses.¹ In that regard, Nunes (2008) argues HR is control and implicitly rules out a PRO analysis, precisely because the author assumes the theoretical position that the movement theory of control is the empirically adequate model of control.

On the other hand, in light of the novel data discussed in Chapter 2, dismissing a PRO analysis seems less straightforward. While a movement approach to control fares well in terms of the data on idioms and islands, it faces serious issues in light of the non-identity data discussed in Chapter 2 and repeated below:

(89) HR allows non-identity

- a. Pedro_i parece que __i+ brigamos Pedro seems that __ fight.1PL.PST "It seems Pedro and I/us fought."
- b. Pedro_i parece que __i+ viramos inimigos Pedro seems that __ turn.1PL.PST enemies "It seems that me and Pedro became enemies."

¹While at first glance it may seem that a PRO control analysis does not fare any better (as discussed in Chapter 2, control is also subject to locality restrictions), I will show that existing models of finite control straightforwardly deal with locality constraints.

- c. Pedro_i parece ao seu pai_j que __i+j/i+ mudaram/mudamos
 Pedro seems to his dad that __ change.3PL.PST/change.1PL.PST
 muito
 much
 "It seems to Pedro's dad that they two/we changed a lot."
- d. *Pedro_i parece que __j briguei Pedro seems that __ fight.1SG.PST "It seems I fought with Pedro."

If control reduces to A-movement, we predict non-identity to be impossible in HR if we adopt - as Nunes (2008) does - a copy-theory of movement. This prediction is falsified in (89): HR systematically allow non-identity between matrix DP and embedded gap.

To conclude this section: the proposal in Nunes (2008) advances three main ideas. One, HR in BP is finite-control. Two, HR is enabled by properties of embedded T. Three, HR requires a structural relation between the matrix verb and the embedded CP complement. These three ideas fit Nunes' control-as-movement approach, but they lend themselves to a PRO-based analysis. Moreover, Nunes (2008)'s faces empirical issues in light of the non-identity data I discussed in Chapter 2.

In light of these facts, an alternative finite control analysis of HR is tenable. Specifically, if HR is finite control, a PRO-based analysis follows straightforwardly from the same structural arguments Nunes grounds his analysis on: properties of embedded T and agreement between a matrix head and the complement CP. This approach to finite control is found in the Agree Model of control proposed in Landau (2000, 2004, 2006, 2007, 2008, 2010, 2013).

3.4 Agree model of control

If we take seriously the hypothesis that HR in BP is finite-control, we require a theory that can account for finite control. As just discussed, Nunes (2008) provides a finite-control account of HR within the Movement Theory of Control framework. Alternatively, I would like to propose that HR is finite-control and control is not movement, but a dependency between two base-generated SOs, a matrix controller DP and embedded PRO, e.g., HR has the basic structure in (90):

(90) [TP Yara; parece [CP que [TP PRO; comprou uma casa]]] Yara seems that PRO bought a house "It seems Yara bought a house."

If (90) is on the right track, HR in BP is *finite* control: the embedded complement clause displays finite tense. Finite control contrasts with its more well-studied non-finite counterpart, the type of control attested in English, (91):

(91) The cat_i wants PRO_i to escape

While in a language like English Obligatory Control (henceforth, OC) is restricted to nonfinite complements, this generalization does not extend to the full set of data on OC crosslinguistically. Although not an exhaustive list, finite-control is reported in Hebrew (Borer, 1986, 1989), Kannada (Nadahalli, 1998), Spanish (Suñer, 1986), Brazilian Portuguese (Modesto, 2011) and Persian (Asudeh and Mortazavinia, 2011). By extension, any theory of OC that follows from generalizations correlating OC and clause non-finiteness undergenerates (for a summary of the discussion, see Landau 2013). In this context, the proper understanding of OC - and, by extension, of HR - requires a theory that generalizes into finite control. We find this theory initially in Landau (2000), further developed in Landau (2003, 2004, 2006, 2007, 2008) and summarized in Landau (2013). Together, these works form what I will refer to as the Agreement Model of Control (henceforth, AMC).

In a nutshell, the AMC proposes two central ideas. One, the distribution of PRO in clausal complements is determined by the specification of the T(ense) and Agr(eement)

features at the embedded Infl(ectional) head. Consequently, the availability of control is not a matter of finiteness but of an array of T/Agr feature configurations on Infl. Two, the OC relation between the matrix DP and PRO obtains through agree (in the sense of Chomsky 2000, 2004) between a matrix functional head licensing the controller DP and PRO. The relevant functional heads are Infl, in the case of subject control, and v in the case of object control, the underlying assumption being that Infl licenses matrix subjects and v licenses matrix indirect objects.

Therefore, in the AMC, control is syntactically represented as (92) and (93):





Moreover, the AMC argues agree may target either PRO directly or C at the complement clause, which in turn agrees with PRO. These two possible agree configurations reflect two distinct instances of control: exhaustive control and partial control. Exhaustive control is the more commonly attested instance of control where there is a 1:1 mapping between the controller DP and PRO, e.g., (94-a). Conversely, partial control surfaces when PRO may be interpreted as a collective that *obligatorily includes* the controller DP, e.g., (94-b).

- (94) Exhaustive and partial control
 - a. The cat_i tried $PRO_{i/*i+}$ to escape.
 - \Rightarrow Agree targets PRO directly.
 - b. The chair_i tried $PRO_{i/i+}$ to gather at six.
 - \Rightarrow Agree targets C, which then agrees with PRO.

In the AMC, a partial control configuration like (94-b) is represented as (95):



In this context, the AMC allows for a more fine-tuned account of OC in terms of the featural content of inflectional heads (Infl), together with a syntactically motivated derivation of PRO mediated through agree. For the remainder of this section I will delve in more detail in each of the core components of the AMC.

Abstracting from some details, the AMC states that the distribution of Obligatory Control (OC) and No Control (NC) complement clauses can be reduced to the featural specifications of the Infl(ectional) head.

Specifically, the AMC proposes Infl may carry T(ense) and Agr(eement) feature bundles. T(ense) corresponds to features representing tense specification; Agr is a bundle of ϕ -features. As per the general precepts of checking theory, T and Agr are either interpretable, iT/iAgr or uninterpretable uT, uAgr. The interpretability of these features is conventionally determined by the element where they are represented. Furthermore, the AMC proposes T and Agr may assume a positive or negative value. Consequently, apart from being interpretable or uninterpretable, T/Agr may also surface as [+T]/[-T] and [+Agr]/[-Agr]. Each value corresponds to two fundamental specifications of tense and agreement.

Setting [-Agr] from [+Agr] is simple. [+Agr] indicates the present of morphological ϕ agreement, whereas [-Agr] indicates its absence (e.g., infinitives, subjunctives), also called *abstract agreement*.

The T-feature requires more discussion. T represents the temporal specification of a complement. The AMC proposes T may be either semantic or anaphoric. [+T] signifies *semantic* tense and [-T] *anaphoric* tense, the absence of semantic tense.

A complement clause is said to display anaphoric tense when its temporal reference is dependent on the temporal reference of the matrix predicate. Conversely, a clause displays semantic tense when its temporal reference is entirely independent.

How can we tell if a clause's tense is semantic or anaphoric? Following previous literature on infinitivals and complementation (Bošković, 1997; Bresnan, 1972; Landau, 2000; Martin, 1996; Pesetsky, 1991; Stowell, 1982) the AMC takes the possibility of a temporal mismatch between matrix/complement as the defining test for semantic/anaphoric tense. For concreteness, consider the two different infinitival complements in (96):

- (96) Temporal mismatch and semantic tense (Landau, 2013)
 - a. *Last night, Tom condescended to help us today \rightarrow infinitive is [-T].
 - b. Last night, Tom planned to help us today \rightarrow infinitive is [+T].

First notice that the temporal mismatch in (96) is induced by two conflicting timeexpressing adverbs "last night"/"today". Even though both complement clauses are identical, they contrast in tense specification: (96-a)'s tense is dependent on the matrix predicate's time reference, e.g., it is anaphoric tense, [-T]. Conversely the infinitival complement in (96-b) may mismatch the temporal reference of the matrix. Hence, (96-b) displays semantic tense, [+T].

Example (96) also illustrates the dissociation between T and finiteness: both complements are identical apart for their T-value. Since T reflects a semantic rather than syntactic/morphological criterion, the AMC allows for accommodating a much wider range of complement clauses into the inquiry of control.

The full array of T/Agr value combinations determine whether a complement is in an OC (Obligatory Control) or NC (No Control) configuration. The distribution of complement clauses in the AMC is stated as follows:

- (97) Distribution of OC/NC In a fully specified clause where Infl carries both T and Agr:
 - a. If Infl. is $[+T, +Agr] \Rightarrow NC$.
 - b. Elsewhere \Rightarrow OC.
 - c. If a clause has Infl. lacking either T, Agr or both \Rightarrow NC.

Works within the AMC argue (97) is a better model for capturing the full range of OC configurations attested cross-linguistically. In the context of the initial development of the AMC, (97) surfaces as an alternative to the (at the time) widely assumed generalization that OC is possible only in infinitival contexts.

Apart from the distribution of OC, the AMC also proposes that OC is a relation between a matrix controller and an empty category, PRO. PRO is defined in different ways across the development of the model, but it is generally proposed to be an inherently anaphoric empty category that requires a co-indexed antecedent.

Formally, the AMC defines PRO in terms of a R(efferential) feature. Following previous work on anaphoric expressions (Reinhart and Reuland, 1993; Reuland and Reinhart, 1995), the AMC proposes all referential elements can be divided into referentially *independent*, such as lexical DPs and *pro*, and referentially *dependent* elements, such as PRO and reflexive anaphors. In terms of the stipulated [R] feature, the AMC states the distribution of referential elements as follows:

- (98) Distribution of referential elements.
 - a. All referentially independent elements, such as lexical DPs and *pro*, carry an interpretable [+iR] feature.
 - b. Referentially dependent elements, such as PRO, carry an interpretable [-iR] feature.
 - c. An element carrying [-iR] needs to be in an agree relation with a higher [+iR] element.

Together with (98), the AMC also states that Infl is assigned an uninterpretable [R] feature. The value of R on Infl is conditioned by the values of T and Agr through an R-assignment rule as follows:

- (99) R-assignment rule
 - a. $[+T, +Agr] \Rightarrow [+T, +Agr, +uR].$
 - b. $[xT, yAgr] \Rightarrow [xT, yAgr, -uR]$ if either x or y are negative.

The rule in (106) is simply a formalization of the distribution of OC in (97). The consequence of (99) is that Infl is assigned [-uR] is all clauses that are not [+T, +Agr]. Further more, because [-uR] is uninterpretable, it requires checking by [-iR]. By extension, whenever Infl is assigned [-uR], OC ensues: PRO is the only element endowed with [-iR] that can check [-uR] on Infl. Conversely, when a clause is [+T, +Agr], i.e., English finite clauses, PRO is banned because it can't check the [+uR] feature assigned to Infl. The full range of T/Agr combinations and their respective R assignments is summarized below:

$$\begin{array}{ccc} +\mathrm{T} & -\mathrm{T} \\ \hline +\mathrm{Agr} & +\mathrm{uR} & -\mathrm{uR} \\ -\mathrm{Agr} & -\mathrm{uR} & -\mathrm{uR} \end{array}$$

Table 3.1: Distribution of possible [R] assignment values, only [-R] licenses PRO.

To summarize the formal apparatus of the AMC described thus far: the distribution of OC/NC complements is determined by whether the Infl head carries a negative or positive [uR] feature. If R is positive, it can only be checked by lexical DPs or *pro*. if R is negative, it can only be checked by PRO. The value of the R on Infl is determined by the values of T and Agr as per an assignment rule. The end-consequence of this model is that OC ensues whenever a clause displays either anaphoric tense, abstract agreement or both.

A second important consequence of the model is that control verbs are defined in terms of selectional properties: a control verb's v selects clauses with specific T/Agr values on Infl. In the context of selection, the AMC proposes the interfacing between matrix v and embedded Infl is mediated through C. Specifically, matrix v selects C with uninterpretable T that matches the value of T on Infl.

Apart from the distribution of OC/NC, the AMC states that the control relation between matrix controller and PRO is attained through agree. This agree relation may be either direct or mediated by intermediate functional heads, such as C. Whenever PRO becomes the target of agree, its [-iR] feature produces an interface instruction for coindexation and control obtains.

Notably, when control obtains through agree via-C, PRO never agrees directly with matrix Infl, only with C heading the complement clause. In the AMC, this C-PRO agree operation is what enables partial control. Specifically, Landau (2000) proposes C lacks the features representing semantic plurality; in Landau (2000), these features are defined as a [\pm Mereology] feature. Because C lacks a mereology feature altogether, when C agrees with PRO, PRO remains neutral in terms of semantic plurality, which in turn renders a mismatch in semantic plurality between the matrix controller and PRO.

The general picture of the AMC is thus as follows: control is an agree relation between a matrix controller and embedded PRO. PRO, in turn, is licensed whenever Infl is assigned [-uR].

The AMC presents itself as a much more fine-grained model for the cross-linguistic picture of OC. By divorcing OC and finiteness/case criteria, it is possible to derive a distribution of OC that accommodates the (at the time) lesser known types of OC such as finite control. Similarly, by postulating OC is derived through agree, the AMC captures the syntactic restrictions on control, e.g., its locality an co-dependency properties. On the other hand, the AMC suffers from a few significant issues.

Notice that the AMC is much stronger in its *typological* observations than in its derivational theory. As later acknowledged in Landau (2015), the AMC relies on many stipulations that seem to exist only to comfortably fit the model, e.g., the R feature and the R-assignment rules are both axiomatically defined. There is no semantic or morphological criterion that ties T/Agr to +R or -R. Similarly, in the AMC there is no evident triggering mechanism responsible for the agree relation between controller and PRO. While the model argues that OC is attained through agree and the co-indexation relation is tied to [-R], there is nothing in the model that explains how this agree operation happens in the first place.

In this context, Landau (2015) discards much of the derivational apparatus of the AMC in favor of a new model, the Two Tiered Model of Control (henceforth, TTM). The TTM maintains the basic insights of the AMC but shifts much of the derivational mechanisms into two tiers: semantics and the interfacing between syntax and semantics. For example, in the TTM control is derived through predication, which in turn is derived

through different syntactic mechanisms that interact with semantics. Empirically, the main concern of the TTM is dealing with Partial and Implicit Control configurations, both of which are non-trivial problems for purely syntactic models like the AMC.

Nonetheless, whether the AMC or the TTM are ideal models for accounting for control is not a settled matter. Reed (2020), for example, brings forth cross-linguistic evidence from impersonal passives to argue that the TTM makes incorrect predictions, and that the AMC, with some reformulation, is a more adequate model of control.

I will follow, for the most part, the position adopted in Reed (2020), namely, I will adhere to the AMC with some reformulations. Specifically, I follow previous work on HR in BP Nunes (2008) in adopting the view that HR is finite control, but instead of adopting the Movement Theory of Control, as done in Nunes (2008), I will adopt a reformulated version of the AMC.

In Chapter 4, I will show that the AMC provides suitable tools for deriving HR in BP. Before concluding this chapter, some discussion on two possible alternative analyses are in order: a control-as-movement analysis of the type seen in Nunes (2008) and a *pro*-drop analysis.

3.5 PRO or movement?

The AMC is one possible model of control, but alternative proposals are plentiful in the literature. A full review of every proposal on control is far beyond the scope of this thesis, but some discussion of the Movement Theory of Control (henceforth, MTC) is in order. The MTC is relevant for the inquiry on HR because it is the model Nunes (2008) bases his A-movement account of HR on. Recall that Nunes argues HR is finite control, but assumes control is movement. This assumption stems from arguments from the MTC.

The MTC proposes that control reduces to A-movement (Boeckx and Hornstein, 2006;

Boeckx et al., 2010; Hornstein, 1998; Hornstein and Polinsky, 2010), e.g., the matrix controller and the embedded gap are the same SO, the latter a deleted copy/trace of the former. Therefore, there is no need to postulate an empty category like PRO.

The theoretical appeal of the MTC lies in its parsimony: control is yet another instance of a fundamental and universal syntactic operation. In the context of the MP, the MTC is a desirable model of control because it reduces the number of theoretical stipulations (e.g., PRO) in favor of a unified model. Discarding PRO altogether obviates both the empirical burden of proving the existence of empty and the theoretical issue of explaining how the controller/PRO relation is attained.

Empirically, the MTC relies centrally on evidence from control configurations that are challenging for PRO-accounts: backwards control (Polinsky, 2013) and adjunct control (Nunes, 2014). On the other hand, the MTC faces significant issues in light of partial, implicit and split control, all of which are incompatible with the semantic properties of Amovement. Similarly, the MTC raises theory internal issues related to locality, minimality, and Improper Movement.

The MTC sparked a rich debate spanning several works and a wide range of arguments in favor and against it (Bobaljik and Landau, 2009; Boeckx and Hornstein, 2004, 2006; Boeckx et al., 2010; Culicover and Jackendoff, 2001, 2006; Landau, 2003; Modesto, 2010; Nunes, 2019; Wood, 2012). In this context, the control debate is hardly settled. Consequently, all things being equal, if HR is control, a PRO-based model is at least as well-suited as the MTC. Empirically, one would have to find robust evidence ruling out PRO to make a compelling case that the MTC is necessarily the better suited model for control in HR. Notably, in the case of HR, no such evidence is reported.

In Nunes (2008), the author assumes the MTC on grounds of idiom and island data, but, as discussed in Chapter 2, there is no a priori reason to rule out a control analysis on basis of these two data sets. An immediate objection is that Nunes (2008) *does not* rule out a control analysis - quite the opposite: Nunes argues HR *is finite control* and that control *is movement*. This objection is, however, loses strength in the context of the point at hand: the BP data discussed in Chapter 2 is challenging for *any movement analysis*. Therefore, the fact Nunes (2008) assumes HR is control is immaterial, his proposal faces issues in light of the empirical gap presented in Chapter 2. Specifically, the control-asmovement approach presented in Nunes (2008) suffers from the same problems the MTC as a whole does concerning non-identity, to a lesser extent, the scope reconstruction facts shown in Chapter 2.

That is not to say the MTC has no answer to partial and split control or the scope properties of HR - different proposals exist in the MTC literature that can accommodate these data sets, but these proposals end up raising significant theory-internal issues. For a review of these matters, see the discussion in Landau (2013) and Polinsky (2013).

3.6 A note on *pro*-drop

Although thus far I have focused this literature review on proposals directly related to HR and control, some discussion on the literature on *pro*-drop in BP is in order. While this discussion might seem orthogonal to HR and what has been presented in this chapter, we need to address and rule out a potential *pro*-drop analysis of HR to seriously pursue the hypothesis that HR is control. In this section I discuss why a *pro*-drop analysis is possible, but not feasible in light of the HR data presented in Chapter 2.

BP is a partial *pro*-drop language: *pro*-drop is licit only in embedded clauses (Barbosa et al., 2005; Barbosa, 2019; Ferreira, 2009, 2010; Rodrigues, 2002, 2004). If *pro*-drop is licit in BP and *pro* is part of BP's inventory of empty categories, we must address the existing literature on *pro*-drop and rule out a *pro*-drop analysis of HR. If the gap in HR is *pro*, HR is not finite control nor movement, but simply a matter of covertness of a lexical

category.

Recall that in Chapter 2, I showed HR displays the OC signature (Landau, 2000) through three diagnostics: i) in HR, the controlled gap must be controlled by the closest eligible controller and ii) HR allows only sloppy readings under ellipsis and iii) the gap and the controller in HR may not be separated by an intervening clause.

Conversely, *pro*-drop does not display the OC signature: for the three diagnostics mentioned, *pro*-drop contrasts with HR. For one, *pro*-drop allows a non-local controller:

(100) pro may be co-indexed with a non-local DP

O Pedro_i pensava que a Joana disse que *pro*_i era o culpado_i The Pedro thought that the Joana said that *pro* was the guilty.MASC "Pedro thought that Joana said that (he) was guilty."

Example (100) shows that *pro* may pick up reference crossing over the closest possible controller: in (100) *pro* is co-indexed with 'Pedro', but not with closest eligible controller in its clausal domain, 'Joana'.

Likewise, pro-drop allows both sloppy and strict readings under ellipsis:

(101) pro-drop allows sloppy and strict readings

O Pedro_i pensava que pro_i era feliz, e a Joana também [VP The Pedro thought that pro was happy and the Joana also pensava que $pro_{i/j}$ era feliz] thought that pro was happy "Pedro thought he was happy and Joanna did too."

In (101), we observe that *pro*, unlike the gap in HR, allows both strict and sloppy readings under ellipsis: (101) may be interpreted with two readings, one where Pedro thinks Joana was also happy and one where Joana also thinks she was happy. Each reading corresponds to indexing of either the closest possible controller (Joanna) or the higher subject DP (Pedro). I take the data in (101) and (100) as sufficient evidence to rule out a pro-drop analysis of HR. Importantly, the *pro*-drop analysis I assume here is one where *pro*-drop is derived through base-generating a covert pronominal empty-category, pro.²

Nonetheless, the *pro*-drop issue remains a problem in light of alternative approaches to *pro*-drop. Namely, a significant portion of literature on *pro*-drop in BP proposes *pro*-drop is finite control *and* finite control is movement (Ferreira, 2009, 2010; Rodrigues, 2002, 2004). Like the HR account in Nunes (2008), this body of work assumes the Movement Theory of Control and argues *pro*-drop in BP must be reduced to finite control and, by extension, to A-movement. In that regard, this type of movement account of *pro*-drop diverges radically from the theories of *pro*-drop I assumed in the discussion thus far (Alexiadou and Anagnostopoulou, 1998; Barbosa et al., 2005; Barbosa, 2019; Rizzi, 1986). These theories generally propose *pro*-drop is derived through base-generation of either *pro* or functional heads (generally Infl/T) enriched with interpretable ϕ -features.

If the movement theories of *pro*-drop discussed are correct, *pro*-drop, finite control and HR in BP are fundamentally the same underlying phenomenon, A-movement. This generalization, however, is too strong. I have shown there is robust evidence to reject an A-movement analysis of HR in favor of a control analysis. Even if we assume control *is* movement, the data presented in Chapter 2 remains a challenge: if HR is control and control is A-movement, what explains HR's contrasting properties in relation to other instances of A-movement? Moreover, if *pro*-drop is A-movement, why would *pro*-drop contrast with HR and control in the OC properties just discussed?

The conclusion we end up at is that whatever mechanism is behind HR cannot be the same mechanism deriving A-movement nor *pro*-drop. Whether *pro*-drop and A-movement can be collapsed together is a separate matter, although the evidence in this thesis favors base-generation analyses.

 $^{^{2}}$ In Chapter 4, I go over in more detail on the *pro*-drop issue and present further evidence against a potential *pro*-drop analysis.

3.7 Concluding remarks

This chapter presented a brief overview of existing A-movement proposals on HR, followed by a more in-depth review of the literature on HR in BP. I argued A-movement analyses undergenerate the empirical patterns I discussed in Chapter 2, summarized in Table 3.2.

	Hyper-raising	Control	A-movement
Island sensitive	✓	✓/X	✓
Maintains idiom readings	\checkmark	✓ / X	\checkmark
Matrix DP binds anaphors	\checkmark	1	\checkmark
Reconstructs scope	X	X	\checkmark
Obviates WCOs	X	X	\checkmark
Embedding under control	\checkmark	\checkmark	X
Non-identity	\checkmark	\checkmark	X

Table 3.2: Contrasting properties of HR/Control/A-movement

Furthermore, I discussed the existing work on HR in BP. I outlined the finite-control analysis of HR in Nunes (2008) and argued that there is no reason to assume HR is control and control is movement. I proposed that it is possible to keep the core insights from the literature intact while pursuing a PRO-based account of HR. In this context, I argued that existing approaches to control - the Agreement Model of Control - provide a model more well-suited to the data profile attested in HR in BP. Moreover, I argued against the Movement Theory of Control as an alternative model of control in the context of HR.

Finally, I briefly discussed and ruled out a possible *pro*-drop analysis of HR. The first conclusion surfacing from the discussion in this chapter is simple: existing analyses of HR are concerned with empirical patterns inconsistent with the BP data under investigation. Consequently, no existing proposal can account for the empirical gap posed by the patterns summarized in Table 3.2.

The second conclusion reached in this chapter is that, from a theoretic standpoint, the

main findings of the literature regarding HR lend themselves straightforwardly to a finite control analysis. Together with the empirical data presented in Chapter 2, the discussion in this chapter further builds the case for a control analysis: a control analysis is tenable for both empirical and theory-internal reasons.

In the next chapter, I present a formal implementation of the Agree Model of Control that addresses empirical gap posed by the data in Table 3.2 while capturing the fundamental empirical findings of the literature concerning HR.

Chapter 4

Analysis

In this chapter, I present a control analysis of HR. The analysis I propose is an implementation of the Agree Model of Control (AMC) originally introduced in Landau (2000, 2004, 2006, 2007, 2008, 2010, 2013). The proposal is as follows: HR is PRO-control into a finite complement that lacks semantic tense. Control, in turn, is a syntactic dependency enabled between matrix Infl and PRO (in the case of exhaustive control) *or* embedded C (in the case of non-identity). The simplified derivation of HR are illustrated in (102), where dashed arrows indicate the two possible agree relations:



This chapter aims to motivate and explain in detail the core components of the analysis in (102). Importantly, the account of HR offered in this chapter provides an answer to the central empirical inquiry of this thesis, namely, it presents a derivational approach to HR that predicts the empirical observations discussed in Chapter 2, summarized in Table 4.1 repeated below.

	Hyper-raising	Control	A-movement
Island sensitive	✓	✓/X	✓
Maintains idioms	\checkmark	✓ / X	1
Matrix DP A-binds	\checkmark	\checkmark	\checkmark
Reconstructs scope	X	X	\checkmark
Obviates WCOs	X	X	\checkmark
Embedding under control	\checkmark	\checkmark	X
Non-identity	\checkmark	\checkmark	X

Table 4.1: Core syntactic and semantic properties of HR

Additionally, the analysis put forth in this chapter provides a principled distribution of

the complement clauses present in BP. Furthermore, the proposal detailed in this chapter extends to two under-investigated cross-clausal dependencies in BP, which I term modalbe constructions and Clause Modified Adjectives. These constructions are exemplified below and discussed in Sections 4.4.1 and 4.4.2.

- (103) Clause Modified Adjectives in BP
 - a. É fácil de [essas linguistas publicarem papers] Is.3SG easy of these linguists publish.3PL.INF papers
 - b. Essas linguistas_i são fáceis [de _i publicarem papers] These linguists are.3PL easy of _ publish.3PL.INF papers "It's easy for these linguists to publish papers."
- (104) Modal-be constructions in BP
 - a. Pode ser que o gato fugiu May.3SG.PRS be.INF that the cat escaped.3SG
 - b. O gato_i pode ser que __i fugiu The cat may.3SG.PRS be.INF that __ escaped.3SG "The cat may have escaped."

4.1 Deriving PRO in HR complements

The first step in building the proposal illustrated in (102) involves motivating the idea that clausal complements in HR constructions license PRO. In this section, I argue in favor of this idea by means of a number of tense diagnostics and specific assumptions about the distribution of complement clauses.

The argument I develop in this section assumes the typology of complement clauses proposed in the Agreement Model of Control (AMC) (Landau, 2000, 2004, 2006, 2007, 2008, 2010, 2013), discussed in Chapter 3. I propose that HR complements license PRO because, unlike other finite complements, they lack semantic tense, displaying anaphoric tense instead.

Recall that, in the AMC, licensing or not licensing PRO in a complement clause is determined by the T(ense) and Agr(eement) feature specifications on the Infl(ectional) Head. T corresponds to the features representing tense, while Agr corresponds to a bundle of ϕ -features representing morphological ϕ -agreement. Both T and Agr can be specified as either negative or positive, depending on whether they correspond to the presence or absence of semantically independent tense (or just *semantic tense*) or morphological agreement, respectively. The T/Agr specifications are defined in the AMC as follows:

(105) Infl and Agr specifications in the AMC (Landau, 2000, 2004, 2006, 2013).

- a. [+T] corresponds to semantic tense.
- b. [-T] corresponds to anaphoric tense/the lack of semantic tense.
- c. [+Agr] corresponds to morphological agreement.
- d. [-Agr] corresponds to abstract agreement/the lack of morphological agreement.

Mechanically, *licensing* PRO in the AMC is determined by the assignment of an uninterpretable R(efferential) feature to Infl. The values of T/Agr determine the value of R, which in turn determines the kind of referential element the complement clause licenses at the specifier of Infl. Specifically, Infl is assigned an uninterpretable R feature following an *R*-assignment rule, defined in (106).

- (106) R-assignment rule (Landau, 2013, pp. 67)
 - a. $[+T, +Agr] \Rightarrow [+T, +Agr, +uR].$
 - b. $[xT, yAgr] \Rightarrow [xT, yAgr, -uR]$ if either x or y are negative.

The value of R assigned to Infl must be checked by an element carrying corresponding

interpretable R. Referential elements in the AMC are split between those that carry [+iR] and those that carry [-iR], such that all *referentially independent* elements carry an interpretable [+iR] feature, while *referentially dependent* elements, such as PRO, carry an interpretable [-iR] feature. This distinction builds upon previous literature on anaphoric expressions (Reinhart and Reuland, 1993; Reuland and Reinhart, 1995) and is stated in (107):

- (107) Distribution of referential elements. (Landau, 2013)
 - a. All referentially independent elements, such as lexical DPs and *pro*, carry an interpretable [+iR] feature.
 - b. Referentially dependent elements, such as PRO, carry an interpretable [-iR] feature.

With the the formal machinery defined thus far, we arrive at the central typological definition of the AMC: only complement clauses in which Infl is assigned [-uR] license PRO. Complements assigned [-uR] must have uR checked by an element carrying [-iR], e.g., referentially dependent elements like PRO. In other words, clauses that display semantic tense or morphological agreement are *dependent clauses* that only license dependent PRO subjects.

Table 4.2 below summarizes the full range of possible T/Agr configurations and their corresponding R-values.

$$\begin{array}{c|c} +T & -T \\ \hline + Agr & +uR & -uR \\ - Agr & -uR & -uR \end{array}$$

Table 4.2: Distribution of possible [R] assignment values, only [-R] licenses PRO.

To further illustrate the distinction between controlled and uncontrolled complements, the trees below are representations of both types of complements and possible elements licensed at the specifier of Infl:



If the hypothesis that HR is control holds *and* the AMC is on the right track in its typological predictions, HR complements must be of the type in (108), but not (109). Otherwise, under the present system, HR complements would not license PRO subjects. We can test this hypothesis with tests that target the tense and agreement properties of the complement clause.

Our goal is detecting whether HR complements display morphological agreement and/or semantic tense. If HR complements don't pass diagnostics for either, it follows these complements license PRO because they are assigned [-uR], as per the R-assignment rule.

In terms of agreement, HR complements display the full range of morphological agreement: the embedded verb agrees consistently and obligatorily with the matrix subject DP's ϕ -features, e.g., (110):

- (110) HR complements display morphological agreement
 - a. O gato parece que escapou The.MASC.SG cat.MASC.SG seems.3SG that escaped.3SG "It seems the cat escaped."
 - b. Os gatos parecem que escaparam/*escapou The.MASC.PL cat.MASC.PL seem.3PL that escaped.3PL/*escaped.3SG "It seems the cats escaped."

Consequently, HR complements cannot license PRO on the virtue of agreement: there is no evidence to assume these complements lack morphological agreement in any way. Hence, we conclude Infl in HR complements is specified as [+Agr].

In terms of semantic tense, the picture is strikingly different. Recall that the possibility of a mismatch in temporal reference with the matrix predicate is the signature diagnostic of semantic tense (Landau, 2013):

- (111) Temporal mismatch and semantic tense (Landau, 2013)
 - a. *Last night, Tom condescended to help us today \rightarrow infinitive is [-T].
 - b. Last night, Tom planned to help us today \rightarrow infinitive is [+T].

The infinitive in (111-a) lacks semantic tense: its tense must be anaphoric to the temporal reference of the matrix predicate. Conversely, the infinitive in (111-b) displays semantic tense - its tense may refer to temporal references independently. Like the infinitive in (111-a), HR complements must match the temporal reference of the matrix clause.

Consider (112):

- (112) HR does not allow temporal mismatches
 - a. *Ontem, o Pedro parecia que **Yesterday**, the Pedro seem.3SG.PST.IMPERF that compraria um carro hoje/amanhã buy.3SG.PST.COND one car **today/tomorrow** Intended: "Yesterday, Pedro seemed as if he was going to buy a car to-

day/tomorrow."

 \Rightarrow Complement is [+T].

b. *Ontem, o Pedro pareceu que comprará um carro
Yesterday, the Pedro seem.3SG.PST that buy.3SG.FUT one car hoje/amanhã
today/tomorrow
Intended: "Yesterday, Pedro seemed as if he was going to buy a car to-

day/tomorrow."

 \Rightarrow Complement is [+T].

c. Ontem, o Pedro parecia que Yesterday, the Pedro seem.3SG.PST.IMPERF that compraria um carro ontem buy.3SG.PST.COND one car **yesterday** "Yesterday, Pedro seemed as if he was going to buy a car yesterday."

 \Rightarrow Complement is [-T].

d. Ontem, o Pedro pareceu que tinha comprado um Yesterday, the Pedro seem.3SG.PRS that have.3SG.PST buy.PART one carro ontem car yesterday Intended: "Yesterday, Pedro seemed as if he was going to buy a car yester-

day."

 \Rightarrow Complement is [-T].

e. Ontem, o Pedro parecia que **Yesterday**, the Pedro seem.3SG.PST.IMPERF that compraria um carro buy.3SG.PST.COND one car "Yesterday, it seems Peter was going to buy a car (yesterday)." \Rightarrow Complement is [-T].

f. Ontem, o Pedro pareceu que tinha comprado um Yesterday, the Pedro seem.3SG.PST that have.3SG.PST buy.PART one carro car
"Yesterday, it seemed Peter bought a car (yesterday)." ⇒ Complement is [-T].

Notice that whenever temporal reference is overtly anchored with time adverbs, a contrast emerges. Specifically, if the temporal reference of the complement clause mismatches that of the matrix clause, an ungrammatical sentence results, as exemplified by (112-a-b). Conversely, if the temporal reference of the embedded complement matches the reference of the matrix, the structure is licit, as demonstrated by (112-c-d). Examples (112-e-f) further suggest that the ungrammaticality of (112-a-b) is due to a semantic temporal mismatch rather than some tense-selective property of the matrix verb. In (e-f), we see that the sentences become grammatical in the absence of an overt temporal adverb, but the temporal reference of the complement *must* be interpreted as matching that of the matrix.

By contrast, finite complements of non-HR verbs, such as "say," may mismatch the matrix's temporal reference and display independent or semantic tense. Consider the following example:

(113) Ontem, o Pedro disse/dizia que ele Yesterday, the Pedro say.3SG.PST/say.3SG.PST.IMPERF that he comprará/compraria um carro (hoje/amanhã) buy.3SG.FUT/buy.3SG.PST.COND a car (today/tomorrow) "Yesterday, Pedro said he was going to buy a car today/tomorrow."

As demonstrated by the contrast between (112-a) and (113), while both complements

exhibit identical agreement morphology and tense finiteness, HR complements display anaphoric tense, i.e., HR complements are [-T], while the complement of a verb like "say" is [+T]. Thus, on the basis of the temporal mismatch diagnostic, we can conclude that HR complements lack semantic tense.

Finally, it is noteworthy that this observation is not simply a note on some idiosyncratic property of "seem." Other verbs that allow HR, such as "to end up" and "to conveniently end up," behave similarly (Nunes, 2008, 2019).

- (114) HR does not allow temporal mismatches
 - a. *Ontem, o Pedro disse que escolherá a segunda Yesterday, the Pedro say.3SG.PST that chose.3SG.FUT the second opção hoje/amanhã option today/tomorrow
 "Yesterday, Peter said he was going to chose the second option today."
 - b. *Ontem, o Pedro acabou que escolherá a segunda Yesterday, the Pedro end-up.3SG.PST that chose.3SG.FUT the second opção hoje/amanhã option today/tomorrow Intended: "Yesterday, Peter ended up (willing to) chose the second option

today/tomorrow."

- c. *Ontem, o Pedro calhou que Yesterday, the Pedro conveniently-end-up.3SG.PST that escolherá a segunda opção hoje/amanhã chose.3SG.FUT the second option today/tomorrow "Yesterday, Peter ended up choosing the second option."
- d. Ontem, o Pedro acabou que escolheu a segunda Yesterday, the Pedro end-up.3SG.PST that chose.3SG.PST the second opção (ontem) option (yesterday)
 "Yesterday, Peter ended up (willing to) chose the second option (yesterday)."
- e. Ontem, o Pedro calhou que **Yesterday**, the Pedro conveniently-end-up.3SG.PST that
escolheu a segunda opção (ontem) chose.3SG.PST the second option (yesterday) "Yesterday, Peter ended up choosing the second option (yesterday)."

Example (114) reinforces the argument: HR verbs select finite complements that display morphological agreement but lack semantic tense. Again, observe that the baseline with a non-HR verb is licit with a temporal mismatch. Conversely, the tense in both HR complements, (114-b-c) is anaphoric: a temporal mismatch is illicit for both HR verbs, "acabar" and "calhar".

From (113) and (114), we can draw two significant conclusions.

Firstly, the complement clause of HR constructions in BP follows the typological prediction of the AMC, demonstrating the expected tense properties of a controlled clause that licenses PRO. In HR complements, the Infl specification is thus [+Agr, -T] and Infl is assigned [-uR] according to the R-assignment rule. We can summarize this conclusion as follows.

(115) Infl specification of HR complements

The complement clause in an HR construction carries Infl that is specified as [+Agr, -T], and it is assigned [-uR]. PRO carrying [-iR] must check the [-uR] feature on Infl.

Secondly, there is a dissociation between finiteness, morphological agreement, and semantic tense in BP. A verb like "say" selects complements with semantic tense, while "seem" can select complements without semantic tense. Nevertheless, both complements are identical in terms of finiteness and morphological agreement.

This observation leads us to the same conclusion that the AMC framework reaches: the distribution of controlled complements is not necessarily tied only to finiteness or agreement. For example, HR verbs select controlled complements with finite tense and $\phi\text{-}\mathrm{agreement}$ morphology but lack semantic tense.

Thus, we can generalize the following:

- (116) HR complements are controlled under the typology of complement clauses proposed by the Agree Model of Control (Landau, 2000, 2004, 2006, 2007, 2008, 2010, 2013):
 - a. HR complements lack semantic tense and display morphological agreement, therefore:
 - b. Infl in HR complements is assigned [-uR] and licenses PRO subjects.

Note that (116) retains the fundamental insight from the literature that HR is tied to properties of the complement clause. Recall that Nunes (2008), in his account of HR-ascontrol, proposes that HR is enabled by the merging of incomplete Infl, an Infl head lacking a bundle of ϕ -features. However, if Infl is in any way ϕ -incomplete in HR complements, it is entirely unclear why these complements display the full range of ϕ -agreement morphology.¹

Moreover, the end consequence of (116) is twofold. Firstly, we can eliminate stipulations on ϕ -agreement incompatible with the morphological realization attested in HR complements in BP. Secondly, BP displays at least two instances of Obligatory Control (OC): finite and non-finite OC.

Thus far, the analysis allows us to differentiate finite from non-finite controlled complements in terms of finiteness, agreement, and tense properties. HR complements are finite and display morphological agreement and anaphoric tense, whereas non-finite controlled complements display abstract agreement (lack of morphological agreement) and anaphoric

¹Nunes (2008) motivates the idea of incomplete Infl through a historical argument based on BP's morphological impoverishment. Moreover, the author argues, following Ferreira (2009), that agreement in BP is a post-syntactic phenomena, hence the absence of ϕ -features on Infl does not contradict the attestation of ϕ -agreement at morphological realization in BP. At the end of Section 4.2, I will show how I incorporate a post-syntactic agreement approach to my proposal, although I depart from the movement analyses in Nunes (2008) for independent reasons.

	Finiteness	Agreement	Tense
HR	Finite	+ Agr	-T
Non-finite OC	Non-finite	-Agr	±Τ
No control	Finite	+ Agr	+T

Table 4.3: Distribution of complement clauses in BP

or semantic tense. Finally, uncontrolled complements are finite and display semantic tense and morphological agreement. Table 4.3 presents the distribution of complement clauses in BP.

In the context of the distribution described above, a question arises regarding the tense and agreement specifications of complements that are neither controlled nor uncontrolled, such as raising complements like the one in (117). The question is relevant for the discussion on HR because HR is attested with - and only with - raising verbs, like "seem".

(117) O Pedro parece t_i ter comprado um carro The Pedro seems have.INF bought a car "Peter seems to have bought a car."

I follow Landau (Landau, 2001, 2013) in assuming that raising complements are defective in their agreement or tense properties. In these complements, Infl lacks T/Agr features altogether, that is, Infl is neither $[\pm \text{Agr}]$ or $[\pm \text{T}]$, but $[\emptyset, \pm \text{Agr}]$ or $[\emptyset, \pm \text{T}]$.

This raises a second problem: if the clausal complements of HR verbs, such as "seem," lack semantic tense in BP and license PRO, how do we explain the raising complement in (117)? The fact that "seem" in BP allows both HR and raising points to a theory that conflates raising and control, such as the Movement Theory of Control (MTC). However, as per the empirical data discussed in Chapter 2 and the theoretical discussion on the MTC in Chapter 3, the data profile attested in HR does not sit well with the MTC. Thus, we must answer why "seem" in BP is attested with both raising and controlled complements.

To address this problem, I propose that "seem" in BP may select (at least) two complement types: raising complements unspecified for tense/agreement and HR complements with anaphoric tense. As these complements are not fully specified for T/Agr, they cannot license PRO or lexical DPs. Hence, base-generated nominals in these complement clauses must be licensed through some special syntactic mechanism. In the case of raising, such mechanism is generally assumed to be movement.

A natural question at this point is why we never see raising of PRO from an incomplete clause, e.g., we only observe raising when the raised element is a lexical DP.

The answer is in the clausal properties of the matrix clause. The system proposed here immediately rules out PRO-movement into a matrix clause based on the T/Agr specification of the matrix's Infl head. In raising constructions, the matrix clause is necessarily finite and uncontrolled. Thus, the Infl-head of these clauses is specified as [+Agr, +T], and by the R-assignment rule, the matrix clause in raising constructions is assigned [+iR]. Consequently, if we merge PRO into a non-finite raising complement and attempt to raise it as we would raise a lexical DP, we end up with an illicit structure where matrix Infl's [+uR] feature remains unchecked because PRO bears [-iR], not [+iR]. Therefore, the fact that raising is attested only with lexical DPs and never PRO is straightforwardly predicted by the typology adopted.

In conclusion, whether a language allows HR depends on the selectional properties of functional heads. In BP, "seem" is part of a subset of verbs that can select finite complements with anaphoric tense, finite uncontrolled complements, and non-finite raising complements. However, there is no reason to assume this is a universal property.

In English, for example, "seem" selects either raising complements or NC complements, but never controlled complements. Whenever "seem" selects a finite complement in English, this complement cannot license PRO. Likewise, whenever "seem" selects a non-finite complement in English, this complement is unspecified for Agr/T and does not license PRO. In terms of the AMC, finite complements in English are always assigned [+uR], never [-uR]. Non-finite complements of "seem", in turn, are not assigned an Rvalue at all because they display Infl that is defective for Agr/T. The full range of possible complements of "seem" in English is illustrated in (118):

- (118) Selectional restrictions of "seem" in English
 - a. $\ensuremath{\,^{\ast}\text{John}_i}$ seems that $\ensuremath{\text{PRO}_i}$ bought a car.

 \Rightarrow Complement is [+Agr, +T, +uR], PRO is banned.

b. Yara seems to be moving to Japan.

 \Rightarrow Complement is unspecified for either T or Agr, no R-value is assigned, PRO is banned, lexical DP must raise for licensing.

c. It seems that Clara was promoted.

 \Rightarrow Complement is [+Agr, +T, +uR], PRO is banned, lexical DP is licensed.

Assuming that raising is A-movement and that HR is finite-control, (118-a) shows "seem" in English never selects the type of HR complement attested in BP: HR is illicit in English. Likewise, (118-b) shows that "seem" may select raising complements, e.g., complements unspecified for either tense or agreement. Finally, (118-c) shows that "seem" may also select NC complements, complements with morphological agreement and semantic tense that license an R-expression in subject position. The possible complements of "seem" in English/BP are thus:

- (119) Possible complement specification of "seem"
 - a. English: [+Agr, +T, +uR], *[+Agr, -T, -uR], [Unspecified for T/Agr]. \Rightarrow No control, *HR, raising.
 - b. BP: [+Agr, +T, +uR], [+Agr, -T, -uR], [Unspecified for T/Agr].

 \Rightarrow No control, HR, raising.

What might explain the crosslinguistic variation between English and BP? One potential answer lies in the link between tense and finiteness. I suggest that in some languages, but not in others, tense is tied to finiteness. For example, English may display semantic or anaphoric tense in non-finite complements, as shown in the contrast between the infinitives in (111). In contrast, English does not seem to allow for finite complements with anaphoric tense; rather, all finite complements display semantic tense. Additionally, English does not display finite complements lacking agreement morphology or that display abstract agreement, making all finite complements in English NC complements since they exhibit both morphological agreement and semantic tense.

In BP, the relationship between tense and finiteness differs. While BP shares agreement and finiteness patterns with English, such as the display of morphological agreement in all finite complements, BP also exhibits finite complements with anaphoric tense. Thus, BP presents No Control (NC) finite complements as well as controlled finite complements like those in HR.

Table 4.4 shows the distribution of complement clauses in English and BP, highlighting the differences between the two languages.

	Finite	Non-finite
English	[+Agr, +T]	[-Agr, +T] [-Agr, -T] [Unspecified for T/Agr]
BP	$\left[+\mathrm{Agr},+\mathrm{T} ight]$ $\left[+\mathrm{Agr},-\mathrm{T} ight]$	[-Agr, +T] [-Agr, -T] [Unspecified for T/Agr]

Table 4.4: Distribution of complement clauses in English versus BP

In this context, the argument pursued confronts an empirical issue. As per Table 4.4, BP is expected to allow finite NC complements, that is, complements with Infl specified as [+Agr, +T]. Although this prediction may seem trivial, since BP displays finite complement clauses that license R-expressions/lexical pronouns, it is less trivial when compared to HR.

Recall that HR in BP alternates with a baseline in-situ expletive construction, similar to the NC example in (118) for English:

- (120) HR and the expletive baseline
 - a. A Yara_i parece que PRO_i publicou um ótimo paper The Yara seems that PRO published a great paper
 - b. Parece que a Yara publicou um ótimo paper Seems that the Yara published a great paper "It seems Yara published a great paper."

In (120), both complements are identical, representing finite complement CPs of the matrix "seem." Under the argument in this section, the finite complement of "seem" in BP is expected to be controlled since it is specified as [+Agr, -T] and assigned [-uR]. Consequently, PRO must check the [-uR] feature on finite complements of "seem." Importantly, lexical pronouns and R-expressions cannot check [-uR] because they bear [+iR] instead of [-iR]. Therefore, we under-generate (119-b): How can the finite complement of "seem" in (120-b) license an R-expression in subject position if it is assigned [-uR]?

One possible explanation for the problem posed by (120) is that "seem" in BP, similar to English, may select NC complements, e.g., complements with a [+Agr, +T, +uR]specification. If this idea holds, the expletive baseline in (120-b) is expected to exhibit the properties of an NC complement, such as passing the tests for morphological agreement (+Agr) and semantic tense (+T).

Concerning morphological agreement, the complement in (120-b) clearly displays fullfledged morphological ϕ -agreement in BP. Hence we rule out the possibility of the complement in (120-b) being specified as [-Agr]. Conversely, the complement in (120-b) contrasts with HR in (120-a) regarding semantic tense. While HR complements consistently fail the diagnostic for semantic tense (the temporal mismatch test), complements of the expletive baseline (119-b) consistently pass the same diagnostic:

- (121) Expletive baseline does not display anaphoric tense
 - Ontem, pareceu que o Pedro escolherá a segunda а. Yesterday, seem.3SG.PST that the Pedro chose.3SG.FUT the second opção hoje option today "Yesterday, it ended up that Peter will chose the second option today." \Rightarrow Complement is [+T]. b. *Ontem, o Pedro_i pareceu que PRO_i escolherá a Yesterday, the Pedro seem.3SG.PST that PRO chose.3SG.FUT the segunda opção hoje second option today Intended: "Yesterday, Peter ended up (going) chose the second option to-

Intended: "Yesterday, Peter ended up (going) chose the second option today." \Rightarrow Complement is [-T].

Example (121) illustrates the relevant contrast. In (121-a), we have the expletive baseline where "seem" selects an uncontrolled complement, as shown by the presence semantic tense that is confirmed by the possibility of a temporal mismatch. Conversely, (121-b) shows HR complements do not pass the temporal mismatch test and lack semantic tense. Hence these complements are controlled. Therefore, the complement in (121-a) is [+Agr, +T, +uR] and, by extension, licenses R-expressions/lexical pronouns in subject position.

The relevant conclusion arising for (121) is that HR verbs in BP may select three complement types: raising complements, finite uncontrolled complements and finite controlled complements. Crucially, whenever we observe the expletive baseline to HR, we also observe the expected properties of a NC complement, as predicted by the AMC typology. The full range of possible complements in BP is summarized below in Table 4.5 where we see that "seem" in BP surfaces in three different constructions: finite control (HR), no control and raising. In particular, whenever "seem" selects a non-finite complement, it never selects one specified for Agr/T, e.g., "seem" never licenses non-finite control, as shown by the raising-control contrasts in several diagnostics discussed in Chapter 2.

Finite		Non-finite	
+T, $+Agr$	No control, expletive baseline	×	
+T, -Agr	×	Non-finite control	
-T, -Agr	X	Non-finite control	
-T, +Agr	Finite control (HR)	×	

Table 4.5: Possible complements of "seem" in BP.

To conclude this section: I have shown that HR complements in BP display the expected properties of controlled complements. By extension, these complements must license PRO under the present assumptions inherited from the AMC. The representation of the CP-InflP layer of HR complements is illustrated in (122). Notice that the specifier position of Infl in (122) must be occupied by an element bearing interpretable [-iR], e.g., PRO.





Afterwards, I suggested that the availability of complements of the type in (122) is a matter of cross-linguistic variation related to the relationship between semantic tense and finiteness. Finally, I addressed a potential empirical issue posed by the fact HR in BP alternates with an expletive baseline that licenses an R-expression in subject position. Having motivated the idea that HR complements are controlled, I move in the next section to demonstrating how we can implement the AMC framework to derive control in HR.

4.2 Implementing the Agree Model

If HR complements license PRO, the remaining task is to explain how the DP-PRO control relation obtains. In this section, I build a basic technical implementation of the Agree Model of Control (Landau, 2000, 2004, 2006, 2007, 2008, 2010, 2013) that derives control in the context of HR constructions in BP. Afterwards, I discuss some pressing theoretical issues for my proposal. Finally, I move on to a step-by-step demonstration of how the AMC implementation derives HR in BP.

To recapitulate the essential components of the model, the AMC proposes that control is the result of agree between a matrix functional head, and either PRO at the complement clause *or* embedded C. The relevant matrix head is Infl for subject control and v for object control; the guiding intuition here being that Infl and v are the heads that license the matrix DP controllers.²

The basic structure of subject and object control is illustrated in (123) and (124) for two instances of non-finite and exhaustive control in English:

 $^{^{2}}Licensing$ here means being in an argumental relation with a DP where the DP has all of its uninterpretable features checked, whichever features these may be.





As mentioned, in the AMC, control may result from an instance of direct agree with PRO, as in the case of exhaustive control in (123) and (124), or it may result from *indirect* agree between the matrix head and PRO, in the case of partial control. When agree is indirect, the matrix head first agrees with C heading the complement clause, which in turn agrees with PRO. This type of control mediated via-C is at the root of the account of the less straightforward instances of control where we observe non-identity, such as partial control.



In sum: the AMC provides three possible agree configurations to derive control. First, we may have direct or indirect agree with PRO, deriving exhaustive and partial control respectively. Second, the probe of agree may be either matrix Infl or matrix V, deriving subject and object control.

In the context of HR, two basic observations allow us to derive the basic agree relation. First, HR necessarily involves a matrix subject; hence the relevant matrix functional head acting as the probe for agree must be matrix Infl. Second, HR allows *non-identity* between matrix DP and gap, e.g., the "non-identity HR" examples in (126) repeated from Chapter 2:

(126) HR allows non-identity

- a. Pedro_i parece que __i+ brigamos Pedro seems that __ fight.1PL.PST "It seems Pedro and I/us fought."
- b. Pedro_i parece que $_{i+}$ viramos inimigos Pedro seems that ______ turn.1PL.PST become enemies "It seems that me and Pedro became enemies."
- c. Pedro_i parece ao seu pai_j que __i+j/i+ mudaram/mudamos Pedro seems to his dad that __ change.3PL.PST/change.1PL.PST muito much "It seems to Pedro's dad that they two/we changed a lot."
- d. Pedro parece que mudou Peter_i seems that $_{i/^{*k}}$ change.3SG.PST "It seems Peter changed."

If HR allows non-identity, it follows that we can't have direct agree with PRO *only*, otherwise we incorrectly predict HR to allow only exhaustive control, but HR allows *both* exhaustive control and non-identity. For this reason, I assume the goal of agree in HR may be either C - where we obtain non-identity as in (126-b-c) - or PRO, where we obtain the exhaustive interpretation, as in (126-d). At this point, I depart from the agree model. The AMC proposes agree via-C is restricted to partial control, whereas I assume agree via-C is a *generalized* property of non-identity in control constructions. The assumption I introduce is a flexibilization of this definition. I state this assumption in (127):

(127) Agree via-C enables non-identity In a control structure, non-identity is attained whenever the probe of agree (Infl/V) agrees with C, which in turn agrees with PRO. The assumption in (127) maintains intact the analysis of partial control of the AMC while allowing for a more flexible system that accommodates the HR data in (127). Importantly, I maintain the assumption from the AMC that, mechanically, what allows non-identity is the fact C lacks a feature specification for semantic plurarility, e.g., C is unspecified for number altogether. Consequently, when PRO agrees with C, PRO remains unspecified for semantic plurarility, which in turn allows for the non-identity relation between PRO and matrix controller.

The immediate question at this point is how, then, can PRO trigger number agreement with the embedded verb, as in (127-b-c). If PRO remains unspecified for semantic plurarility, why do we observe plural morphology in examples like (127-b-c)? There are two possible answers to this question. One solution is to assume PRO enters the derivation with valued number features, which in turn trigger the relevant agree relation. This solution raises non-trivial problems caused by assuming PRO is enriched with ϕ -features, contra well known generalizations on the strictly anaphoric, covert nature of PRO in contrast to other covert and overt pronominal forms (Holmberg, 2005; Landau, 2000; McFadden and Sundaresan, 2018).

A second solution is to assume a post-syntactic account of agreement (Bobaljik, 2008), where agreement between a subject and a predicate is an operation that happens only when syntactic representation reaches the interfaces. This type of solution is adopted in recent approaches to partial control and non-identity (Ferreira, 2004, 2009; Nunes, 2008). Most notably, Landau (2016) argues for an account of partial control where the non-identity relation between controller/PRO is attained via a group operator at the complement's clause edge. This group operator is introduced by *group-forming* embedded predicates, such as the ones introduced by verbs like "gather". Under Landau (2016), PRO in partial control is syntactically singular and semantically plural because it is exhaustively controlled at narrow syntax by the matrix DP but interpreted as plural at the interface level due to being bound by a group operator.³

In this context, a possible solution is importing Landau (2016)'s proposal to HR in BP: notice that the embedded predicates in the non-identity examples (a-b) in (126) are group-forming. Under Landau (2016)'s proposal, (126) could be the result of a group operator binding PRO, triggering a plural interpretation at the syntax-semantics interface *and* plural morphology at PF. The core difference between BP and English would be that the group operator can trigger plural morphology in BP post-syntactically, an idea that echoes both Ferreira (2009) and Nunes (2008), who argue agreement in BP is realized post-syntatically. There is, however, empirical evidence to not adopt Landau (2016)'s proposal for the specific case of HR in BP.

Crucially, non-identity in HR can occur with *non-group-forming* predicates, such as the one introduced by the verb "change", in (126-c), as shown by (128):

(128) Pedro_i parece que __i mudou muito Peter seems that _ change.3SG.PST much "It seems Peter changed a lot."

Compare the grammaticality of (128) with the ungrammatical example in (129-a) in contrast to (129-b):

- (129) a. *Pedro_i parece que __i brigou Peter seems that _ fought Intended: "It seems Peter fought."
 b. Pedro_i parece que __i brigou com Marcos Peter seems that _ Peter fought with Marcos "It seems Peter fought with Marcos."
 - c. Os jogadores_i parece que __i brigaram The players seem that _ fought.3PL.PST "It seems the players fought."

 $^{^3 \}mathrm{See}$ Grano (2017) for a reply against this idea.

What (129) shows is that "fight" forces a group-forming predicate: singular morphology expressing exhaustive control by a singular DP is not possible in the absence of a group-forming argument, i.e., "with Marcos" in (129-b). Example (129-c) shows that exhaustive control by a plural DP is possible, as expected: the embedded predicate in (129-c) is group-forming.

The contrast between (129-a) and (128) shows that group-forming predicates are not a necessary condition for non-identity in HR in BP. For this reason, I will not adopt Landau (2016)'s proposal on partial control. Alternatively, I assume agreement is post-syntactic and that, at the interface level, PRO triggers plural agreement if it remains unspecified for semantic plurarility.

Assuming agreement is post-syntactic, the fact PRO remains unspecified for plurarility in (126) - even though we observe plural morphology - is not problematic: plural agreement is not a syntactic phenomena, but the result of interface operation at the morphology module of the grammar. By extension, it is possible that plural agreement in (128-b-c) is a result of sub-specification: if PRO ends up unspecified for semantic plurarility at syntactic representation, morphology handles this sub-specification by triggering plural agreement between PRO and its predicate. Although this chapter provides no formal account of how post-syntactic agreement occurs in the context of PRO, I will assume the type of proposal in Bobaljik (2008), that is, I assume subject-predicate agreement is post-syntactic, and that the interfaces can interpret PRO unspecified for plurarility.⁴

⁴A potential objection at this point is that if agree is post-syntactic, non-identity between PRO and DP are unproblematic even for movement approaches to HR and control, e.g., one could postulate HR is A-movement and mismatches in plurarility are the result of morphological realization. This idea is feasible but loses strength once we consider that it can't explain why other instances of A-movement, such as raising, systematically disallow non-identity, even when we control for identical group-forming embedded predicates:

Putting everything together, the two basic derivations of HR have the structure in (131):

(131) Agree steps involved in HR: exhaustive HR InflP





(132) Agree steps involved in HR: non-identity HR

I detail how (131) and (132) derives HR in BP in the next section. Before that, some discussion on (132) is in order.

4.2.1 The triggering problem

If we have empirical grounds to believe control in HR proceeds through agree, the pressing question is what triggers the agree relations in (131). As discussed in Chapter 2, motivating triggering mechanisms for agree is a generalized problem for the AMC (Landau, 2015). The current proposal inherits the triggering problem: there is no evident candidate for the agreeing features in (131) and (132). Specifically, the features of the matrix DP are already checked against the features of matrix Infl at the point of the derivation Infl probes elements in the complement clause. Moreover, there is no evident candidate for a feature represented on C which can trigger agreement with both matrix Infl and embedded PRO.

The simple way out of this problem is assuming a low trigger, e.g., assuming that PRO carries the triggering feature to agree with Infl. In Landau (2001, 2004, 2013), the author suggests the low trigger is PRO's anaphoric [-R] feature, a solution I will also adopt for the current proposal.

Nonetheless, assuming PRO's [-R] feature is the trigger for agree addresses the triggering problem from a purely mechanical perspective, but two issues remain. One, even if we postulate a low trigger on PRO, it remains to be seen what the relevant matching feature on matrix Infl and embedded C is. Two, semantically, it is unclear what precisely is the interaction between agree with PRO and the control interpretation.

Given these issues, a possible solution is to abandon PRO's [-R] feature solution and assume control is agree in ϕ -features. This solution appeals to the idea that Infl presumably carries a ϕ -feature bundle and that PRO and the controller DP share ϕ -feature values in some way since they are necessarily co-indexed.

While it may seem appealing to approach the problem through a ϕ -feature-based solution, this kind of solution faces an undergeneration issue. If ϕ -features are the trigger for agree in control, it must be the case the ϕ -feature sets involved are the ϕ -bundle on matrix Infl and, potentially, a ϕ -feature bundle endowed by PRO. The problem surfaces when we consider that matrix Infl's -features are already at the checking domain of a complete ϕ -feature set at the point of the derivation it can agree with PRO. The relevant ϕ -feature set is the set endowed by the matrix controller DP. Consequently, under standard assumptions on feature checking (Chomsky, 1998, 2000, 2008), Infl's ϕ -features should not be active for probing after the matrix DP moves to SpecInflP, e.g., a checked uninterpretable bundle of features is no longer capable of probing further SOs. The problem is illustrated in (133):



(133) $u\phi$ at matrix Infl is already checked when it can agree with PRO

We can obviate this initial problem by postulating that some unique agree mechanism is at play, allowing Infl to agree a second time in ϕ -features with a goal - in our case, embedded PRO. Even then, we end up with a second problem: if Infl's ϕ -features are valued by the matrix DP and Infl agrees with PRO, we expect an obligatory identification relation between the matrix DP's ϕ -features and PRO's ϕ -features, e.g., controller and PRO must systematically display the same ϕ -feature values. This kind of relation obtains in exhaustive control but undergenerates for every other instance of control attested crosslinguistically, e.g., partial, split, implicit and non-obligatory control.

Ultimately, the triggering problem has no trivial solution: either we postulate new mechanics for agree altogether or the existence of structure-specific feature sets endowed by, at a minimum, PRO and matrix Infl. Furthermore, no matter the postulation we go with, new theory internal issues emerge. For the reasons mentioned above, I will not answer the triggering problem, e.g., my proposal lacks an explanation of how the relevant agree relations are triggered. I abstract from the technical implementation of how agree is triggered, and I follow the solution proposed in AMC that PRO's [-R] is the relevant low trigger for agree. Moreover, I assume PRO agrees with heads endowed with a generic feature F. I abstract from the definition of what precisely F represents and why it is present on specific functional heads.

In more detail, I assume PRO is an empty anaphoric element bearing a [-iR] anaphoric feature. Following Landau (2000, 2004, 2013), I assume PRO's [-iR] triggers agree with a higher functional head. I assume the relevant agreeing feature on the functional head is a generic feature F. F may be present on Infl and C (and v, in the case of object control). I assume whether C carries [F] is a matter of selection: whenever the matrix verb selects C_F , we derive non-identity between matrix DP and PRO. Conversely, if the verb selects C without [F], we derive exhaustive control. I assume control verbs vary in the type of complement they select: exhaustive control predicates select only C, whereas control predicates that permit non-identity *and* exhaustive control are flexible in being able to select both C and C_F . Verbs that allow *only* non-identity between controller and DP select only C_F . This three-way distinction is summarized below:

(134) C specification of controlled complements

- a. Only exhaustive: $C \checkmark$, $C_F \bigstar$.
- b. Only non-identity: C $\pmb{\mathsf{X}},\, C_F \,\, \pmb{\checkmark}.$
- c. Exhaustive and non-identity: C \checkmark , C_F \checkmark

Within the typology in (134), "seem" in BP is a verb in group (c): we observe both exhaustive and non-identity in HR.

Once a head carrying F agrees with PRO, PRO's [-R] feature produces an interface instruction (Landau, 2000, 2001, 2004) to *co-index* PRO and the DP licensed by matrix

Infl. The basic mechanism is illustrated in (135) and (136) for the cases of control via PRO and via-C in HR:





Notice that in (136) we have the two necessary ingredients for control: the structural conditions that license PRO at the complement and the structural conditions that enable the relation between PRO and the matrix controller. First, at the complement level, embedded Infl is assigned [-uR]. Consequently, the complement is controlled, e.g., it requires PRO to check Infl's [-uR] feature locally. Second, at the matrix level, matrix Infl carries F, which enables the necessary agree operation either directly with PRO or indirectly via-C.

Apart from the postulation of [F] for technical purposes, the derivation in (136) is virtually the same control account as proposed in the AMC: control results from PRO agreeing with a matrix functional head, triggered by PRO's [-R] feature. In section 4.2.3, I demonstrate how we can derive HR in BP as in (136) step-by-step. Before that, a second crucial theory-internal issue must be addressed.

4.2.2 Problems of locality

Importantly, (135) and (136) contradict broadly assumed constraints on cyclicity and locality. Assuming CPs and vPs are strong phases, the derivation in (136) is immediately ruled out by both the stronger and weaker⁵ formulations of the Phase Impenetrability Condition (henceforth, PIC) (Chomsky, 1998, 2000, 2008).

In its stronger version, the PIC rules out (136) because there is no way for Infl to agree with the either PRO or the lower C: once matrix v enters the derivation, it triggers spell-out of the complement domain of v, which includes the lower CP. Similarly, once the complement's C enters the derivation, it triggers spell-out of the complement, making PRO unavailable for agree with matrix Infl. Therefore, when matrix Infl enters the derivation, both C and PRO have already undergone spell-out and are not possible goals of agree. By extension, we end up incorrectly ruling out both exhaustive and partial/non-identity control.

In its weaker version, the PIC rules out (135) because once matrix v enters the derivation it triggers spell-out of the lower CP. Consequently, when matrix Infl enters the derivation, PRO is no longer an ellegible goal of agree, and we incorrectly rule out exhaustive control.

There are two ways to address this issue. One is to pair the *weaker* formulation of the PIC (Chomsky, 2001) where spell-out is delayed until merger of *the next phase head* and to follow Chomsky (2000, 2001)'s proposal that only *transitive* v is a strong phase head, whereas v associated with unaccusative verbs, like "seem", do not trigger spell-out. This type of solution is adopted for HR in works like Nunes (2008), and it will be solution I will assume to address the cyclicity problem. Under this view, the availability of C and PRO

⁵By stronger and weaker versions of the PIC I refer to the difference between the initial stronger formulation of the PIC (Chomsky, 1998) and the weaker reformulation in Chomsky 2001. The difference between the former and the latter is the timing of spell-out. In the stronger PIC, spell-out is triggered by merger of phase head, spelling-out the complement of the head. In the weaker formulation, spell-out of a phase head is triggered only when the next phase head enters the derivation.

when Infl enters the derivation in (136) is independently accounted for: we are dealing with an unaccusative raising verb, therefore merger of v does not trigger spell-out of the lower CP, and both C and PRO remain in the derivation.

A second way to address the locality issue is by assuming controlled complement clauses are not true phase domains. This solution is echoed in some of the control literature (Landau, 2000, 2004). The intuition here is that the *incompleteness* of controlled complements is reflected in their phase-hood - only complete propositions and morphologically complete SOs are phases (Chomsky, 2008). In the AMC framework, "incompleteness" refers to the idea that controlled complements necessarily display anaphoric tense or abstract agreement, both of which create a *dependent* syntactic environment that cannot license referentially independent expressions.

In more recent accounts (McFadden, 2014), the suspension of the phasehood of controlled complements, finite or non-finite, is echoed slightly differently. Following Wurmbrand (2001), these works argue that controlled complements are dependent clauses in the sense that they lack subparts of syntactic structure. For example, Wurmbrand (2001) argues that some control constructions in German and Dutch involve infinitival complements that are bare VPs, lacking a CP, InflP and vP layer. If these complements are VPs, they are by definition not phases since they lack a phase head (v/C) in their inner structure.

However, the idea that controlled complements are not phase domains is consistently found in the context of *infinitival* controlled complements. In the context of HR, we would need to stipulate that a finite clausal complement somehow has its phasehood suspended, on the grounds of semantic tense. This stipulation puts us in the uncomfortable theoretical position where we stipulate an exception to a constraint whose sole purpose is justifying our theory. For this reason, I don't adopt this type of solution to address the locality issue. Instead, I assume the weaker formulation of the PIC and I adopt the view that only transitive verbs trigger spell-out (Chomsky, 2000, 2001), hence no locality issue emerges in the context of the derivation of HR sketched in (136) and (135).

4.2.3 Basic assumptions

Before moving into the derivation, I state some basic assumptions.

First, I assume verbal heads are selective for the features of their complements, an assumption in line with the general principles of the AMC (Landau, 2000). The selective properties of V ultimately determine whether the verb is a control verb, a raising verb or an No Control (NC) verb: control verbs can select complements where Infl is specified as [-R], raising verbs select only complements with no T/Agr specification, and NC verbs select complements with Infl specified as [+R]. Likewise, I assume intermediate functional heads in between V and Infl can interface to mediate selection (Chomsky, 2001, 2005).

(137) Selection

- a. A verbal head V is selective for the features of its complement's Infl.
- b. Selection is strictly local.
- c. The head of the complement interfaces between Infl and V to mediate local selection of clausal complements.

"Interfacing" in (137) may be defined in multiple ways. It could be the case that Infl's features are copied into the complement's head and thus visible to the higher verbal head; or that Infl's features originate on the complement head, in line with some form of Feature Inheritance (Chomsky, 2007; Miyagawa, 2009) approach. The precise formalization of how the features of embedded Infl are selected by V is not pivotal for the proposal I argue for; as it stands, the proposal is compatible with multiple definitions of how embedded Infl and matrix V interact.

Moreover, I assume general EPP restriction is active on Infl. The specific formulation of the EPP I assume is the one in Chomsky (1993), where Infl carries an EPP feature [uD] that must be locally checked by elements carrying an interpretable [D] feature, e.g., nominals.

(138) EPP (Chomsky, 1995)

Infl is merged with an EPP feature [uD] that must be checked locally. Nominal elements are merged with [iD].

The critical consequence of (138) is that nominal elements must move to Infl to satisfy the EPP requirement. I will refer to this instantiation of movement as *EPP driven movement*. Moreover, I assume PRO is part of the set of covert nominal elements, e.g., I assume PRO is endowed with [iD].⁶

Moreover, following (Chomsky, 2000, 2001), I assume the v-head associated with unaccusative verbs, such as "seem", does not trigger spell-out because only transitive v constitutes a strong phase head.

⁶I make no assumptions about the nominal content of PRO (does PRO carry a Determiner Head in its inner structure? Is PRO endowed with a ϕ -feature set?) and leave the matter open for future research. As it stands, my proposal is likely compatible with different definitions of the inner structure of PRO.

4.2.4 Introducing athematic control

A final assumption requires more discussion. I assume the matrix verb in HR constructions has the argument structure of an athematic verb, e.g., (139):

(139) Argument structure of "seem" (Kratzer, 1996)



seems that Miranda painted a landscape

((seems) (Miranda to be painting a landscape)) * = λe_s [seems(Miranda painted a landscape)(e)]

This assumption is trivial in the context of what is known about the argument structure of verbs like "seem", but it creates a non-trivial problem in the context of the control analysis of HR I introduced in the beginning of this chapter. If HR is control, it is *athematic* control, an exceptional instance of control involving an athematic predicate with no external argument. Structurally, this poses a non-trivial problem for two reasons. First, as discussed in Chapter 2, a widely accepted generalization on control is that control predicates involve a single DP with two thematic roles, but the argument structure in (139) only derives a structure where the matrix HR DP has no thematic role at all. Second, if "seem" has the structure in (139) and the matrix DP in HR is base-generated, it is entirely unclear i) when/where the DP enters the derivation and ii) how the DP is interpreted thematically at the lower predicate (at the complement clause).

In light of this problem, I adopt a solution in terms of two proposals in the literature.⁷ ⁷I am greatly indebted to Dr. Gabriela Alboiu, who brought this potential solution to my attention. One, I adopt the insight from Moulton (2015) that finite CP arguments of verbs like "seem" are predicates. Two, I adopt the syntactic model of predication proposed in Den Dikken (2006) where all predication is syntactically represented via a *Relator Phrase* (RP) that takes a predicate as its internal argument and a subject as its external argument, as in (140):

(140) Syntactic representation of predication (Den Dikken, 2006)



In Den Dikken (2006)'s model, predication is the result of a functional relation where the external *subject* argument of R is related to the internal *predicate* argument of R. Importantly, R is defined in Den Dikken (2006) as inherently non-lexical and, therefore, not associated with any thematic relations.

If we follow Moulton (2015) in assuming that the clausal complement of verbs like "seem" is a predicate and if we assume that predication has the syntactic representation in (140), we can maintain the athematic structure of "seem" in HR by assuming V merges with an RP that takes i) the matrix HR DP as its external argument and ii) the finite complement clause as its internal argument.

In other words, I would like to propose that HR in BP is an instance of *athematic* control, enabled by predication. In athematic control in BP, the matrix DP in HR enters the derivation as the external argument of a functional head, a R(elator). The functional head R creates the relation between the matrix DP and the predicate denoted by the finite complement clause in HR constructions. Crucially, R is *not* associated with thematic relations on virtue of not being lexical.⁸

 $^{^{8}}$ For details on this definition, see the discussion in Den Dikken 2006

Under a predication analysis like (140) and the assumption that HR complements are predicates, we can maintain the athematic structure of "seem" while also deriving the interpretation of the matrix DP as a participant/subject of the event denoted by the lower predicate. The v-CP complex in HR is illustrated below:

(141) Argument structure of "seem" in HR



I will assume for the remainder of this chapter that the argument structure of "seem" in HR constructions is the one illustrated in (141). Furthermore, notice that the proposal that HR involves predication is not novel: den Dikken (2017) argues for a very similar proposal for HR in BP and Hungarian, and Lohninger et al. (2022) proposes a movement theory where all HR constructions cross-linguistically involve a predication relation mediated by a relator at the matrix clause.

4.2.5 Demonstrating the derivation

With the basic assumptions in place, let us derive the following HR sentence in BP:

(142) Yara_i parece que PRO_i comprou um carro Yara seems that PRO bought a car "It seems Yara bought a car."

The derivation of (142) starts by building the embedded complement. PRO is merged at

the specifier of v, and the resulting vP merges with Infl. Since Infl is specified as [+Agr, -T], it is assigned a [-uR] feature. From the specifier of v, PRO is probed by Infl's EPP feature and undergoes movement to the specifier of Infl, where it also checks Infl's R feature.



Afterwards, InflP merges with C and the resulting CP, being a predicate, is locally selected by the matrix relator head R. R then merges with its external argument, the matrix subject DP. The resulting RP merges with matrix V, and V merges with unaccusative v, forming the matrix vP shell. The resulting vP merges with matrix Infl and the DP at the specifier of the lower RP undergoes EPP-driven movement to matrix SpecInflP:



(144) Step 2: Matrix vP is built and merges with matrix Infl, matrix DP moves to

Two important observations are relevant here. First, I assume R mediates the selection of embedded Infl by V. Therefore, the fact that matrix V is selective to the features of embedded Infl, even though Infl is not local to V, is unsurprising. Second, I assume "seem" in BP does not introduce an external argument and that the DP controller, "Yara", enters the derivation as the external argument of the relator R.

After (144), the [F] feature on matrix Infl agrees with PRO, establishing the necessary agree relation for exhaustive control - the instance of control we observe in (142). Finally, matrix C enters the derivation, and the derivation terminates, spelling out the matrix CP domain. PRO's R feature produces an interface instruction exhaustively co-indexing PRO with the matrix DP at SpecInflP.



(145) Step 3: Matrix CP is built, Infl-PRO agree through [F]

4.3 Predictions

Empirically, the proposed analysis predicts the attested properties of HR discussed in Chapter 2 and summarized in Table 4.6 below. Recall that the main goal of this thesis is to address the empirical gap posed by the patterns in Table 4.6. In that regard, the control analysis implemented in the previous section successfully predicts the relevant data.

Let us review each property individually to see how the proposed control analysis systematically predicts the properties in Table 4.6.

	Hyper-raising	Control	A-movement
Island sensitive	1	✓/X	✓
Maintains idiom readings	\checkmark	✓ / X	\checkmark
Matrix DP binds anaphors	\checkmark	1	\checkmark
Reconstructs scope	X	X	\checkmark
Obviates WCOs	X	X	\checkmark
Embedding under control	\checkmark	\checkmark	X
Non-identity	\checkmark	\checkmark	X

Table 4.6: Contrasting properties of HR/Control/A-movement

4.3.1 Islands and binding

Starting through binding, recall that the matrix DP in HR constructions can bind matrix anaphors, e.g. (146), a data point the literature uses to argue HR is an instance of movement into an argumental position.

(146) Brazilian Portuguese: HR can create new antecedents for binding

- a. *Para $\underline{seus_i}$ filhos parece que o professor_i desmaiou To his children seems that the professor fainted
- b. O professor_i para <u>seus</u>_i filhos parece que $_i$ desmaiou The professor to his children seems that _ fainted "To the professor's children, it seems the professor fainted."

The control analysis proposed predicts that the matrix DP in HR binds anaphors because these DPs are regular base-generated matrix subjects in an argumental position, e.g., SpecInflP. Therefore, there is nothing surprising about the binding data in the context of HR because the matrix DP and the bound possessive in (146-b) are in a binding configuration at the matrix clause to begin with.

Regarding island sensitivity, the fact that HR is sensitive to islands follows from the locality restrictions assumed. If matrix Infl is unable to agree with the complementizer of the clause containing PRO or with PRO itself, we predict HR to be impossible because the necessary agree relations can't be established.

For concreteness, consider the island example from Chapter 2 repeated below:

(147) Complex DP island (Nunes, 2008)

- a. Parece $[_{CP}$ que $[_{DP}$ o bolo que o João comeu] não estava bom] Seems that the cake that the John ate not was good
- b. *<u>O</u> <u>João</u>_i parece [$_{C_1}$ que [$_{DP}$ o bolo [$_{C_2}$ que PRO comeu]] não estava the João seems that the cake that PRO ate not was bom] good 'It seems that the cake that João ate was not good.'

The control analysis rules out (147-b) because Infl at the matrix clause can never agree with C_2 at the clause containing PRO or with PRO. Specifically C_1 , heading the whole "that the cake that João ate", is the only available goal for agree with matrix Infl, but C_1 can't agree with PRO because C_2 intervenes. PRO agrees with C_2 , the immediately local C-head, therefore agree with C_1 is impossible in (147).

Consequently, PRO can only agree with C_2 , and C_2 can only agree with Infl at the second clause, e.g., Infl that licenses "the cake". If this agree relation is established, the only possible control interpretation is one where "the cake" controls PRO. Notably, when asked to judge (147-b), some BP speakers report the interpretation where "the cake" is a controller, but assert this interpretation is nonsensical and the sentence would never be produced by a native speaker.

4.3.2 WCOs and scope

Importantly, the analysis in this chapter accounts for the properties where HR and control cluster together: the lack of obviation of WCOs and scope reconstruction effects, the

possibility of embedding under control and the availability of split and implicit referents. The present analysis predicts these properties.

Regarding WCOs and scope reconstruction, both properties follow from the fact that HR is a dependency between two different SOs: a matrix controller and PRO. Therefore, the matrix DP and the embedded gap in HR are predicted to contrast in properties that require structural identity. For example, consider the scope data from Chapter 2, repeated in (148):

(148) Dois alunos parecem que _ visitaram três professores Two students seem that _ visit.PST three professors "It seems two students have visited three professors." 2 > 3, *3 > 2

To recapitulate the basic pattern: in HR example (148), the lower quantifier "three" can't scope over the higher quantifier "two", e.g., the interpretation where the three professors co-vary with two visiting students is not available. HR contrasts with A-movement in BP in that aspect, e.g., raising allows both scope interpretations:

(149) Raising and reconstruction in BP

Dois <u>alunos</u> parecem ter visitado <u>três</u> professores Two students seem.3PL have.INF visited three professors "Two students seem to have visited three professors."

A-movement analyses incorrectly predict (148) and (149) to pattern identically. The control analysis adopted, on the other hand, predicts the attested pattern. Assuming Quantifier Raising obeys locality constraints, there is no structural position where the embedded quantifier "three" can scope over the higher quantifier "two" in (148), precisely because the "two" base-generated at the matrix clause. Unsurprisingly, HR and other instances of control pattern together in this property, (150) shows that neither subject
nor the object of non-finite control can reconstruct for scope in BP:

- (150) Non-finite control and scope reconstruction in BP
 - a. Dois alunos_i tentaram/quiseram/desejaram/prometeram PRO_i visitar Two students tried/wanted/desired/promissed PRO visit.INF três professores three professors "Two students tried/wanted/desired to visit three professors."
 - b. Dois alunos_i convence ram alguém a ${\rm PRO}_{\rm i}$ visitar três professores Two students convinced someone to PRO visit. INF three professors "Two students convinced someone to visit three professors"

2 > 3, *3 > 2

4.3.3 Embedding under control

Embedding under control presents a more interesting problem. HR, unlike raising, may be embedded under a control predicate, e.g., "try" in (151):

(151) [1 O general tentou [2 PRO_i parecer [3 que _ ganhou a guerra]]] The general tried PRO seem.INF that _ won the war "The general tried to seem as if (he) won the war."

Example (151) is an issue for A-movement analyses because these analyses generally argue that HR targets the subject position of the matrix clause. However, PRO unambiguously occupies this position (in Clause 2) in (151). If the analysis proposed is on the right track, the subjects of both complement clauses in (151) are different instances of PRO, and (151) has the structure in (152):

 (152) [1 O general_i tentou [2 PRO1_i parecer [3 que PRO2_i ganhou a guerra] The general tried PRO seem.INF that PRO won the war
]

"The general tried to seem as if (he) won the war."

If we assume (152), we must explain how matrix controller DP controls both PRO1 and PRO2. Under the present analysis, there is a straightforward way out of the problem.

First, notice that the first controlled complement, clause 2, is a non-finite complement of "try". Moreover, "try" is an exhaustive control verb. Therefore, under the present model, agree with PRO1 must happen directly, e.g., matrix Infl grees with PRO1 and "the general" controls PRO1. Likewise, PRO1, as the external argument of "seem", controls PRO2 via either C or directly, since HR allows non-identity and exhaustive interpretations of PRO The combination of the two instances of control gives us the interpretation where PRO1 controls PRO2 and "the general" controls PRO1 directly. The derivation of (152) is thus like (153).

⁹

⁹The tree in this example omits vP projections to make visualization easier.



(153) Recursive control in BP

Importantly, (153) predicts that "the general" should be able to be in non-identity with control PRO2, but not PRO1, since "try" allows only exhaustive control but HR, "seem", allows non-identity with PRO. Given BP displays inflected infinitives for number, we can test the prediction straightforwardly:

- (154) Matrix DP can partially control PRO2, but not PRO1
 - a. *O general tentou PRO1_{i+} **parecerem/parecermos** que PRO2_{i+} The general tried PRO1 seem.**3PL**.INF/seem.**1PL**.INF that PRO2 ganharam/ganhamos a guerra win.3PL.PST/win.1PL.PST Intended: "The general tried for us/them to seem as if we/they won the war."
 - b. ?O general tentou $PRO1_i$ parecer que $PRO2_{i+}$ The general tried PRO1 seem.**1SG**.INF that PRO2ganharam/ganhamos a guerra win.3PL.PST/win.1PL.PST the war "The general tried to seem as if we/they won the war."

The relevant prediction is confirmed by (154): PRO1 can never mismatch the number of the matrix controller, "the general", but PRO2 can be interpreted as collectives including the general, either a collective including the speaker or a collective including contextually available third parties (e.g., the general's allies, army, nation, etc).

4.4 Extensions

Apart from HR, the control analysis in this chapter can be extended to other puzzling cross-clausal dependencies in BP. In Sections 4.4.1 and 4.4.2, I discuss these dependencies and show how they fit the system proposed in this chapter.

4.4.1 Modal-be constructions

The central claim pursued in this thesis is that HR is a special instance of finite control licensed by anaphoric tense. In that case, an immediate question is whether we can find other similar instances of this type of control in BP.

At least two puzzling cross-clausal dependencies attested in BP fit this thesis's de-

scription of control in BP. Let us review each separately, starting through a puzzling construction involving modalized existential "be." For clarity, I will refer to these constructions as "modal-be" constructions. Consider (155):

(155) Modal-be constructions in BP

- a. Pode ser que o gato fugiu May be that the cat escaped
- b. O gato_i pode ser que __i fugiu The cat may be that __ escaped "The cat may have escaped."

The relevant observations about (155) are as follows. One, the matrix predicate's verb is infinitival existential "be" modalized by finite "may".¹⁰ Two, the subject of the finite complement clause may surface in-situ, (155-a), or at the matrix level (155-b). When the complement's subject stays in-situ, we have an expletive construction with no subject at the matrix predicate, (155-a).

Example (155) is strikingly similar to HR. In both HR and (155), we observe a dependency between a matrix DP and an embedded gap across a finite-clause boundary. Similarly, HR and (155-b) alternate with an in-situ baseline expletive construction. By extension, (155) is puzzling for the same reason HR is: what could explain the dependency in (155-b)?

One possible explanation is that, like HR, (155-b) is control into a finite complement - the embedded gap is PRO. If this explanation is correct, the finite complement in (155) must be of the same type attested in HR. Specifically, we predict that complements in constructions like (155) also display anaphoric tense. This prediction is readily confirmed: modal verbs systematically select complements without semantic tense, e.g., subjunctives

¹⁰Modal-be constructions are possible with at least two modals in contemporary BP: "may" (poder) and must/might (dever). In some regional varieties, modal-be constructions are attested with the verbal complex "há de ser" ("it must be") as well. I only use examples with "may" (poder) in this section to simplify exposition.

and, in cases like (155), finite complements with anaphoric tense. This property is illustrated through the temporal mismatch test that targets semantic tense, shown in (156):

(156) Modal-be complements displays anaphoric tense

- a. Ontem o gato_i pode ser que _i fugiu pela Yesterday the cat may be.3SG.PST that _ escaped through-the janela window "Yesterday the cat may have escaped through the window."
- b. *Ontem o gato pode ser que _ fugiria Yesterday the cat may.3SG.PST be that _ escape.3SG.FUT.COND hoje tomorrow "*Yesterday the cat was going to escape today."
- c. Ontem o gato pode ser que _ fugiria Yesterday the cat may.3SG.PST be that _ escape.3SG.FUT.COND "Yesterday the cat was going to escape yesterday

Example (156-b) shows that the complements of modal-be constructions fail the diagnostic for semantic tense: the embedded tense cannot mismatch the temporal reference of the matrix predicate. (156-c) shows that, in the absence of a time adverb anchoring temporal reference overtly, the temporal reference of the complement is obligatorily interpreted as matching the matrix's.

If the complement of modal-be constructions lacks semantic tense and the argument presented in this thesis is correct, then modal-be complements must be controlled and license PRO. Under this view, modal-be constructions have the structure in (157):

(157) O gato_i pode ser que PRO_i fugiu The cat may be that PRO escaped "The cat may have escaped."

A prediction is readily available in light of the proposal at hand: if (157) is correct, we predict modal-be constructions to pattern with HR for control properties. This prediction is confirmed through several diagnostics.

First, like HR, the matrix DP in modal-be constructions cannot be reconstructed into

the complement clause for scope interpretation, as shown in (158):

(158) Dois alunos podem ser que _ visitaram três professores Two students may be that _ visit.PST three professors "It may be the case that two students have visited three professors." 2 > 3, *3 > 2

The only possible interpretation of (158) corresponds to surface scope, e.g., the interpretation where the matrix quantifier scopes over the embedded quantifier. As with HR, the interpretation where the embedded quantifier outscopes the matrix quantifier is unavailable. Example (158) provides thus a first piece of evidence in favour of a base-generation analysis of (158).

Secondly, modal-be constructions allow non-identity between the matrix DP and the embedded gap, e.g., the embedded gap may include reference sets beyond the matrix controller and a mismatch in syntactic plurality between controller/gap, as shown in the co-indexing relations in (159).

- (159) Modal-be constructions and non-identity
 - a. O meu_j amigo_i pode ser que $_{i+j}$ tenhamos brigado The my friend may be that _ have.1PL.PST.SBJ fight.PST.PART "My friend and I may have fought."
 - b. A Ana_i falou para sua amiga_j que pode ser que __i+j/i+ The Ana said to her friend that may be that __ mudaram/mudamos muito depois daquele incidente change.3PL.PST/change.1PL.PST much after of-that incident "Ana told her friend that they/we might have changed much after that incident."

Third, modal-be constructions require C-headed complements, a property shared with

HR and controlled complements, as shown in (160):

- (160) Modal-be impossible without overt C
 - a. O meu_j amigo_i pode ser que __i+j tenhamos The my friend may be that __ have.1PL.PST.COND brigado fight.PST.PART
 - b. *O meu_j amigo_i pode ser __i+j tenhamos brigado The my friend may be __ have.1PL.PST.COND fight.PST.PART "My friend and I may have fought."

The contrast in (160) shows that modal-be constructions are illicit if the complement lacks C, e.g., a bare infinitival clause is not a licit complement in (160-b), a property shared with HR, but not A-movement, e.g., raising, as discussed in Chapter 2.

Finally, the embedded gap in modal-be constructions displays the OC signature as defined in Landau (2000), repeated below:

- (161) The OC signature (Landau, 2013) In a control construction $[\ldots X_i \ldots [S PRO_i \ldots] \ldots]$, where X controls the PRO subject of the clause S:
 - a. The controller(s) X must be (a) co-dependent(s) of S.
 - b. PRO (or part of it) must be interpreted as a bound variable.

The OC signature is detectable through several tests. In the context of modal-be constructions, I employ the same tests used in Chapter 2 for HR - VP ellipsis and clausal co-dependency. Specifically, like HR, modal-be constructions allow only sloppy readings of the embedded gap under ellipsis:¹¹

(162)Carlos, o Pedro pode ser que _i tenha falado coisas Ao To-the Carlos, the Pedro may.3SG be that i have.3SG.PST spoken things a/*à demais, e Mariana_i também [pode ser que _*_{i/i} [may.3SG be.INF that much, and the/to-the Mariana too falado coisas demais] tenha have.3SG.PST spoken things much] "To Carlos, Peter may have told too much, and Mariana may have done so too."

Example (162) relies on the fact that the definite feminine article "a" and the preposition plus feminine definite article "à" are phonetically identical in Portuguese. Therefore, speakers have the option of picking either the article or article plus preposition when they parse the highlighted element in (162)- the former construes the sloppy reading (Mariana also told Carlos too much), while the latter corresponds to the strict reading (Pedro also told Mariana too much). Speakers systematically pick the definite article in (162); that is, only the sloppy reading is available for the gap within the elided VP.

Moreover, as in the case of HR, modal-be constructions require the embedded gap to be within the clausal domain of the controller DP, e.g., the gap's clause must be in an argumental configuration with the controller's clause. If an intermediate clause separates gap and controller, modal-be constructions are illicit:

(163) *O Pedroi pode ser que a Joana disse que _i comprou um carro The Pedro may be that the Joana said that _ bought a car "It may be the case that Joana said Pedro bought a car."

A control analysis of modal-be constructions seems thus well-suited: it falls in line with modal-be complements' lack of semantic tense and predicts the attested control properties of these constructions. The simplified control analysis of modal-be constructions is illustrated below, where we have the two possible agree relations corresponding to exhaustive

¹¹In examples involving ellipsis, brackets indicate elided material.

control and non-identity.



Although the detailed investigation of modal-be constructions is not the subject matter of this thesis, we have evidence that is, at a minimum, suggestive that finite OC complements are not restricted to HR in BP. A varied range of matrix predicates selects finite complements that lack semantic tense, and these complements systematically allow finite control that alternates with an in-situ expletive construction.

Interestingly, the fact modal verbs in BP behave exactly like raising verbs regarding finite control falls in line with proposals arguing that modal verbs are raising verbs (Wurmbrand, 1999). While in a language like English modals and raising verbs surface in either raising or expletive constructions, whereas in BP these same verb classes allow both raising and hyper-raising (finite control). The question is whether this parallelism is incidental or underlying a broader property that distinguishes languages like English from languages like BP.

Moreover, modal-be constructions, like HR, involve a matrix predicate where no par-

ticipant interpretation is available for the subject, e.g., the matrix existential verb, "be", does not select an external argument that can be interpreted as a participant of the event of "being". The exact same issue arises with HR because HR involves matrix predicates with raising verbs.

In this context, a second potentially general property of HR and modal-be constructs is these constructions' athematic nature: these instances of control in BP seem to be restricted to matrix predicates introduced by athematic verbs ("seem", "be", "end up"). In the case of HR, I obviated the issue of thematic relations by proposing "seem" selects a Relator Phrase (RP) which in turn selects a predicate. Although I make no claims on the argument structure of the modalized existential "be" in modal-be constructions, I tentatively suggest that we could have the exact same argument structure observed in HR: a matrix verbal head selecting a RP that selects a CP predicate. Whether this description of the argument structure of modal-be matrix predicates is on the right track is a matter I leave for future research.

4.4.2 Clause Modified Adjectives

A second extension of the proposal concerns a cross-clausal dependency involving adjectives selecting infinitival complement clauses, illustrated in (165). I will refer to these constructions as Clause Modified Adjectives (henceforth, CMAs). CMAs are fundamentally distinct from HR and modal-be constructions in that CMAs do not involve finite complements. On the other hand, like modal-be and HR constructins, CMA also involve an athematic matrix predicate, in this case involving copular "be" plus an adjective. As with HR and CMA, modal-be constructions systematically alternate with an expletive baseline. Consider (165):

(165) CMAs in BP^{12}

- a. É fácil de [essas linguistas publicarem papers] Is.3SG easy of these linguists publish.3PL.INF papers
- b. Essas linguistas; são fáceis [de _i publicarem papers] These linguists are.3PL easy of _ publish.3PL.INF papers "It's easy for these linguists to publish papers."

In (165-b), the subject of the complement clause is absent. The corresponding gap in the infinitival complement obligatorily co-refers with the matrix subject. Moreover, we see plural agreement in the matrix verb, matrix adjective and embedded verb. As with HR and modal-be constructions, CMAs alternate with an expletive in-situ baseline, (165-a). Importantly, CMAs are not licit with all adjectival predicates. Crucially, only adjectives that license¹³ "de"¹⁴ allow CMAs:

(166) CMAs require adjectives that license "de"

- a. Essas linguistas são fáceis de publicarem papers These linguists are easy.PL of publish.3PL.INF papers "It's easy/likely for these linguists to publish papers"
- b. *Essas linguistas são prováveis de publicarem papers These linguists are likely.PL of publish.3PL.INF papers "It is probable for these linguists to publish papers."
- c. *Essas linguistas são prováveis que publiquem papers These linguists are likely.PL that publish.3PL.INF.SUBJV papers "It is probable that these linguists will publish papers."

 $^{^{12}}$ CMAs must not be conflated with *tough*-movement. Although both constructions are superficially similar, *tough*-movement involves an embedded *object* gap at the infinitival complement of an adjective. CMAs, like HR, involve a subject gap in the same complement type.

¹³I use "license" here broadly to refer to a selectional restriction on the type of morphological element that can follow these adjectives. Whether this restriction is a syntactic, morphologic or phonological criterion is beyond the scope of this discussion.

 $^{^{14}}$ For now, I will not categorize "de". At the end of this section, I show that categorizing "de" as a morphological realization of C is well-suited for the present analysis.

The contrast between (166-a) and (166-c) illustrates the relevant property. In BP, 'easy' is an adjective that licenses de, i.e., CMAs are possible in (166-a). Conversely, 'probable' does not license de. 'Probable' can only license the complementizer/relative pronoun que.

The basic patterns outlined above are acknowledged in Nunes (2008)'s proposal on HR, where the author argues CMAs and HR are derived through the same underlying A-movement mechanism.

Alternatively, I propose CMAs are yet another instance of athematic control in BP that is clustered together with HR and modal-be constructions.

The first evidence favouring a control analysis of CMAs is simple: CMAs select only infinitival complements, e.g., complements that display abstract agreement/lack morphological agreement. Following the typology of complement clauses assumed in this chapter, CMAs must fall within the group of complements that license PRO. Hence a control analysis is readily available: CMAs involve control between the matrix DP and the embedded gap, as (167):

(167) Essas linguistas_i são fáceis de PRO_i publicarem papers These linguists are easy.PL of PRO publish.INF.PL papers "It's easy/likely for these linguists to publish papers"

Therefore, under the view advanced in this chapter, CMAs are not movement but a control dependency between the matrix DP and base-generated PRO. A control analysis of CMAs naturally requires arguments ruling out an alternative movement analysis. As with modal-be constructions and HR, we can falsify a movement analysis through a simple prediction. If CMAs are control, we predict CMAs to pattern with control in emerging properties. Again, this prediction is confirmed through different diagnostics.

First, we can test for scope reconstruction properties using the "immortal soldier" test from Fox (1999). Recall: some sentences allow us to trap reconstructed scope if the

surface scope reading is infelicitous. Fox (1999) uses the sentence in (168) to illustrate the test:

(168) At least [DP one soldier] seems to Napoleon [CP to be likely _ to die in every battle].

$$\# \exists (x) > \forall (y), \forall (y) > \exists (x)$$

The sentence in (168) is scope-ambiguous, but the surface reading is infelicitous unless one assumes a soldier is likely to die multiple times (there is one specific soldier who is likely to die in every battle). Speakers interpret (168) felicitously, and the felicity of (168) is possible due to the availability of reconstructed scope, where the universal quantifier "every" can scope over the quantifier "one" (for every battle, there is a different soldier who is likely to die).

We can then use the paradigm in (168) to test whether reconstructed scope is possible in CMAs:

- (169) Scope and CMAs in BP
 - a. Um soldado é fácil de morrer em cada batalha One soldier is easy of dying in each battle "One soldier is likely to die in each battle."
 - b. É fácil de um soldado morrer em cada batalha Is easy of one soldier die in each battle "It's likely for one soldier to die in each battle"

Example (169-a) shows that if we trap reconstructed scope, CMAs are infelicitous: the only felicitous interpretation is not available because CMAs cannot reconstruct scope into the complement clause. The baseline (169-b) is felicitous because both quantifiers are clause-mates and can outscope each other.

Apart from scope readings, CMAs also fail tests for the type of WCO violation A-

movement can repair, but control can't. I repeat the basic pattern from Chapter 2 below.

First, A-movement can repair WCO violations where a pronominal element precedes a quantifier that binds it from a non-c-commanding position, e.g., the lower universal quantifier "every" binds the matrix possessive pronoun "his" in (170).

Example (170) is licit despite the crossover violation because the matrix DP has A-moved to the matrix clause through raising. Control dependencies contrast with Amovement in their ability to repair this type of WCO, e.g., (170):

(170) %[Seus_i funcionários_j] prometeram para [todo_i gerente] PRO_j terem sido His employees promised to every boss PRO have.INF.PL been surpreendentemente eficientes surprisingly efficient Intended: "To every boss their employees promised to have been surprisingly efficient."

Crucially, CMAs pattern with control, but not A-movement, in WCO violations, e.g., CMAs cannot repair a WCO of the type in (170). The pattern is illustrated by the contrast between raising (a) and CMAs (b) in (171):

- (171) CMAs can't repair WCO violations
 - a. Seu, filho parece para todo, pai ser uma boa pessoa His child seems to every parent be.3SG.INF a good person "To every parent, their child seems to be a good person."
 - b. $*Seu_i$ filho é para todo_i pai fácil de _ ser uma boa pessoa His child is to every parent easy of _ be.3SG.INF a good person Intended: "For every parent, their child is likely to be a good person."

Moreover, CMAs allow the inclusion of more than one referent (the matrix DP) into the reference set of the embedded gap, a property shared with controlled clauses but not raising, as discussed in Chapter 2.

(172) CMAs allow non-identity

- a. A presidente_i é difícil de $_{i+}$ falarmos hoje The president is hard of talk.1PL.INF today "It is unlikely for the president to talk with us today."
- b. Esse meu_i amigo_j é bem fácil de __i+j brigarmos
 This my friend is very easy of __ fight.1PL.INF
 "This friend of mine and I are very prone to fighting."
- c. Esse professor é fácil de __i+ discordarmos This professor is easy of __ disagree.1PL.INF "It is likely for me and this professor to disagree."

Example (172) shows that the embedded gap on CMA complements can include reference sets that are *supersets* of the matrix DP. In (172-a), the gap includes contextually available referents (the speaker, the speaker plus speech participants). In (172-b) we see that non-identity including overt arguments is also possible in CMAs: the gap refers to a collective including the matrix subject "my friend" and the referent of the possessive pronoun "my".

Finally, CMAs also display the OC signature: the matrix DP must be included in the reference of the embedded gap, and the gap is co-dependent on the DP. The relevant diagnostics for this property are given below.

First, CMAs enforce sloppy readings of the embedded gap under VP elipsis:

The diagnostic above is identical to the one used for modal-be constructions and HR speakers consistently chose the sloppy reading that corresponds to interpreting the underlined element as a definite article.

Likewise, CMAs require clausematedeness of the matrix predicate and complement clause, e.g., the controlling predicate must be in an argumental relation with the complement clause, e.g., separating matrix predicate and controlled clause with a full intervening clause is illicit:

(174) *Aquele aluno é fácil de os professores falarem que _ foi bem na That student is easy of the professors say that _ went well at-the prova test Intended: "It is likely for the professors to say that student did well on the test."

To conclude, CMAs display the same emerging properties of a control dependency displayed by HR and modal-be constructions. These properties are incompatible with an A-movement analysis, as extensively discussed in Chapter 2.

Consequently, I propose CMAs are derived through agree-mediated control between a matrix DP and PRO, either via-C or directly, exactly like HR, e.g., (175):



(175) Simplified derivation of CMA constructions

Some further discussion is relevant on (175). Specifically, some observations about the morphological form "de" that heads the clause in (175) are in order. The derivation above makes a specific assumption about de in BP (glossed as of for convenience). Recall that CMAs are only possible with adjectives that license de. There is no consensus in the literature regarding the syntactic category of de in BP - some authors argue de a dummy preposition (Nunes, 2008). In contrast, other works propose it to be a morphological realization of C that is widespread in Romance (see: Kayne 1975's analysis of French de). I follow the latter, that is, the generalization stemming from Romance (Kayne, 1975) that "de" is a realization of C.

Assuming de is a morphological realization of C allows for an interesting generalization in light of the analysis in (175). Notice that CMAs *require* clauses headed specifically by de, e.g., other complementizers, like "que", are incompatible with CMAs. I repeat the relevant data below in (176), where we see that an adjective like "probable" can't license a "de"-headed clause, only "que"-headed clauses, and that CMAs are banned in "que"-

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headed clauses:

- (176) CMAs require adjectives that license "de"
 - a. Essas linguistas são fáceis **de** publicarem papers These linguists are easy.PL of _ publish.3PL.INF papers "It's easy/likely for these linguists to publish papers"
 - b. *Essas linguistas são prováveis **de** publicarem papers These linguists are likely.PL of publish.3PL.INF papers "It is probable for these linguists to publish papers."
 - c. *Essas linguistas são prováveis **que** publiquem papers These linguists are likely.PL of publish.3PL.INF.SUBJV papers "It is probable that these linguists will publish papers."

In light of the proposal that *de* is a realization of C, I would like to suggest that the contrast in (176) reflects a difference in the possible specification of adjectival clausal complements. Specifically, I propose that, in the context of adjectival clausal complements, "de" is the morphological realization of C that heads PRO-licensing complements, e.g., complements specified as either [-T] or [-Agr]. Conversely, adjectival clausal complements headed by "que" never license PRO.

Although admittedly stipulative, the proposal that "de" heads controlled CPs finds empirical support in BP. Notably, clauses headed by de unambiguously involve control constructions, even when they are the complement of verbs that generally do not behave like control verbs, e.g., "say" and "think" in (177). Apart from CMAs, we find decomplements in the context of controlled infinitives of the type in (177):

- (177) *de*-headed controlled complements in BP
 - a. A mãe_i falou **de** PRO_{i+} ir/irmos pra praia no The mother said of PRO go.1SG.INF/go.1PL.INF to-the beach at-the final de semana end of week "Mom mentioned we were going to the beach next weekend."

b. Eu_i pensei de ${\rm PRO}_{i+}$ ir/irmos naquele restaurante I thought of PRO go.1SG.INF/go.1PL.INF at-that restaurant hoje today "I was thinking we should go to that restaurant today."

Notice that matrix predicates like (177) *require* an obligatorily controlled subject: if the matrix controller is not part of the reference set of the embedded subject, the structure is ungrammatical, as shown by the ungrammatical examples in (178).

- (178) *de*-headed complements are obligatorily controlled in BP
 - a. *A mãe_i falou de PRO_j iremj pra praia no final de The mother said of PRO go.3PL.INF to-the beach at-the end of semana week
 "Mom mentioned we were going to the beach next weekend."
 - b. *Eu_i pensei de PRO_j irem_j naquele restaurante hoje I thought of PRO go.3PL.INF at-that restaurant today "I was thinking we should go to that restaurant today."

Notice further that "de"-headed complements systematically allow non-identity interpretations that are strikingly similar to partial control: PRO in (177) may correspond to supersets of the matrix controller.

To conclude this section: I have argued that CMAs are another instance of control in BP. Together with HR and modal-be constructions, CMAs form a cluster of control constructions previously unaddressed in the literature or incorrectly characterized as Amovement. Moreover, I suggested CMAs provide suggestive evidence in favour of the idea that we can find some level of morphological transparency between controlled and uncontrolled complements in the context of adjectival complementation.

4.5 Empirical challenges

In the context of HR, two empirical problems surface for the present analysis. Specifically, i) the proposed control analysis under-generate complements where we observe a lexical pronoun licensed in subject position and ii) the control analysis raises non-trivial issues in light of the fact BP is a (partial) *pro*-drop language. In the following subsections, I go over each of these problems individually.

4.5.1 Lexical pronouns

First, the proposal faces a significant problem in light of what the literature calls "apparent hyper-raising" (Martins and Nunes, 2010), a construction that is identical to HR but licenses a lexical pronoun at the subject position of the complement clause, as in (179-b):

- (179) HR and lexical pronouns
 - a. A Yara_i parece que PRO_i publicou um ótimo paper The Yara seems that PRO published a great paper
 - b. A Yara_i parece que ela_i publicou um ótimo paper The Yara seems that she published a great paper "It seems Yara published a great paper."

Example (179-b) is problematic for the proposal in this chapter due to the assumptions I made on the distribution of controlled complements. If HR complements are controlled, they should not license (subject) lexical pronouns - PRO and lexical pronouns are generally in a complementary distribution (Landau, 2013) determined by T/Agr.

Example (179) poses a problem because it requires us to assume that HR complements license PRO and lexical pronouns simultaneously. However, this assumption does not extend to other well-known instances of control, e.g., non-finite control.¹⁵

 $^{^{15}\}mathrm{A}$ similar challenge is discussed in Landau (2013) in the context of the Agreement Model of Control. Crosslinguistically, we find languages where PRO alternates with lexical pronouns, contra the generaliza-

My solution to the problem posed by (179) is to propose that "seem" may select controlled and uncontrolled complements, an idea introduced in Section 4.1 when I discussed the HR/expletive baseline alternation.¹⁶

If this idea is correct, the complement in (179-b) is not a controlled predicate, while the complement in (179-a) is. In this context, a prediction is available: we expect that the clausal properties that license PRO in finite complements in BP (anaphoric tense) should be absent when we see a lexical pronoun at the complement clause. This prediction is confirmed: sentences like (179-b) pass the temporal mismatch diagnostic for semantic tense, unlike HR:

(180) Complements licensing lexical pronouns display semantic tense

- a. Ontem, o Pedro pareceu que ele escolherá a segunda opção Yesterday, the Pedro seemed that he chose.3SG.FUT the second option (hoje) today
 Intended: "Yesterday, Peter ended up (willing to) chose the second option today."
 ⇒ Complement is [+T].
- b. *Ontem, o Pedro pareceu que PRO escolherá a segunda Yesterday, the Pedro seemed that PRO chose.3SG.FUT the second opção (hoje) option today Intended: "Yesterday, Peter ended up (willing to) chose the second option today."

 \Rightarrow Complement is [-T].

The complements in (180) contrast in the presence of semantic tense. (180-b) is a con-

tions reached by the AMC regarding the distribution of controlled complements.

¹⁶In Martins and Nunes (2010), the authors adopt a different view and argue that apparent hyperraising is not really hyper-raising in any way but an instance of A'-movement of an embedded topic into the matrix clause. I concede that this is a tenable analysis and, to my understanding, unproblematic to the proposal in this thesis.

trolled complement lacking semantic tense. Thus the temporal mismatch is illicit. Conversely, (180-a) shows that the temporal mismatch is licit when we have a lexical pronoun as the subject of the complement clause. Thus, (180-a) is not a controlled clause: it is assigned [+R] and licenses lexical pronouns.

The diagnostic illustrated in (180) shows that the analysis of HR proposed nicely predicts a previously unaddressed contrast between complement clauses in BP. Moreover, (180) shows that "seem" in BP may select both controlled and uncontrolled complements, an idea further reinforced by the fact HR alternates with an expletive baseline, e.g., (181):

(181) HR and the expletive baseline

- a. A Yara_i parece que PRO_i publicou um ótimo paper The Yara seems that PRO published a great paper
- b. Parece que a Yara publicou um ótimo paper Seems that the Yara published a great paper "It seems Yara published a great paper."

4.5.2 pro-drop or PRO?

A second empirical challenge concerns *pro*. The issue surfaces in light of the argument built in the previous section together with the fact BP is a partial *pro*-drop language (Barbosa et al. 2005; Barbosa 2019; Ferreira 2009, 2010; Holmberg 2005; Kato and Negrão 2000; Rodrigues 2002, 2004, among many others).

To start, recall that I proposed a HR verb like "seem" may select three different types of complements in BP: raising non-finite complements, controlled finite complements and uncontrolled finite complements. These complement types are illustrated below, with their respective T/Agr/R specifications:

- (182) Possible complements of "seem" in BP
 - a. O gato_i parece t_i ter fugido The cat seems have.INF escape.PST.PART "The cat seems to have escaped"

 \Rightarrow Non-finite raising complement, unspecified for T/Agr

 $\pmb{\mathsf{X}}\mathsf{PRO},\,\pmb{\mathsf{X}}\mathsf{R}\text{-expression/pronoun},\,\pmb{\checkmark}\mathsf{Movement}$

b. O gato_i parece que PRO_i fugiu The cat seems that PRO escape.3SG.PST "It seems the cat escaped"

 \Rightarrow Finite controlled complement, [+Agr, -T, -R]

 $\checkmark \mathrm{PRO}, \, \bigstar \mathrm{R-expression/pronoun}, \, \bigstar \mathrm{Movement}$

c. Parece que o gato fugiu Seems that the cat escape.3SG.PST "It seems the cat escaped"

 \Rightarrow Finite uncontrolled complement, [+Agr, +T, +R]

X PRO, I R-expression/pronoun, X Movement

d. O gato parece que ele fugiu The cat seems that he escape.3SG.PST "It seems the cat escaped."

 \Rightarrow Finite uncontrolled complement, [+Agr, +T, +R]

 $\bigstar \mathrm{PRO}, \checkmark \mathrm{R}\text{-expression}, \bigstar \mathrm{Movement}$

Consider, also, that BP allows pro-drop robustly in embedded environments, e.g., (183):

(183) A Ana_i acha que *pro*_i será a vencedora The Ana thinks that *pro* will.3SG.FUT the winner.FEM "Ana thinks that (she) will be the winner."

In light of (183), a problem surfaces for the analysis of HR proposed in this chapter: if

pro is available in embedded clauses in BP, and "seem" may select uncontrolled finite clauses - like the one in (183)- how come do we never see "seem" selecting an uncontrolled complement with pro? Moreover, answering this question requires proving the gap in a sentence like (182-a) is necessarily PRO, but not pro. Likewise, we need an explanation to why pro is banned from sentences like (183-c), the baseline expletive construction:

(184) ??Parece que *pro* fugiu Seems that *pro* escape.3SG.PST "It seems that (someone) escaped."

In this context, we have three questions to address:

- (185) The *pro*-drop issue
 - a. Why is *pro*-drop banned from the expletive baseline?
 - b. What evidence supports the hypothesis that the gap in HR complements is necessarily PRO?
 - c. Why is *pro*-drop illicit in finite and uncontrolled complements of "seem"?

In this section, I discuss the three questions in (185) and provide answers to (a) and (b).

Starting with (185-a): why is *pro*-drop banned in the finite and uncontrolled complement of the expletive baseline, e.g., (184)? The answer is straightforward: we can independently rule out (185) based on existing analyses of *pro*-drop in BP. As extensively shown in the literature (Barbosa et al., 2005; Barbosa, 2019; Ferreira, 2009, 2010; Kato et al., 2015; Kato and Negrão, 2000; Modesto, 2007; Rodrigues, 2002, 2004), *pro*-drop in BP is subject to two notable syntactic restrictions: i) *pro* is restricted to embedded environments and ii) there must an overt DP at the higher clause that is co-indexed with *pro*.

In (185), pro sits in an embedded clause, but no overt antecedent DP is available for

co-indexation; hence (185) is ruled out.¹⁷

The question in (185-b) requires more discussion. Notice that the conditions for prodrop are present in (186-a,b), but if the lexical pronoun is absent, as in (186-b), we predict the complement to be controlled, e.g., we have PRO, but not *pro*.

- (186) a. O gato parece que ele fugiu The cat seems that he escape.3SG.PST "It seems that the cat escaped."
 - b. O gato parece que PRO fugiu The cat seems that PRO escape.3SG.PST "It seems that the cat escaped."

Under the proposal in this chapter, the complement of (186-a) is an uncontrolled nonfinite complement, e.g., a [+T, +Agr, +R] complement that *should* license *pro*. If that were the case, sentences like (186-b) would be ambiguous between control and *pro*-drop, a less-than-desirable state of affairs for the control analysis of HR.

Nonetheless, it is possible to show that the gap in sentences like (186-b) is unambiguously PRO. The relevant diagnostics stem from the Obligatory Control (OC) signature, discussed in Chapter 2 and repeated in (187):

- (187) The OC signature (Landau, 2013)
 In a control construction [... X_i... [S PRO_i...]...], where X controls the PRO subject of the clause S:
 - a. The controller(s) X must be (a) co-dependent(s) of S.
 - b. PRO (or part of it) must be interpreted as a bound variable.

The OC signature is detectable through several diagnostics. Recall that in Chapter 2,

 $^{^{17}}$ The precise reasons for *why pro*-drop is constrained in such a manner are well beyond the scope of this thesis, for a recent account, see Barbosa (2019).

I used two diagnostics to test HR for the OC signature: i) the possibility of non-local co-indexation with the embedded gap and ii) the constraint on possible readings of the gap under VP ellipsis. Crucially, *pro*-drop in BP contrasts with HR in both diagnostics. The former diagnostic targets the *co-dependency* relation between the clause where PRO surfaces and the clause where the controller surfaces; the latter targets the obligatory bound variable interpretation.

First, notice that *pro*-drop in BP allows non-local referents, in contrast to control and to HR:

(188) pro may be co-indexed with a non-local DP

O Pedro_i pensava que a Joana disse que pro_i era o culpado_i The Pedro thought that the Joana said that pro was the guilty.MASC "Pedro thought that Joana said that (he) was guilty."

In (188), *pro* may be co-indexed with a DP in a non-local clause, e.g., there is no argumental relation between the clause where *pro* surfaces and the clause where its referent surfaces. Notice that whenever we have a HR verb selecting a complement containing a gap, non-local co-indexation of the gap is impossible:

(189) *O Pedro_i parece que a Joana_j disse que __i comprou um carro The Pedro seems that the Joana said that __ bought a car "It seems Joana said Pedro bought a car."

Likewise, pro-drop, unlike control, allows both sloppy and strict readings under ellipsis:

(190) *pro*-drop allows sloppy and strict readings

O Pedro_i pensava que pro_i era feliz, e a Joana também [VP The Pedro thought that pro was happy and the Joana also pensava que $pro_{i/j}$ era feliz] thought that pro was happy "Pedro thought he was happy and Joanna did too."

Example (190) shows that *pro* may be interpreted as referring to both "Pedro", the strict reading ("Pedro thought that he was happy and Joana also thought that he was happy"), and to "Joana" ("Pedro thought that he was happy and Joana also thought that she was happy."). Unlike *pro*, the gap in HR configurations enforces sloppy readings, as shown in Chapter 2, the relevant example repeated in (191):

(191) Ao João, o Pedro_i parece que __i está triste, e a/*à Maria_j To-the João, the Pedro seems that __ is sad, and the/to-the Maria também [$_{\Psi P}$ parece que __*_{i/j} is sad] also seems that __ is sad "To João, Pedro seems to be sad and Maria does too."

Thus, we have evidence that whenever we observe a gap in the finite complement of "seem", this gap displays the OC signature. By extension, we have evidence supporting the hypothesis that the gap is PRO, and not *pro*, e.g., we answer question (b) in (185). Under the proposal at hand, the fact that the gap in (191) is PRO and not *pro* is accounted for through the T/Agr specification of the complement, e.g., the complement in (191) is [+Agr, -T, -R] and licenses PRO.

Having answered (185)(a,b), some discussion on (185)(c) is in order. Namely, it remains unclear why *uncontrolled and finite* complements of "seem" cannot license *pro*. Or, in other words, why is the lexical pronoun in (192-a) obligatorily overt?

- (192) a. O gato parece que ele fugiu The cat seems that he cat escape.3SG.PST "It seems that the cat escaped."
 - b. O gato parece que PRO fugiu The cat seems that PRO escape.3SG.PST "It seems that the cat escaped."

Interestingly, "seem" is not the only control verb that i) may select uncontrolled com-

plements and ii) disallows *pro*-drop in uncontrolled and finite complements. A subset of Obligatory Control (OC) verbs in BP behaves similarly. To start, OC verbs like "want" and "desire" may select both non-finite controlled complements and finite uncontrolled complements, as shown in (193):

- (193) Non-finite control verbs that can select finite uncontrolled complements
 - a. Eu_i quero [PRO_i jogar futebol] I want PRO play.INF soccer "I want to play soccer."

 \Rightarrow Complement is [-Agr, -T, -R]

b. Eu quero [que eu seja o goleiro na próxima I want that I be.1SG.FUT.COND the goalkeeper at-the next partida] match
"I want to be the goalkeeper next match."

 \Rightarrow Complement is [+Agr, +T, +R]

c. Eu_i desejo PRO_i ganhar na loteria I wish PRO win.INF at-the lottery "I wish to win the lottery."

 \Rightarrow Complement is [-Agr, -T, -R]

d. Eu desejo que eu ganhe na loteria I wish that I win.1SG.FUT.COND at-the lottery "I wish that I win the lottery"

 \Rightarrow Complement is [+Agr, +T, +R]

In (193-a), "want" selects a non-finite controlled complement. In contrast, in (193-b), the complement is finite.¹⁸ Moreover, the complement in (193-b) is uncontrolled since it licenses lexical pronouns. Likewise, even though the subject of the complement in (193) is co-indexed with the subject of the matrix verb, this is not the only possible

 $^{^{18}{\}rm Specifically},$ the verb in this example is inflected for a finite future form with conditional mood.

indexing configuration, e.g., the subject of (193-b) is free and not a bound a variable for the purposes of interpretation:

(194)	a.	Eu _i quero [que ele _j seja	0	goleiro	na			
		I want that he be.3SG.FUT.COND) the	e goalkeeper.MASC	at-the			
		próxima partida]						
		next match						
		"I want him to be the goalkeeper next match."						
	b.	Jonas _i quer [que ela _k seja	ć	a goleira	na			
		I want that she be.3SG.FUT.CO	ND t	the goalkeeper.FEN	1 at-the			
		próxima partida						
		next match						

"Jonas wants her to be the golakeeper next match."

Crucially, whenever a non-finite control verb selects a finite uncontrolled complement, *pro*-drop is illicit:

(195) Control verb disallows *pro*-drop in uncontrolled complement

- a. *Eu_i quero [que $pro_{i/j}$ seja o goleiro na próxima I want that pro be.1SG.FUT.COND the goalkeeper at-the next partida] match "I want to be the goalkeeper next match."
- b. *Eu desejo que pro_i ganhe na loteria I wish that I win.1SG.FUT.COND at-the lottery "I wish that I win the lottery"

In (195) we observe that whenever the finite complement of an OC control verb is uncontrolled, *pro*-drop is banned. From the data in (195), we can state a novel descriptive generalization relating *pro*-drop and OC verbs in BP, as in (196):

(196) Obligatory control verbs disallow *pro*-drop

In BP, *pro* is banned in the complements of OC verbs, finite or non-finite, controlled or uncontrolled.

The generalization in (196) may prove too strong. For one, for (196) to hold, we require a more extensive data collection effort to test a wider range of OC verbs in BP, a matter I leave for future work.

Nonetheless, (196) adequately describes the relevant HR data and the data in (196). Under the current proposal, "seem" is an OC verb in BP; therefore, (196) predicts that the complement of "seem" should disallow *pro*-drop, even if said complement is uncontrolled and finite. This prediction is confirmed by the fact that whenever the finite complement of "seem" displays a gap in subject position, the gap displays the OC signature, e.g., it has the expected properties of PRO and not *pro*.

While the generalization in (196) allows for a description of the *pro* versus PRO problem, it does not provide any principled explanation as to why these two empty categories would be in a complementary distribution in the finite uncontrolled complement of OC verbs. In non-finite contexts, the picture is more straightforward: *pro* is disallowed in nonfinite complements because these complements cannot license *pro*, e.g., they are specified as [-Agr] and assigned [-R], but *pro* is a referentially independent element, [+R]. In finite uncontrolled contexts, the picture is different since we have no clausal property that motivates ruling out *pro*-drop.

The issue raised by *pro*-drop is non-trivial because it requires a principled way to distinguish two covert elements, PRO and *pro*. In the case of the relevant HR data, the fact "seem" selects complements where we expect to see PRO *and pro* adds a second layer of complexity to the problem. I leave the problem of explaining the generalization in (195) for future research.

4.5.3 Idioms

Idioms present a more significant challenge that the control analysis cannot address straightforwardly. However, as discussed in Chapter 2, A-movement analyses fare no better in that regard - BP idioms are not uniform in their behaviour regarding raising/control. To repeat the data from Chapter 2, some idioms in BP are compatible with a subset of control verbs:

(197) Control and idioms

- a. A casa caiuThe house felt"A bad thing happenned/ Things went bad"
- b. Vish, a casa_i está prometendo PRO_i cair
 Oh, the house is promising PRO fall.INF
 "Uh-oh, things will probably go south." Idiom reading ✓
- c. Olha, a casa_i quis muito PRO_i cair, mas no fim deu Look, the house wanted very PRO fall.INF, but in-the end give tudo certo everything right "Look, things almost went south, but everything was fine in the end." Idiom reading √.

In light of (197), I suggest that the instance of athematic control attested in HR in BP may surface with other control verbs, like "promise" and "want" in (197). If that idea holds, the fact idiomatic interpretations are preserved in (197-b-c) is predicted by the proposal in this chapter: if the control verbs in (197-b-c) are athematic, the thematic relations of the original idiomatic expression are maintained intact, hence the idiomatic interpretation remains available.

4.6 Concluding remarks

This chapter presented a control analysis of HR. I first motivated the idea that HR complements are controlled through tests on semantic tense. I adopted the typology of complement clauses proposed by the Agreement Model of Control (AMC) (Landau, 2000, 2004, 2006, 2008) and showed HR complements display the expected properties of a controlled complement. Specifically, the complement clause of a HR construction systematically displays anaphoric tense.

Having shown how HR complements license PRO, I moved on to demonstrate an implementation of the AMC in the context of HR in BP. In line with the AMC, I argued the control relation in HR is enabled by long distance agree between a matrix head (Infl) and PRO. Since HR allows both exhaustive and non-identity interpretations of the embedded gap, I assumed, in line with the AMC framework, that agree in HR may target either embedded C or PRO. I abstracted away from formalizing the triggering feature for agree in control, and postulated a generic feature [F] is present on matrix Infl and C, and that PRO's [-iR] feature triggers agree with [F] on C, and Infl and C agree through [F].

The AMC implementation presented addresses the main empirical concern of this thesis, that is, the unexpected syntactic and semantic control properties of HR in BP. Likewise, the proposal at hand independently predicts well-attested syntactic generalizations on HR present in the literature (islands, binding).

I then discussed the advantages of my proposal and addressed some empirical issues. I addressed two empirical issues related to i) the fact HR verbs in BP license lexical subjects and ii) to *pro*-drop. Finally, I argued that the model pursued is readily extendable to two other cross-clausal dependencies in BP, modal-be constructions and Clause Modified Adjectives.

The final picture that emerges from this chapter is as follows. HR in BP is athematic finite control. Control, in turn, is a dependency created through agree between matrix Infl and PRO. In the case of HR, this agree relation is mediated via-C.

HR differs from other well-attested instances of control in two significant properties. First, HR involves control into finite complements that are morphologically identical to uncontrolled complements but semantically distinct. Unlike finite uncontrolled complements, HR complements obligatorily display anaphoric tense. Second, HR necessarily involves matrix predicates introduced by athematic verbs, e.g., verbs whose argument structure disallows a thematic interpretation of the subject ("seem", "end up"). The athematic property of HR is notably shared across the other two cross-clausal dependencies investigated in this chapter, modal-be constructions and CMAs. While CMAs are unlike HR and modal-be constructions in that CMAs involve non-finite complements, it is possible to state a generalization on finite control in BP in light of the data discussed in this chapter. In this context, I tentatively propose the following generalization on finite control in BP:

(198) Finite control in Brazilian Portuguese

In Brazilian Portuguese, control into finite clauses requires a complement clause displaying anaphoric tense and an athematic matrix predicate.

While anaphoric tense is a pivotal component of the proposal in this chapter, the athematic nature of finite control in BP remains an open problem. I partially addressed this problem by proposing athematic control in BP involves matrix verbal heads selecting a Relator Phrase (Den Dikken, 2006) that estabilishes a predication relation between the matrix DP and the predicate denoted by the complement clause.

Apart from presenting a principled account of HR, this chapter's proposal sheds light on the inventory and distribution of complement clauses in BP. If the proposal in this chapter is on the right track, controlled clauses in BP surface in one of 4 types that differ in their finiteness, tense and agreement properties. The distribution is summarized in

Table	4.7	•
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	Finiteness	Tense	Agreement
HR	Finite	-T	+ Agr
CMAs	Non-finite	-T, +T	+ Agr
Modal-be	Finite, non-finite	-T	-Agr, +Agr
Non-finite control	Non-finite	-T, +T	-Agr
No control	Finite	+T	+ Agr
Raising, ECM	Non-finite	$\emptyset, \pm T$	$\emptyset, \pm Agr$

Table 4.7: Distribution of complement clauses in BP

In conclusion, this chapter addresses the main inquiry of this thesis by providing a syntactic account of HR. This syntactic account is an implementation of the Agree Model of Control. Unlike previous analyses, the proposal in this chapter accounts for HR's control properties *and* HR's more well-known properties (islands, binding). Moreover, the control analysis in this chapter is readily extendable to two other cross-clausal dependencies in BP, CMAs and modal-be constructions. These dependencies that display striking similarities with HR, which suggests that finite/athematic control in BP is a broader pattern and not an exceptional instance of control restricted to HR.
Chapter 5

Final remarks

This chapter summarizes the key contributions of this thesis, together with an overview of the questions left open and theoretical implications.

The first contribution of this thesis is empirical. I have brought forth a new set of data on HR in BP that shows HR displays surprising properties in light of widely assumed generalizations present in the literature. Specifically, I have shown that HR displays signature properties of a control dependency. These properties, summarized in Table 5.1, are unexpected given the existing literature on HR and, in most cases, they contradict existing analyses.

	Hyper-raising	Control	A-movement
Island sensitive	✓	✓/X	✓
Maintains idioms	\checkmark	✓/×	\checkmark
Matrix DP A-binds	\checkmark	\checkmark	\checkmark
Reconstructs scope	X	X	\checkmark
Obviates WCOs	X	X	\checkmark
Embedding under control	\checkmark	\checkmark	X
Split control	\checkmark	\checkmark	X

Table 5.1: Core syntactic and semantic properties of HR

Providing a principled syntactic proposal that accounts for HR's control properties has been the central goal of this thesis. The proposal I argued for is one where HR is a control relation between a base-generated DP and base-generated PRO, enabled by long-distance agree, illustrated in (199).

(199) Hyper-raising under control



A second empirical contribution of this thesis is bringing two puzzling constructions in BP into light: modal-be constructions and clause modified adjectives (CMAs). Both constructions display significant parallelisms with HR and are discussed in Chapter 4, where I argue their underlying mechanism is the same behind HR in BP, e.g., we have instances of athematic and finite - in the case of HR and modal-be - control.

In sum, this thesis has contributed to the inquiry of HR in BP by presenting a new set of data that poses an empirical gap. I addressed this empirical gap through a control analysis. This analysis may be falsified in the future, but the data remains relevant and valuable for further research on HR cross-linguistically. Additionally, this thesis has shed light on two other puzzling cross-clausal dependencies in BP, modal-be constructions and CMAs, which display striking similarities with HR and suggest a unified underlying mechanism. Hopefully, the data on CMAs and modal-be constructions presented in this thesis may pave the way for future research on these constructions and the potential underlying language properties behind them.

Apart from providing novel data on HR and similar constructions, this thesis adds some notable insights into the theoretical understanding of control.

In the broader context of the syntactic inquiry of control, this thesis offers three basic insights. One, control may extend to athematic matrix predicates, as shown by the data in three different constructions in BP, extensively discussed in Chapter 4. Two, the ties between finiteness, semantic tense and morphological agreement are a matter of crosslinguistic variation, which further adds to the reported inventory of complement clauses attested crosslinguistically. Two, the distribution of controlled complements must include *finite* complements lacking semantic tense but displaying morphological agreement, e.g., [+Agr, -T] complements within the AMC framework. Likewise, finite control in BP emerges in the context of two different matrix predicates: raising verbs and a modalized existential "be". These two instances of finite control are illustrated below in (200).

- (200) Finite control in Brazilian Portuguese
 - a. Parece [CP que <u>a</u> <u>Julia</u> escreveu um livro] Seems [CP that the Julia write.PST a book]
 - b. <u>A</u> <u>Julia</u> parece [CP que PRO_i escreveu_i um livro] The Julia seems [CP that PRO write.PST a book] "It seems that Julia wrote a book."
 - c. Pode ser que o gato fugiu May be that the cat escaped

d. O gato_i pode ser que PRO_i fugiu The cat may be that PRO escaped "The cat may have escaped."

Together with a new inventory of possible finite control configurations in BP, the analysis I argued for allows us to sketch a distribution of the possible clausal complements available in BP, summarized in Table (200).

	Finiteness	Tense	Agreement
HR	Finite	-T	+ Agr
CMAs	Non-finite	-T, +T	+ Agr
Modal-be	Finite, non-finite	-T	-Agr, +Agr
Non-finite control	Non-finite	-T, +T	-Agr
No control	Finite	+T	+ Agr
Raising, ECM	Non-finite	Ø, ±T	Ø, ±Agr

Table 5.2: Distribution of complement clauses in BP

This distribution adds to the cross-linguistic understanding of HR in the sense that it allows us to distinguish between a language that allows athematic control and finite control from a language that doesn't in terms of the selective properties of control verbs. In a language like BP, an athematic control verb may select finite complements where Infl displays anaphoric tense, which in turn licenses PRO. Conversely, in a language like English, finite complements are consistently uncontrolled, e.g., they display Infl specified for semantic tense and morphological agreement. The contrast between English in BP is summarized in Table 5.3:

	Finite	Non-finite
+T, $+Agr$	English, BP	X
+T, -Agr	X	English
-T, $+Agr$	BP	X
+T, -Agr	X	English, BP

Table 5.3: Possible complement clauses in English versus BP

Apart from these basic syntactic insights, the proposal in this thesis points to some reformulation of the semantic generalization on raising versus control verbs. Namely, if the proposal in this thesis is on the right track, HR presents a data set where an athematic verb surfaces in a control construction, contra the general assumption that control predicates are necessarily thematic. I have discussed this problem in Chapter 2 and addressed it in Chapter 4 by stipulating that "seem" (and other HR verbs in BP) selects a Relator Phrase (RP) that establishes a predication relation between the matrix DP and the lower predicate (Den Dikken, 2006; Moulton, 2015). In other words, this thesis suggests that control constructions may surface with athematic verbs like "seem" via predication. Furthermore, I also brought attention to the fact that both CMAs and modal-be constructions *also* surface with athematic matrix predicates: modals, existential "be" and copular "be". If the proposal in this thesis on the right track, modal-be constructions and CMAs may provide further evidence that athematic control enabled by predication is a broader phenomena in BP.

To conclude, this thesis presents and addresses an empirical gap. In addressing this gap, this thesis contributes to the understanding of HR by proposing a novel control analysis. Likewise, the proposal argued for in this thesis sheds light on the broader understanding of control and its relation to raising. While Brazilian Portuguese data has been the sole focus of investigation, the proposal advanced in this thesis is readily extendable cross-linguistically: if HR in a given language passes the relevant control diagnostics summarized in Table 5.1, it follows HR is likely finite control in this language. In other words, the theoretical proposal advanced in this thesis is readily straightforward syntactic and semantic diagnostics. Independent of whether the analysis therein is proven adequate or entirely misguided, it is my hope that future work on HR builds upon the insights in this thesis to shed further light on the inquiry of cross-clausal dependencies.

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