Second Language Competence
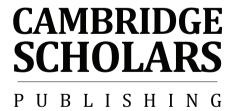
Second Language Competence:
The Acquisition of Complex Syntax in Spanish

By

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P U B L I S H I N G

To family and friends

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INTRODUCTION

This volume addresses the question of the nature of language transfer in second language acquisition[1]. By analysing the process of acquisition of complex syntax by non-native learners of Spanish, it seeks to establish what kind of knowledge is transferred from the native language and what changes occur as learners become more proficient. It focuses on a particular class of grammatical constructions which typically contain infinitival clauses that complement the main verb: Control, Raising and Exceptional Case Marking structures. It presents acquisition data obtained by means of different experimental methods from adult learners of Spanish with English as their first language. By looking at language transfer phenomena, it deals with the development of linguistic competence in second language acquisition and degree of convergence between the non-native (or interlanguage) and native (or target) grammars.

From a syntactic perspective, a complex sentence is made up of two or more simple sentences, also known as clauses. This combination may take place by means of two recursive mechanisms: coordination and subordination (or sentence embedding). Subordinate or embedded clauses are characterized by being dependent on the so-called main clause. In isolation, embedded sentences are ungrammatical, as shown in (1b) as opposed to (1a) (ungrammatical constructions are marked with an asterisk).

(1a) [John says [that he wants beer]]

(1b) *[That he wants beer]

This study focuses on so-called verbal complements, that is, embedded clauses that are subcategorized by the main verb. Verbal complements are further subdivided according to the inflection of the embedded verb into finite and non-finite complements, as shown in (2) and (3).

(2) John told me [$_{CP}$ that he was sick]

(3) John hopes [$_{TP}$ to get better soon]

The embedded clause in (2) is analysed as a Complementizer Phrase (CP), headed by a functional category called a complementizer (*that*) which serves as a nexus between both clauses. The embedded clause in (3) is analysed as a Tense Phrase (TP) headed by the non-finite (or infinitival) verb. When main verbs combine with infinitival clauses, they give rise to different syntactic configurations. This study focuses on four such configurations, shown in (4) to (7).

(4a) Mary decided to call John.

(4b) Mary forced John to decide.

(5) Mary seems to be happy.

(6) Mary considers John to be intelligent.

(7) Veo al jardinero regar las plantas.
     "I see the gardener watering the plants."

Examples (4a) and (4b) appear in so-called Control configurations, example (5) appears in a Raising to Subject configuration, example (6) appears in a Raising to Object configuration and example (7) appears in an Exceptional Case Marking configuration.

These constructions constitute an interesting research topic for different reasons. From a syntactic perspective, there is interaction between the semantic and thematic properties of the main verb, and the type of syntactic configuration in which the infinitival clause appears. This has consequences not only for the distribution of infinitival clauses (i.e., the syntactic positions in which they appear) but also for their interpretation (i.e., the choice of antecedent for the infinitival clause). More specifically, infinitives do not allow overt subjects, as opposed to finite verbs. Therefore, they may enter into a relation of referential dependence with a sentence-external or sentence-internal referent. Infinitival clauses in the configurations above are referentially dependent on an argument in the main clause. For example, [*to call John*] in (4a) is coindexed with the main subject *Mary* (*Mary* decides and *Mary* calls John). In this case, the interpretation of the infinitival clause is straightforward, since there is no other possible referent in the main clause. In contrast, there are two possible referents in (4b), the main subject *Mary* and the main object *John*. Syntacticians try to account for the interpretation of infinitival clauses in Control, Raising and Exceptional Case Marking structures in terms of

syntactic operations, whereas semanticians maintain a bigger role for semantic factors across the board.

Syntactic studies have dealt extensively with Control, Raising or Exceptional Case Marking structures from a theoretical perspective. Acquisition studies have looked at the development of infinitival clauses as verbal complements (order of acquisition)[2], but have not focused specifically on these constructions. That said, certain Control phenomena have been researched and described as late-learned rules, that is, grammatical phenomena for which adult native speaker ability is not attained by children until they are six or older (Goodluck and Birch 1987). Late-learned rules are important for language acquisition with regard to computational and processing complexity, and researchers in the field have tried to establish the characteristics of late-learned rules that slow down the acquisition of Control structures compared to other types of complex sentences. The majority of the data is naturalistic, although there are a number of experimental studies which deal with late-learned Control phenomena. The data usually come from child native (L1) learners of English, although there are a limited number of studies dealing with non-native (L2) learners of English with different native languages.

The specific focus of the study presented here is the acquisition of infinitival clauses in Control, Raising and Exceptional Case Marking structures by L2 learners of Spanish, in order to address the following research questions. On the one hand, what kind of L1 knowledge gets transferred to the L2? L1 transfer will be looked at as a measure of the development of the interlanguage grammar, since it is assumed that more proficient learners will transfer less as they adopt the syntactic representations that are appropriate for the target grammar. On the other hand, how much convergence is there between interlanguage and native grammars? And a related question: can there be convergence between these grammars? Adult learners have already adopted the representations of their L1 by the time they begin learning the L2. Presumably, these representations can be accessed through the L1. The framework for the study is the Generative theory of language acquisition, which crucially assumes that the language faculty underlies both L1 and L2 acquisition, even though native and interlanguage grammars differ with regard to the development of the properties of the L1 and the L2. This study also provides a contrastive analysis of Spanish and English infinitival complementation from the perspective of the latest trends of Generative theory, as well as evidence from the acquisition data that showcases the different properties of Control, Raising and Exceptional Case Marking in these languages. Unlike many previous acquisition studies, it does not focus on constructions

belonging to the same parameter[3]. Control, Raising and Exceptional Case Marking structures superficially appear to be identical, but the underlying syntactic configurations are very different. As a result, properties related to the distribution and interpretation of infinitival clauses also differ across these constructions, as mentioned earlier. This study applies developmental mechanisms such as the Subset/Superset principle[4] to the learnability hypotheses concerning these properties, as well as other proposals such as the Competing Grammars Hypothesis for L2 acquisition, which focuses on the similarities between acquisition and diachronic change.

In summary, the present study investigates the acquisition of infinitival clauses in Control, Raising and Exceptional Case Marking structures by adult L2 learners of Spanish (L1 English). It looks at the effects of L1 transfer and level of language proficiency in the distribution and interpretation of these clauses by means of two types of behavioural experiments: a self-paced (offline) grammaticality judgment task and a time-paced (online) forced choice task.

Chapter One presents a contrastive analysis of infinitival clauses in Control, Raising and Exceptional Case Marking structures in English and Spanish. It focuses on a number of properties that have been studied in the Generative literature, from the earliest work (Chomsky 1965; Chomsky 1973; Chomsky and Lasnik 1977) to the latest tendencies (Chomsky 1981, 1982, 1995, 2001). These properties concern the distribution and interpretation of infinitival clauses, that is, (a) the syntactic positions in which they appear in Control, Raising and Exceptional Case Marking structures, and (b) the choice of antecedent for the infinitival clause in these structures.

Chapter Two presents previous literature on the acquisition of Control, Raising and Exceptional Case Marking structures within the Generative framework, with the aim of providing the backdrop for the learnability hypotheses and the predictions for the acquisition of Control, Raising and Exceptional Case Marking in Spanish as an L2. This literature is presented in the context of past and present L2 acquisition theories, which address the issues of non-native competence and convergence between native and interlanguage grammars, and aim to predict which areas of language are more likely to show linguistic transfer.

Chapter Three presents the experimental study derived from the learnability hypotheses for the acquisition of Control, Raising and Exceptional Case Marking, which are based on the Competing Grammars Hypothesis for L2 acquisition (Zobl and Liceras 2004) and markedness in terms of subset/superset relationships between grammatical features across

English and Spanish. The two experimental tasks by which the L2 data was collected (the grammaticality judgment task and the forced choice task) deal with the distribution and interpretation of infinitival clauses in these syntactic configurations. The data analysis will indicate whether there are competing representations in the interlanguage grammar where Spanish and English differ (effect of the L1), and to what extent this competition persists over time (effect of the level of language proficiency). General conclusions derived from the data analysis are presented after this chapter, as well as several issues concerning the acquisition of complex structures.

Notes

[1] Bilingual acquisition includes simultaneous and sequential bilingualism. Meisel (2001), and Butler and Hakuta (2004) define simultaneous bilingualism as the acquisition of two native languages (L1+L1) from birth and in a natural context. It is also known as L1 bilingualism (De Houwer 1990, 1995, 1998; Genesee 2001, Lanza 1993, Meisel 1989, 2001; Swain 1972). Sequential bilingualism is defined as the acquisition of a native language (L1), followed by the acquisition of a non-native language (L2) , mostly but not necessarily in an institutional context. Sequential bilingualism has also been termed consecutive or successive bilingualism (Albrecht 2004; McLaughlin 1978; Lindholm and Padilla 1978). Sequential bilingual learners can be children or adults. The present study deals with adult sequential bilinguals, which will be termed non-native or L2 learners, as opposed to native or L1 speakers.

[2] The development of the ability to produce and understand complex sentences (including finite and non-finite complements) by child learners has been considered to be one of the most interesting and important aspects of language acquisition, as a distinctive trait of human languages (Limber 1973).

[3] As observed in Ayoun (2005), parameters "(...) represent the range of variation that can be found in natural languages (...)" (71), they subsume "(...) a cluster of phonological, syntactic, lexical, or morphological properties or structures governed by an abstract principle (...)" and they are "(...) traditionally assumed to be binary in that they have two (mutually exclusive) values or settings. (...)" (72). For instance, the pro-drop or null subject parameter (Belletti 1982; Chomsky 1981; Jaeggli 1982; Jaeggli and Safir 1989; Perlmutter 1971; Rizzi 1982) distinguishes languages according to whether they allow null subjects in finite clauses or not (e.g., **we** *go to the movies every weekend* in English as opposed to **Ø** *vamos al cine todos los fines de semana* in Spanish), and according to other related syntactic and morphological properties, such as subject-verb inversion (*Ha llamado **tu hermana*** vs. **Called your **sister***), *that*– trace sequences (*¿**Quién** crees que ha llamado?* vs. **Who do you think that called?*), and pleonastic pronouns (**Ø** *Está lloviendo* vs. ***It** is raining*).

[4] The Subset/Superset principle (Berwick 1985) was originally developed to define the relationship between the options of a parameter. According to this principle, where the language defined by one parametric option forms a subset of a language defined by another parametric option, children should initially entertain the narrowest hypothesis to account for the input data, and should only extend their grammars on the basis of evidence that cannot be accounted for.

CHAPTER ONE

A CROSS-LINGUISTIC ACCOUNT OF CONTROL, RAISING AND EXCEPTIONAL CASE MARKING

This chapter presents a contrastive analysis of infinitival clauses in Control, Raising and Exceptional Case Marking structures in English and Spanish. It focuses on a number of properties that have been studied in the Generative literature, from Standard Theory (Chomsky 1965; Chomsky 1973; Chomsky and Lasnik 1977) to the Theory of Principles and Parameters (Chomsky 1981; Chomsky 1982) and the Minimalist Program (Chomsky 1995, 2001). These properties concern the distribution and interpretation of infinitival clauses, that is, (a) the syntactic positions in which they appear in Control, Raising and Exceptional Case Marking structures, and (b) the choice of antecedent for the infinitival clause in these structures.

1.1. Control and Raising Structures in Generative Syntax

To quote Davies and Dubinsky, "(...). Raising and Control are among a handful of syntactic phenomena (including anaphora and question formation) which have been central concerns of generative syntax since the 1960s (...)." (vii)[1]. As explained previously, these syntactic phenomena are manifested in (but are not limited to) complex structures where the main verb is complemented by an embedded infinitival clause, as shown in (8) and (9).

(8a) John tried [to understand the article]
(8b) John persuaded the doctor [to examine Mary]

(9a) John seemed [to understand the article]
(9b) John believed the doctor [to have examined Mary]

On the surface, the constructions in (8a) and (9a) are practically identical: both contain an intransitive main clause followed by an infinitival clause. Likewise, the constructions in (8b) and (9b) both contain a transitive main clause followed by an infinitival clause. The difference is that the main subject (*John*) in (9a) is semantically linked only to the embedded verb (*understand*), whereas in (8a) it is semantically linked to both the main verb (*try*) and the embedded verb. In (9b), the main object (*the doctor*) is linked only to the embedded verb (*examine*), whereas in (8b) it is linked to both the main verb (*persuade*) and the embedded verb.

In the Generative literature, the constructions in (8) are referred to as Control structures (Subject Control in the case of [8a], Object Control in the case of [8b])[2]. The constructions of (9) are referred to as Raising structures (Raising to Subject in [9a], Raising to Object in [9b]). Whether a given construction is Control or Raising depends on the lexical properties of the main verb. These constructions are attested in many languages other than English, among them Spanish as shown in (10) and (11).

(10a) María decidió [llamar a Juan]
     "Mary decided [to call John]"

(10b) María obligó a Juan a [tomar una decisión]
     "Mary forced John [to make a decision]"

(11) María parece [estar contenta]
     "Mary seems [to be happy]"

Both the infinitive and the gerund are non-finite forms that can combine with finite verbs, but only the infinitive can appear in complex or bi-clausal structures. Gerunds appear in so-called periphrastic constructions, that is, structures where two verbs constitute a single head of the verbal predicate (Gómez Torrego 1999)[3]. This means that periphrastic constructions are by definition mono-clausal, similarly to simple structures with a single verb. Since the topic of this research is the acquisition of complex structures, constructions with non-finite forms such as gerunds and participles, or infinitives that appear in mono-clausal structures (e.g., modal structures such as *you must go to school*) will not be discussed further in this volume.

The constructions in (8) to (11) differ in several ways, which have been used to make the case for distinguishing between Control and Raising. From a semantic point of view, Control and Raising structures are

distinguished by their thematic structures and selectional restrictions. In Control structures, an argument in the main clause is semantically linked to both the main verb and the embedded verb, as mentioned above. In the case of intransitive main clauses, the argument is the main subject. In the case of transitive main clauses, the main object[4]. In terms of thematic structure, the argument in the main clause receives a thematic role from both the main verb and the embedded verb (*John* is the agent of *try* and the experiencer of *understand* in [8a]; *the doctor* is the agent of *examine* and the theme of *persuade* in [9a]). In contrast, the main argument is semantically linked only to the embedded verb in Raising structures. Verbs such as *seem* do not assign thematic roles (*John* is the experiencer of *understand,* but receives no other thematic role in [8b]). Verbs such as *believe* assign two thematic roles, agent to its subject and theme to the clausal complement (*the doctor* is the agent of *examine* in [9b]), but no thematic role to the main object. Main verbs that appear in Control structures typically select animate subjects, since they assign the role of agent (*# the article tried to be interesting* is therefore semantically odd). This selectional restriction does not apply in the case of Raising structures, as main verbs that appear in these constructions assign no thematic role (*the article seems interesting*)[5].

From a syntactic point of view, Control and Raising structures show certain differences that are language specific, such as the use of the embedded passive or pleonastic subjects in English[6], the use of partitive clitics (*en*) in French (Ruwet 1991), or clitic climbing in Spanish (Luján 1980)[7]. Other differences, which are related to the distribution and interpretation of the infinitival clause are common to English and Spanish.

1.1.1. Control and Raising Structures in the Theory of Principles and Parameters

Together with gerunds and participles, infinitives are characteristically non-inflected (or non-finite) verbal forms (Chomsky 1970). In Spanish, an infinitive consists of a verbal root plus a thematic vowel (–*a*– or –*e*–) and an infinitival affix –*r*. Within the Government and Binding framework (Chomsky 1981), the non-finite verbal affix –*r* is analysed as the functional head of the inflection node in the derivation. The infinitival particle *to* in English is similarly analysed as a non-finite verbal form marker belonging to inflection[8]. The main difference is that Modern English has no bound infinitival morphology, as opposed to Spanish[9].

"Case Theory is the module of the grammar concerned with the distribution of NPs. (...)" within the Principles and Parameters framework

(Haegeman 1994, 193). It establishes the Case filter, which "(...) imposes a requirement on the licensing of NPs (...)" (Ibid., 193). The Case filter states that all phonetically realized (or overt) nominal elements must be assigned abstract case[10]. Noun Phrases (NPs) receive case under government or by specifier-head agreement. According to Chomsky (1981), functional categories such as Tense and Agreement, which are present in finite inflection (e.g., inflected verbal affixes in Spanish, auxiliaries in English) license overt NP subjects by assigning them nominative case. Non-finite inflection lacks Tense and Agreement, meaning that infinitives cannot assign nominative case and therefore do not license overt subjects *(*John be tired of commuting every day)*.

At the same time, the Extended Projection Principle, according to which all clauses must have subjects applies to both inflected (or finite) clauses and non-finite clauses. Therefore, lexically and phonetically null categories have been posited in the Generative literature as the subject of the infinitival clause, particularly after the introduction of Standard Theory (Chomsky 1973), as shown in (12) and (13).

(12) John$_i$ tried [$_S$Ø[$_S$PRO$_i$ to understand the article]]

(13) John seemed [$_S$$h$ to understand the article]

The category of the null subject is different in Control and Raising structures. In Raising structures such as (13), the NP *John* is generated in the embedded clause. Since the embedded verb is an infinitive, it cannot assign abstract case and therefore does not license overt subjects. In order to comply with the Case filter, the NP is forced to raise to the main clause, where it is assigned nominative case by the main verb. In addition to the Case filter, derivations have to comply with the Thematic Criterion[11], which links thematic roles with syntactic positions. The NP receives a thematic role (agent) from the embedded verb. Since verbs such as *seem* do not assign thematic roles, this derivation does not violate the Thematic Criterion. The NP leaves behind a trace (*h*) in the subject position of the embedded clause, thus complying with the Extended Projection Principle.

In Control structures such as (12), the NP has to be generated in the main clause. If it were to raise from the embedded clause, it would receive a thematic role from both the main verb and the embedded verb (agent), violating the Thematic Criterion. At the same time, this argument is semantically linked to both verbs. In order to reflect this semantic relationship and comply with the Thematic Criterion, a null pronominal (PRO) is posited as the subject of the infinitival clause. PRO fulfills the

Case filter (it does not require abstract case to be licensed in that position), the Extended Projection Principle, and the Thematic Criterion by receiving the thematic role from the embedded verb. The NP in the main clause is the controller or antecedent of PRO in the embedded clause, and thus the link is established in syntactic terms.

In constructions such as (14), the object NP in the main clause was initially proposed to raise from the embedded clause[12], similarly to the subject NP in (13). However, if the NP were to raise from the embedded clause, it would receive a thematic role from both the main verb (theme) and the embedded verb (agent), violating the Thematic Criterion. At the same time, the Case filter does not allow the presence of an overt NP in the subject position of the embedded clause.

(14) *John believed the doctor [$_S$h to have examined Mary]

Chomsky (1981) suggests that the NP remains in the embedded clause, but at the same time is assigned case by the main verb, as shown in (15). Since main verbs do not usually assign case to the subject of the embedded clause, these constructions are known as Exceptional Case Marking structures.

(15) John believed [**the doctor** to have examined Mary]

In English, some verbs (such as *want*, *prefer*, *like*, among others) may appear in structures with intransitive main clauses such as (16), or structures with transitive main clauses such as (17). With certain main verbs, the main object is preceded by the preposition *for* (e.g., *the company would prefer for him to retire early*). These constructions are called Optional Control structures. This refers to the ability of these main verbs to alternate in two different syntactic configurations (San Martín 2004), a Control configuration in the case of (16), and a non-Control configuration in the case of (17).

(16) John wants to retire early.

(17) The company wants him to retire early.

Chomsky (1981) proposes that the embedded clause contains a phonologically empty complementizer that can optionally license the overt NP (*him*) by assigning it accusative case. Since the embedded clause is non-finite, it is the prepositional complementizer *for*. This prepositional

complementizer is eliminated in the Phonological Form, giving rise to the configuration in (18)[13]. The rule allowing the elimination of the prepositional complementizer applies only to postverbal positions and certain complements (*for the children to run would be dangerous / *the children to run would be dangerous*).

(18) The company wants [$_S$Ø [$_S$him to retire early]]

In summary, Control and Raising structures contain a null category in the subject position of the embedded infinitival clause. In contrast, Exceptional Case Marking and Optional Control structures contain overt NPs, licensed either by the main verb or a complementizer.

Chomsky (1981) further distinguishes Control from Raising according to clause structure. As shown in (19) as opposed to (20), the infinitival subject is introduced by a null complementizer in Control structures, but not in Raising structures.

(19) Mary decided [$_{CP}$[$_C$Ø[$_{TP}$PRO[$_T$to] call John]]]

(20) [$_{TP}$Mary [$_T$[$_{VP}$[$_V$seems][$_{TP}$[$_T$to][$_{VP}$h[$_V$be] happy]]]]]

Stowell (1982) notes that infinitival clauses in these configurations show interpretative differences relating to tense and mood. More specifically, certain infinitival clauses may be understood as being unrealized with respect to the main clause. In Control structures such as (19), the event denoted by the infinitival clause (*call*) is not interpreted as necessarily taking place at the same time as the event denoted by the main clause (*decide*). In these cases, the tense/mood interpretation of the embedded clause would be similar to modal elements such as *should* or *would* in English, or the subjunctive in Spanish. In Raising structures such as (20), both events are interpreted as necessarily taking place at the same time (*seem* and *be happy*). Infinitival clauses in Control structures are thus said to denote *irrealis* mood, and infinitival clauses in Raising structures are said to denote *realis* mood. Stowell (1982) affirms that these interpretative differences are not only related to the semantic content of the main verb, but also to the syntactic representation of infinitival clauses in these configurations. According to this author, infinitival clauses with C(omplementizer)-positions (i.e., Control structures) contain a tense operator, which results in the *irrealis* interpretation of the infinitival clause. Infinitival clauses with no C-positions (i.e., Raising structures) lack

this tense operator, which results in the *realis* interpretation of the infinitival clause.

Regarding the interpretation of infinitival clauses, separate modules are needed in the Principles and Parameters framework to account for null infinitival subjects in Control and Raising structures. Traces in Raising structures are c-commanded by the NP antecedent in the main clause, and are therefore anaphoric in nature. Their interpretation is regulated by Binding Theory. PRO is anaphoric in the sense it is obligatorily bound by its antecedent, but it is also pronominal in the sense that it is bound by an antecedent outside the embedded clause. Control Theory regulates the interpretation of PRO. PRO has special properties: for instance, it may have an arbitrary reference if the embedded clause is not governed by the main verb (*to err is human*). As explained earlier, its reference can be determined either by the subject or the object of the main clause. If the main clause contains more than one possible antecedent, it is usually the closest NP to the infinitival clause, in accordance with Rosenbaum's (1968) Minimal Distance Principle[14].

The interpretation of infinitival clauses with null subjects is at the heart of the debate between semantic and syntactic accounts of Control and Raising. Generally speaking, theories formulated within the Generative framework rely on purely syntactic operations to account for the distribution and interpretation of infinitival clauses in these configurations. These theories usually follow or adapt the Minimal Distance Principle (Hornstein 1999, 2001, 2003; Landau 2000, 2003; Manzini 1983; Manzini and Roussou 2000, among others), and only accept semantic accounts for highly exceptional cases. In contrast, other theories propose a bigger role for semantics, particularly the meaning of the main verb (Culicover and Jackendoff 2001; Jackendoff 1972; Sag and Pollard 1991). According to authors such as Culicover and Jackendoff (2001), the Minimal Distance Principle does not fully account for the interpretation of infinitival clauses, particularly with verbs such as *promise* as shown in (21).

(21) John$_i$ promised the doctor [PRO$_i$ to examine Mary]

The main clause contains two possible NP antecedents for PRO. The closest antecedent in terms of the Minimal Distance Principle is the main object (*the doctor*). However, the main subject (*John*) is interpreted as the antecedent here. In contrast, in constructions with verbs such as *persuade,* which also contain two possible NP antecedents in the main clause, the main object is interpreted as the antecedent of PRO (i.e., *John persuaded the doctor$_i$ [PRO$_i$ to examine Mary]*).

In order to account for the interpretative properties of infinitival clauses with *promise*-type verbs from a syntactic perspective, Larson (1991) analyses *promise* as a double object verb and *persuade* as a single object verb in Deep Structure, as shown in (22) and (23).

(22) [$_{VP}$[$_{NP}$John[$_{V'}$[$_V$promised[$_{VP}$[$_{NP}$Mary[$_{V'}$to come[$_{V'}$[$_V$$e$[$_{NP}$$e$]]]]]]]]]]]

(23) [$_{VP}$[$_{NP}$John[$_{V'}$[$_V$persuaded[$_{VP}$[$_{NP}$Mary[$_{V'}$to come[$_{V}$$e$]]]]]]]]]

In *promise*-type constructions, the main object (*Mary*) is an indirect object that raises from a VP internal position in the embedded clause. In Deep Structure, the closest NP antecedent in Minimal Distance terms is the main subject (*John*) (i.e., *John promised to come to Mary* would be the Deep Structure equivalent of *John promised Mary to come*). In *persuade*-type constructions, the main object is generated directly in the main clause. It is the closest NP antecedent in both Deep and Surface Structure. Larson (1991) concludes that Control structures with *promise*-type verbs are structurally more complex than Control structures with other transitive verbs. He supports his analysis by pointing out that *promise*-type verbs can also appear in small clauses with double objects, as opposed to *persuade*-type verbs (e.g., *Mary promised **John the book*** vs. **Mary persuaded **John the book***).

In summary, the null category in the subject position of the embedded clause is different in Control and Raising structures (PRO vs. an NP trace) and its interpretation is also regulated by a different module of the grammar: Control Theory in the case of PRO, Binding Theory in the case of the NP trace. Control and Raising are not only distinguished semantically by their thematic structures and selectional restrictions, but also syntactically by their clause structure and the category of the subject of the infinitival clause.

The adoption of the Minimalist Program will challenge many of the differences proposed within the Principles and Parameters framework. Some analyses go as far as attempting to provide a single account for Control and Raising (Hornstein 1999, 2001). Other analyses continue providing different accounts (Landau 2000, 2003).

1.1.2. Control and Raising Structures in the Minimalist Program

According to the syntactic analyses formulated within the framework of Generative syntax, and particularly the Theory of Principles and

Parameters, infinitival clauses in Control, Raising and Exceptional Case Marking structures complement the main verb. This verb may assign one thematic role (as in *decide*), two thematic roles (as in *force*), or no thematic roles (as in *seem*). Control and Raising structures are proposed to contain null infinitival subjects; Exceptional Case Marking structures contain overt infinitival subjects. In Control structures, the infinitival subject is the null pronominal PRO; in Raising structures, the infinitival subject is an NP trace.

The Minimalist Program (Chomsky 1995, 2001) brings about some changes to the analysis of Control, Raising and Exceptional Case Marking. Even though it adopts the basic ideas of the Theory of Principles and Parameters with regard to linguistic knowledge and the model of language acquisition (Eguren and Fernández Soriano 2004)[15], it conceptualizes the properties of linguistic systems rather differently. Crucially, the Minimalist Program eliminates the distinction between representational levels (Deep and Surface Structure), and the distinction between lexical and syntactic information (assuming that structurally relevant features have lexical content, that is, that they are interpretable). It also aims to develop some ideas on the economy of derivations[16] and the economy of representations[17], which have the effect of reducing the number and length of syntactic operations to three essential ones: Merge, Agree and Move.

The proposals on the economy of derivations and representations are particularly relevant for the syntactic analysis of Control, Raising and Exceptional Case Marking structures. Null complementizers, which were posited within the Theory of Principles and Parameters to prevent PRO from being governed by the main verb, have no place in the context of the Minimalist Program. Chomsky and Lasnik (1993) propose the Null Case Hypothesis, according to which non-finite (infinitival) inflection checks (null) structural case on PRO via specifier-head agreement. They assume that infinitival inflection can only check null case, and that PRO is the only element that can receive null case. As shown in (24), PRO moves from a VP-internal position to the specifier of T in order to have its null case features checked by infinitival inflection on T, that is, by a phrasal head with matching case features.

(24) John tried[$_{TP}$PRO$_i$*(Spec)*[$_{T'}$[$_T$to understand$_i$[$_{VP}$$t_i$[$_{V'}$[$_V$the article]]]]]]

The Null Case Hypothesis does not appear to distinguish between Control and Raising structures, as it gives no reason why infinitival inflection should not check null case in Raising structures as well. In order to solve this problem, Martin (1992, 1996, 2001) proposes that infinitival

inflection can only check null case in syntactic configurations where the infinitival clause denotes *irrealis* (i.e., Control structures) on the basis of Stowell's (1982) observations on tense/modal differences in infinitival clauses. Therefore, null case can only be checked in Control structures, and PRO is the only element that is licensed as infinitival subject in these configurations.

Bošković (1997) also adopts the Null Case Hypothesis, pointing out that the type of complement (CP or TP) depends on the selectional properties of the main verb. Unless there are lexical or structural factors that require a C-position in the derivation (such as an overt complementizer), clauses without a C-position (TP) as shown in (25) and (26) are the default option in accordance with Minimal Structure Principle[18].

(25a) John tried [$_{TP}$PRO[$_T$to][$_{VP}$[$_V$understand] the article]]

(25b) John persuaded the doctor [$_{TP}$PRO[$_T$to][$_{VP}$[$_V$examine] Mary]]

(26) [$_{TP}$John$_i$[$_T$[$_{VP}$[$_V$seems][$_{TP}$[$_T$to][$_{VP}$$t_i$[$_V$understand] the article]]]]]

In Control structures such as (25a) and (25b), PRO checks null case in the specifier of TP, as opposed to Raising structures such as (26). Here, there is no null case for PRO to check and therefore PRO cannot be the infinitival subject. The NP moves from a VP-internal position to the specifier of T, where it can receive structural case from the main verb, leaving a trace behind.

This analysis has been adopted with some modifications in more recent versions of the Minimalist Program. More specifically, it is accepted that infinitival affixes or markers have abstract tense properties, that is, unspecified Tense values that must be determined from the context provided by the main clause. As explained in Radford (2004), if the Tense value of the infinitival clause is independent of that of the main clause, null case can be valued on a goal with matching phi-features (PRO), as shown in (27)[19]. If this is not the case, infinitival inflection cannot value null case on PRO, and therefore PRO cannot be the infinitival subject.

(27) John tried [$_{TP}$PRO[$_{T'}$to understand the article]]
  [3-pers]   [3-pers]
  [Sg-num]   [Sg-num]
  [Null Case]   [Ts-nf]
  [EPP]

Some authors such as Wurmbrand (2001) do not accept that infinitival inflection has Tense features. This author claims that infinitival clauses may receive an *irrealis* interpretation if they involve a future modal (similar to *woll* in German), or *realis* if they lack the future modal. As shown here, the infinitival clause in (28a) is not future-oriented, and therefore the construction in (28b) is ungrammatical, as opposed to (29).

(28a) John is trying to call Paul.   [-Tense, -Modal]
(28b) *John is trying to call Paul later.

(29a) John decided to call Paul.   [-Tense, +Modal]
(29b) John decided to call Paul later.

Wurmbrand (2001) suggests that complements in constructions such as (28a) have been restructured[20] in the sense that they involve truncated infinitival clauses (i.e., they lack TP or CP layers). As opposed to infinitival clauses in constructions such as (29a), they denote bare events or actions, and therefore lack illocutionary force or thematic properties. They do not license PRO as infinitival subject and thus do not give rise to Control, as shown in (30).

(30) [$_{TP}$John[$_{vP}$[$_{VP}$[$_v$is trying[$_{VP}$to call Paul]]]]]

Wurmbrand's (2001) proposal implies that some verbs such as *try*, which have been classified as Control verbs in previous studies, would instead be more akin to periphrastic verbs[21], which typically give rise to single clause sentences.

Independently of the proposed syntactic analysis, all these authors accept that Control and Raising are different. For theoretical as well as empirical reasons, Generative analyses have traditionally distinguished Control from Raising, from Rosenbaum (1968) and Postal (1974) to the Minimalist Program. For instance, according to Standard Theory, Control and Raising structures should have different representations in Deep Structure because they do not take the same number of arguments. This is based on the assumption that there is a link between structural differences and empirical distinctions such as thematic structure or selectional restrictions. As explained earlier, within the Theory of Principles and Parameters and particularly the Government and Binding framework, Chomsky (1981) invokes the Thematic Criterion, which links thematic roles with syntactic positions. Null subjects in Control structures such as *John tried [PRO to understand the article]* in (25a) are posited because an

argument is needed to receive the thematic role from the embedded verb (in this case, Agent), in accordance with the Thematic Criterion. An alternate analysis involving Raising, that is, movement of the main object out of the embedded clauses as shown in (31), is excluded in Control structures by the Thematic Criterion.

(31) *John$_i$ tried [$_S$ t$_i$ to understand the article]

In this construction, the argument *John* receives a thematic role from the embedded verb. If it moved to the main subject position, it would receive another thematic role from the main verb. The Thematic Criterion states that an argument can receive one and only one thematic role. Therefore, the analysis in (31) is incorrect for Control structures.

Hornstein (1999, 2001) proposes an analysis that accounts for both (Obligatory) Control[22] and Raising, motivated basically by theoretical reasons. According to this author, the distinction between Control and Raising structures in the frameworks before the Minimalist Program "(...) relies on the thematic requirements d-structure places on derivations (...)" (Hornstein 2003, 11)[23]. He argues that the elimination of Deep Structure as a level of representation makes this distinction meaningless within the Minimalist framework. In addition, he argues that a single analysis for Control and Raising structures is conceptually attractive, since it (a) eliminates the restrictions imposed by the Thematic Criterion[24], and (b) eliminates the need to posit different modules (such as Control Theory[25]) to account for the distribution and interpretation of the infinitival clause in these configurations. More specifically, Hornstein (1999, 2001) proposes that Control structures are derived by movement, similarly to Raising structures. He assumes that movement between thematic positions is possible, and that thematic roles function as features that trigger movement between thematic positions. At the same time, Control and Raising structures are distinguished by their thematic properties. According to Hornstein (2003) and Boeckx and Hornstein (2004), the argument in Raising structures would involve a single chain with its copies and therefore have only one thematic role, as shown in (32), whereas the argument in Control structures would involve multiple chains and at least two thematic roles, as shown in (33).

(32) [$_{TP}$Mary$_i$ [$_{TP}$seems to [$_{VP}$<Mary$_i$> be tired]]]]

(33) [$_{TP}$Mary$_i$ [$_{VP}$<Mary$_i$> tried to [$_{VP}$<Mary$_i$> call John]]]]

(cf. Boeckx and Hornstein 2004, 432)

The subject of the infinitival clause (*Mary*) moves from a VP-internal position to the specifier of TP to check case. In Raising structures, it moves to a non-thematic position in the main clause; in Control structures, it moves to a thematic position in the main clause via another thematic position. As a result, the infinitival subject in both configurations is a DP-trace, the residue of movement at Logical Form which is coindexed with the antecedent DP in the main clause.

Since PRO has been excluded as the subject of the infinitival clause in Control structures, Hornstein (1999, 2001) accounts for the interpretation of the infinitival clause by reformulating the Minimal Distance Principle in terms of the Minimal Link Condition[26]. According to this modified Minimal Distance Principle, derivations such as the one shown in (34) would not be possible.

(34) *$Mary_i$ persuaded Peter [e_i to call John]
$[_{TP2}$Mary $[_T[_{VP3}$Mary v+persuaded $[_{VP2}$Peter persuaded $[_{TP1}$Mary
$[_{VP1}$Mary to call John]]]]]]$

(cf. Hornstein 2001, 45)

If *Mary* were the antecedent of the infinitival clause, it would have to merge with *call* to check its thematic role (Agent) and move to the specifier of VP3 to check the thematic role of *persuade* (Agent). It would have to cross *Peter* on the specifier of VP2, thus violating the Minimal Link Condition. Therefore, the main subject could not be interpreted as the antecedent of the infinitival clause in this configuration.

In contrast, Landau (2000, 2003) assumes that (a) the syntactic category of the infinitival subject in Control structures is distinct from that of the infinitival subject in Raising structures, and (b) the interpretation of infinitival clauses in these configurations is regulated by different components of the grammar. Landau's (2000, 2003) analysis shares many similarities with other proposals formulated within the Generative framework that take the so-called "standard view" of Control (e.g., Chomsky 1981, 1995, 2001; Manzini 1983). Its main contribution is the fine-tuning of the interpretation of infinitival clauses in Control structures. More specifically, not only does it distinguish between Obligatory and Non-Obligatory Control[27], it also subdivides Obligatory Control into two types: Exhaustive Control and Partial Control. In the former, the subject of the infinitival clause (PRO) must be identical to the antecedent or controller, as shown in (35). In the latter, PRO must include the controller, but the reference of PRO need not be exhausted by the reference of the controller. As shown in (36), a Partial Control interpretation can be observed when the speaker has a group in mind, where it is understood

that PRO refers to *the chair* and the person or persons he or she wishes *to meet at six.*

(35) *John$_1$ managed [PRO$_{1+}$ to meet at 6].

(36) The chair$_1$ wanted [PRO$_{1+}$ to meet at 6].

(Landau 2000, 27)

According to Landau (2000, 2003), Exhaustive Control and Partial Control are distinguished by the presence of tense contrasts between the event denoted by the infinitival clause and the event denoted by the main clause. With Partial Control, the event denoted by the infinitival clause does not necessarily occur in the same time frame as the event denoted by the main clause. With Exhaustive Control, tense contrasts are not allowed between the events denoted by the infinitival clause and the main clause. Main verbs that give rise to Exhaustive Control tend to belong to certain semantic classes (in English): implicative (e.g., *manage*), aspectual (e.g., *begin*) or modal (e.g., *need*). Main verbs that can give rise to Partial Control tend to be factive (e.g., *regret*), propositional (e.g., *claim*), desiderative (e.g., *want*) or interrogative (e.g., *ask*). It is important to note that verbs that receive a Partial Control reading can also receive an Exhaustive Control reading, but not vice versa. Nevertheless, the Partial Control reading can only be established unambiguously when a singular controller co-occurs with an embedded collective plural as in (36). Landau (2000, 2003) concludes that a movement analysis such as Hornstein's (1999, 2001) for Obligatory Control does not account for the Exhaustive and Partial Control distinction. On his part, Hornstein (2003) assumes that infinitival clauses in Obligatory Control constructions denote *irrealis* and contends that a movement approach can include Partial Control if it is treated "(...) as a result of an optionally applicable meaning postulate licensed by certain matrix verbs when taking Control complements (...) (namely) non-finite [+Tense] (...)" (42). This meaning postulate would be a lexical property tied to specific lexical predicates and would not interact with the syntax.

Culicover and Jackendoff (2001) and Jackendoff and Culicover (2003) also argue against a single analysis for Control and Raising, but not for the reasons mentioned above. They accept that Control and Raising configurations may well have the same syntactic structure, and at the same time that Control verbs are distinct for Raising verbs by virtue of the thematic roles they assign to the main subject. Their main criticism to Hornstein's (1999, 2001) analysis is that the interpretation of infinitival