

3º CICLO DE ESTUDOS EM CIÊNCIAS DA LINGUAGEM

The Null Subject Parameter in Portuguese and Mandarin Chinese

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2022



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Tese realizada no âmbito do Doutoramento em Ciências da Linguagem, orientada pela
Doutora Ana Maria Brito e pela Doutora Joana Teixeira

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Declaração de honra

Declaro que a presente tese é de minha autoria e não foi utilizada previamente noutro curso ou unidade curricular, desta ou de outra instituição. As referências a outros autores (afirmações, ideias, pensamentos) respeitam escrupulosamente as regras da atribuição, e encontram-se devidamente indicadas no texto e nas referências bibliográficas, de acordo com as normas de referência. Tenho consciência de que a prática de plágio e auto-plágio constitui um ilícito académico.

[Porto, 03-09-2022]

[Hu Yue]

Acknowledgements

During the four years and a half in the University of Porto, my deepest gratitude goes first and foremost to Professor Ana Maria Brito, who has been my supervisor, continuously supporting me. I still remember the first day I entered the Campus of the School of Arts and Humanities of the University of Porto (Faculdade de Letras da Universidade do Porto); it was her to guide me to every corner from the Central building A to building B; and then she has guided me to every corner of linguistic area and every tiny corner of this dissertation. In the beginning of 2020, when the Covid virus has been spread to all over the world, our discussions changed from in presence to video conference, once a week to twice a week during several months, and I finally went back to China by the end of 2020. We have experienced a tough period and finally we reached to this current stage. I sincerely appreciated all support that Professor Ana Maria has offered to me. Without her consistent and illuminating instruction, this thesis could not have reached its present form. I would like to present all my respect to Professor Ana Maria, it is you who let me finally decide to delve into syntactic area. Your professional and your passion on this job will influence permanently for the rest of my life and study.

I also want to thank the important contribution and support of Prof. Joana Teixeira, who accepted to be my second supervisor after the jubilation of Prof. Ana Maria Brito.

I would like to express my heart full gratitude to all professors and teachers who have supported me since I became one member of this family. Also I would like to thank to Carla Amaral and all the staff in Faculdade de Letras. All previous knowledge and memories will be kept forever in my mind.

Last, my thanks go to my beloved family for their loving considerations and great confidence in me through all these years. I also owe my sincere gratitude to my friends

and my fellow classmates who gave me their help and time in listening to me and helping me during the difficult course of the thesis.

Resumo

Segundo as análises clássicas do parâmetro do sujeito nulo (e.g., Rizzi, 1982), há um “cluster” de propriedades que distingue línguas de sujeito nulo (LSN) de línguas de sujeito não nulo (LSNN). Contudo, desde o final da década de 1980, um grande número de trabalhos tem mostrado que nem todas as línguas estão de um lado ou de outro da divisão tradicional entre LSN e LSNN, levantando questões sobre as propriedades das LSN. Assim, nos últimos anos, as LSN foram divididas em quatro categorias principais, incluindo as LSN consistentes, as LSN radicais, as LSN parciais e as LSN expletivas.

O português europeu (PE) é o exemplo clássico de LSN consistente, e o português brasileiro (PB) é considerado uma LSN parcial. As LSN consistentes e as parciais podem ser facilmente distinguidas, de acordo com certos estudos. A concordância morfológica rica é comumente encontrada em LSN consistentes, mas não em LSN parciais. Em LSN consistentes, os sujeitos referenciais podem ser nulos em qualquer combinação de número e pessoa e um sujeito nulo arbitrário tende a ser indicado por alguns marcadores, como 'SE', o mesmo não acontecendo em LSN parciais. Em frases completivas, as LSN consistentes exibem uma forte preferência por uma interpretação disjunta dos sujeitos pronominais expressos em relação ao sujeito da matriz, sendo a situação diferente em LSN parciais.

No entanto, poucos estudos se concentraram na relação entre LSN parciais e radicais, como o PB e o Chinês Mandarim, por exemplo. Os sujeitos nulos em ambos os tipos de línguas podem estar presentes apenas em certas construções sintáticas. Além disso, nessas línguas, o pronome sujeito explícito de uma frase completiva pode ter uma leitura tanto co-referencial quanto disjunta. Como definir a fronteira entre elas é a questão discutida nesta tese. A partir de dados do PE, do PB e do Chinês Mandarim, a relação entre LSN consistentes, parciais e radicais é discutida em detalhe.

Ao comparar diferentes construções sintáticas, finalmente concluímos que o PB e o Chinês Mandarim compartilham muitas propriedades sintáticas em diferentes construções. Portanto, é sugerido reclassificar as LSNs em apenas duas categorias, LSNs consistentes e LSNs parciais.

Palavras-chave: Línguas de Sujeito Nulo, Parâmetro de Sujeito Nulo, Chinês Mandarin, Português Europeu, Português Brasileiro.

Abstract

According to the classic analyses of the null subject parameter (e.g., Rizzi, 1982), there is a cluster of properties that distinguishes null subject languages (NSLs) from non-null subject languages (non-NSLs). However, since the late 1980s, a large body of research has shown that not all languages fall on one side or the other of the traditional division between NSL and non-NSL, raising questions regarding the properties of NSLs. In recent years, NSLs have been divided into four major categories, including consistent NSLs, radical NSLs, partial NSLs and expletive NSLs.

European Portuguese (EP) is the classic example of a consistent NSL, and Brazilian Portuguese (BP) is a partial NSL. Consistent and partial NSLs can be easily distinguished according to some studies. Rich morphological agreement is commonly found in consistent NSLs but not in partial NSLs. In consistent NSLs, referential subjects can be null in any person-number combination and an arbitrary null subject tends to be indicated by some markers, including 'SE'. In complement clauses, consistent NSLs have a strong preference for interpreting overt subject pronouns as disjoint from the subject of the matrix clause, thus behaving differently from partial NSLs.

However, few studies have focused on the relationship between partial and radical NSLs, such as BP and Mandarin Chinese. Null subjects in both language types can be present only in certain syntactic constructions. Apart from this, in these languages, the overt subject pronoun of a complement clause can have both a co-referential and a disjoint reading. How to define the boundary between partial and radical NSLs is the question discussed in this thesis. By introducing classical studies of NSLs, and starting from data of EP, BP and Mandarin Chinese, the relationship among these three languages is discussed in detail.

By comparing different syntactic constructions, we finally conclude that BP and Mandarin Chinese share many common syntactic properties in different constructions. Therefore, we propose a reclassification of NSLs into only two categories: consistent NSLs and partial NSLs.

Keywords: Null Subject Languages, Null Subject Parameter, Mandarin Chinese, European Portuguese, Brazilian Portuguese.

Introduction

Null subject languages (NSLs) is the designation for the languages that allow explicit subjects to be omitted in an independent clause. This type of languages can be exemplified by European Portuguese (EP): *Vou a casa* in EP can be translated directly as ‘go to home’, without the subject ‘eu (I)’.

NSLs can be divided into different types (Roberts & Holmberg, 2010): (i) consistent NSLs, which have rich verbal agreement inflection and admit both referential and expletive null subjects; (ii) radical NSLs, which have been described as languages that allow any argument to be dropped, not just subjects, and do not have agreement marking of any kind; (iii) partial NSLs, which allow expletive null subjects but only admit referential ones under certain conditions; and (iv) expletive NSLs, which allow expletive null subjects, but not referential ones. EP is an example of a consistent NSL. Brazilian Portuguese (BP) is considered a partial NSL. Mandarin Chinese, which allows for null subjects under certain semantic and discourse conditions, is regarded as a radical NSL. German is considered an example of an expletive NSL.

This classification of NSLs has recently been brought into question by studies suggesting that partial and radical NSLs may be more similar than previously thought. Barbosa (2019) was one of the first linguists that noticed similarities between partial and radical NSLs, mainly based on the nature of null *pro*. However, to determine whether the division between partial and radical NSLs should be maintained, it is important to study in detail the distribution of null subjects in both types of languages. To the best of our knowledge, this has not been done before.

To fill this gap in the literature, this thesis investigates the distribution of null subjects in three NSLs: EP, BP and Mandarin Chinese. The thesis will consider different types of

subjects, as well as a property traditionally associated with the null subject parameter, “free” subject-verb inversion.

The main research questions to be addressed in this thesis are the following:

- (i) What characterizes NSLs?
- (ii) Is the difference between partial and radical NSLs justified, for Brazilian and Mandarin Chinese, respectively?
- (iii) What is the distribution of null subjects in EP, BP and Mandarin Chinese?
- (iv) To what extent is the nature of null subjects different/similar in EP, BP and Mandarin Chinese?
- (v) To what extent does the null subject parameter relate to “free” subject-verb inversion?

To answer these and other questions, the thesis is organized in the following way.

In Chapter 1, the theoretical background is presented. The classic Government and Binding Theory provides the foundation for the syntactic analysis contained in this thesis. Principles and Parameters Theory and the Minimalist Program provides the research direction for NSL studies. Apart from these classic theories, classic studies on empty categories are discussed in Chapter 1. A particular emphasis will be given to the empty category *pro* in NSLs.

Chapter 2 provides an overview of the null subject parameter and the different types of NSLs considered in the present thesis, including the types of subjects, types of verbs and other syntactic constructions (e.g. SE sentences) that may influence the null subject ability. This chapter lays the foundation for the following chapters.

Chapter 3 introduces a relationship between referential hierarchy and null subject ability. The nature of pronouns of consistent NSLs and non-consistent NSLs are discussed, including existential and generic null pronouns.

Chapter 4 discusses the subject-verb inversion in NSLs. From the analysis of several types of subject-verb inversion, the relationship between different types of NSLs can be studied in detail. In this chapter, a new verbal layer is introduced to non-consistent NSLs, enriching the hypothesis that only 'rich morphological agreement' triggers the subject position to be null.

Finally, the conclusion is made to summarize the common features shared by different non-consistent NSLs, which provides evidence of the recategorization of NSLs.

The research of this dissertation is based on the specialized literature on NSLs. For Mandarin Chinese, due to limited number of studies on null subject phenomenon in this language, the examples used in this thesis are based on the intuitions of a native Mandarin Chinese speaker, the author herself, to enrich the classic samples of the so called 'radical NSLs'. Through the cross-language literature review, the historically important theories of NSLs can be studied by a comprehensive and comparative method, by which way all languages can be studied as a whole rather than separately. The systematic comparison between Indo-European language and Sino-Tibetan may provide a new viewpoint on NSL studies, recategorizing the NSLs in a unified syntactic study and contribute to shed new light on how NSLs may be best categorised.

1. The Generative Framework and Empty Categories

1.1. Theoretical Introduction

The study of syntax has been deeply developed through various stages, during the 20th century, including Transformational Grammar (Z. Harris), Transformational Generative Grammar (Chomsky, 1957), Standard Theory (Chomsky, 1965), Extended Standard Theory (in the seventies), Government and Binding Theory, Principles and Parameters Approach (Chomsky, 1981 and other works) and Minimalist Program (Chomsky, 1995 and other works).

Since the most influential theories, which are closely related to the study of the null subject phenomenon, are presented by the last works, in this chapter we are going to briefly introduce the main notions associated with these last theories, mainly concentrating on the notions of government, binding and parameter.

One thing common to all these theories is a commitment to being fully explicit and rigorous and to be a theory in which syntacticians can formulate grammars capable of accounting for all and only the grammatical sentences of the language under study. Such a grammar is called a generative grammar, and, in this general sense, all these theories are theories of generative grammar (Van Valin, 2004).

1.1.1. Government and Binding Theory

Government and Binding Theory (GB) is a theory that contains several modules, including government theory and binding theory, which are ways to describe and explain the syntactic structure; it was developed principally by Noam Chomsky and dominated the 1980s. The proponents of GB suggest that essentially the same principles of syntax are operative in all languages, although they can take a slightly different form in different languages (Crystal, 2008). From this perspective, and because the notion of

parameter soon begins to be developed (with the Italian analysis by L. Rizzi), GB theory is one of the approaches that falls within the Principles and Parameters family of theories (Van Valin, R.D. 2004). Being different from Relational Grammar (RG) and Lexical-Functional Grammar (LFG), GB proposes movement rules, which connect abstract deep structure (d-structure) with surface structure (s-structure).

In GB theory, the lexicon plays a pivotal role, and the subcategorization information in lexical entries is stated in constituent structure terms. One of the most important principles in GB concerns the relationship between the subcategorization properties of verbs and the constituent structures in which they occur (Van Valin, R. D. 2004). From d-structure to s-structure, the requirement of syntactic environment can be described as the 'Projection Principle' (PP), which stipulates those lexical properties, mainly subcategorization features, must be respected in all levels of syntactic representation (Chomsky, 1981). Later, the Extended Projection Principle (EPP) (Chomsky, 1982) further adds the requirement that all sentences must have subjects; in structural terms, it means that the subject position (in general the external argument of verbs) must be present, even if not phonetically realized.

X-bar theory should be firstly presented since Principles and Parameters theories employ X-bar in the syntactic representation. Figure (1) illustrates X-bar structure for a clause, where IP (Inflectional Phrase) represents a sentence and CP (Complementizer Phrase) is its left-periphery:

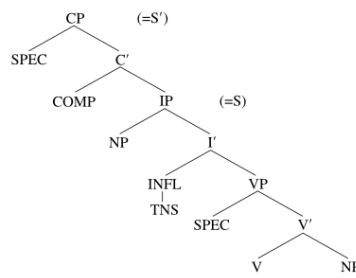


Figure1. General X-bar structure for clauses (simplified)

GB is a constraint-satisfaction theory, and the Projection Principle and the X-bar schema are two of the principles that must be satisfied (Van Valin, 2004). X-bar theory is based on two principles: (i) all categories have a head of the same nature of the maximal projection (endocentricity), besides the specifier and complement positions; (ii) all categories are X'' categories and obey successiveness.

Apart from these two principles, there are two principles which are important for GB as well: Theta criterion and case filter, as described in (1).

(1)

- a. Theta Criterion: Each theta role is assigned to one and only one argument, and each argument is assigned one and only one theta role.
- b. Case Filter: Every NP must be assigned Case.

Government is the relation between a head and its arguments and is mainly regulated by c-command, a formal relation that is described in (2):

(2) Node A c-commands node B if and only if

- (i) A does not dominate B and B does not dominate A; and
- (ii) the first branching node dominating A also dominates B.

(Haegeman, 1994)

In Minimalist Program, the notion of government loses much of its weight, as we will see later.

When it comes to Binding theory, it is necessary to introduce the definition of anaphora and R-expressions. We know that in all languages there are pronouns, anaphors, and referential expressions. In English, we illustrate these notions on the basis of the examples in (3):

(3) Pronouns-*I, you, he, they, her, them*

Reflexive pronouns-*himself, herself, themselves*

Reciprocals-*each other, one another*

Anaphors, as reflexive 'pronouns and reciprocals in (3), are constituents or 'elements' which pose syntactic requirements on what may antecedent them (Falk, 2002). And elements which have a fixed reference are known as referring expressions (R-expressions) (Lam, 2017). To account for the distribution and interpretation of anaphors, pronouns and R-expressions, there are several theories, including the theory of anaphora and binding theory. As examples in (4) show, the anaphora is *himself*, co-indexed with the antecedent *John* and is regulated by c-command (see the ungrammaticality of b. and c.); (4d) is ungrammatical because the c-commanding antecedent *John* is not contained in the same local domain of the anaphor or, in Chomsky terms, in the same government category.

- (4) a. John_i admires himself_i.
b. *John_i's friend hurt himself_i.
c. *Himself_i yawned.
d. *John_i thinks that himself_i is smart.

(Lam, O. 2017)

In order to describe the conditions on the distribution of anaphors, pronouns and referential expressions, Chomsky introduced three principles, as in (5).

(5) Principles of Binding Theory (Chomsky, 1981, Chomsky, 1982)

- A. an anaphor is bound in its governing category.
- B. a pronominal is free in its governing category.
- C. a R-expression is free.

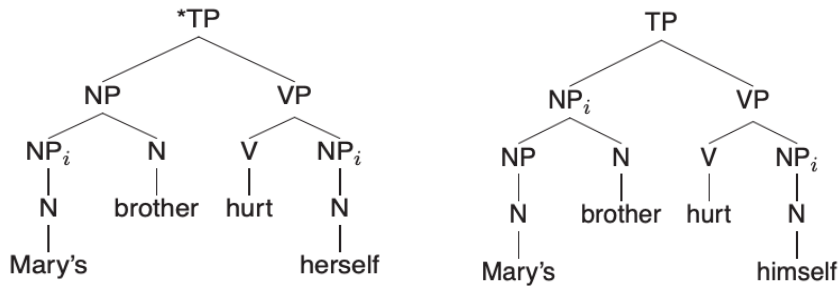
As examples in (4) already show, the binding principle A can be divided into two types of restrictions, a structural restriction and a locality restriction. From the point of view of a structural restriction, the anaphor must be c-commanded by a co-indexed NP.

From the point of view of a locality restriction, the anaphor must be c-commanded by a co-indexed NP within its own clause. Sentences in (6) are examples for principle A: (6a) is ungrammatical due to the fact that the anaphor *herself* is not bound by a c-commanding NP in its governing category, contrary to (6b), which is grammatical.

(6) Examples for Principle A.

- a. *[Mary]_i's brother hurt herself_i.

- b. [Mary's brother]_i hurt himself_i.



Examples in (7) illustrate Principle B¹. Due to the fact that an R-expression can be any full NP, *John* in (7) is free. The pronoun *he* is free in (7b); in (7a) *he* is also free in its government category (the embedded clause), but it can co-refer or not with the matrix subject:

(7) Examples for Principle B

- a. John_i believes that he_{i/j} is the happiest.
b. He believes that story.

Brito, Duarte & Matos (2003: pp. 799-800) also adopt this framework for Portuguese. For referential expressions, the authors indicate that the distribution of referential expressions follows the principle (8) (Principle C of BT), developed in (9). Thus, the examples in (10) are ungrammatical because they violate principle 8).

(8) Principle for referential expressions:

A Referential expression must be free.

¹ In this chapter, IP and TP will be used for a simple clause.

where:

(9)

- (a) One expression is *free* (not bound) when it does not have an antecedent that c-commands it.
- (b) One *antecedent* is an expression that denotes the same entity of a concerned expression.

(10)

- (a) *Ela_i admira [a Maria]_i.
She admires Maria
- (b) * [A Maria]_i admira [a Maria]_i.
Maria admires Maria
- (c) * Ela_i deixou [a Maria]_i sair.
She let-3rd-past Maria leave

For pronouns in Portuguese, Brito, Duarte & Matos (2003) also propose Principle B (principle for the distribution of pronouns), as in (11).

(11) Principle for pronouns (p. 817)

A pronoun must be free in a minimal syntactic domain.

The distribution of nominal categories was discussed above, mainly from examples of English and Portuguese. In 1.2, we will turn to empty categories, to determine if the same principles can be followed.

1.1.2. Parameters and Principles and Minimalist Theory

In classical Principles and Parameters (P&P) Theory, the notion of principles (universal generalizations) and parameters (open principles subject to variation) are crucial. As Chomsky writes:

..What we expect to find, then, is a highly structured theory of UG [Universal Grammar] based on a number of fundamental principles that sharply restrict the class of attainable grammars and narrowly constrain their form, but with parameters that have to be fixed by experience. If these parameters are embedded in a theory of UG that is sufficiently rich in structure, then the languages that are determined by fixing their values one way or another will appear to be quite diverse, since the consequences of one set of choices may be very different from the consequences of another set; yet at the same time, limited evidence, just sufficient to fix the parameters of UG, will determine a grammar that may be very intricate and will in general lack grounding in experience in the sense of an inductive basis.

(Chomsky 1981: 3-4)

The P & P model provides a solution to the logical problem of language acquisition, which is also called Plato's problem (How we could know so much from a so poor experience). With the P & P model, the idea is based on parameter-setting in the acquisition process. As many authors have said, the P & P model also makes predictions about language typology and about possible language types (Roberts, 2016).

However, in the 1990s, a new type of Principles and Parameters approach arose, it is called Minimalist Program. Minimalist theory posits only two levels of representation, including Phonetic Form (PF) and Logical Form (LF), which are the only levels of representation that are conceptually necessary, being the 'perfect' solution to the explanation of relationship between meaning and sound. Thus, to a certain extent, the

Minimalist Programme starts from GB theory. Reuland (2000) summarizes the shift from GB to the Minimalist Program as follows:

Contentment with higher level stipulations has been replaced by pursuing the question of why they would hold. (Reuland, 2000: 848)

Chomsky's Minimalist Program takes effort to minimize the theory, conjecturing that the language faculty:

(...) provides no machinery beyond what is needed to satisfy minimal requirement of legibility and that it functions in as simple way as possible. (Chomsky, 2000: 107-13)

The major objectives of the Minimalist Program continue to be: to provide a description of the speakers' linguistic knowledge; to provide an explanation of how speakers obtain this knowledge.

In earlier work, Chomsky also states that the system language use is computational, interfacing with the articulatory-perceptual system and the conceptual-intentional system, feeding into two components of the mind/brain dealing with sound and meaning. As Zwart (1998) indicates, the computational system interacts with 'external' systems through two distinct interface levels, Phonetic Form (PF) and Logical Form (LF). Brito (1999) also concludes the following:

A gramática das línguas é vista como um sistema computacional que articula o Léxico e níveis de interface: mais especificamente, a gramática é um procedimento generativo que deve ser capaz de construir uma representação capaz de ser

interpretada através da interface articulatória-perceptual (aquilo que em modelos anteriores era chamado Forma Fonética) e através da interface conceptual-intencional (aquilo que em modelos anteriores era chamado Forma Lógica).

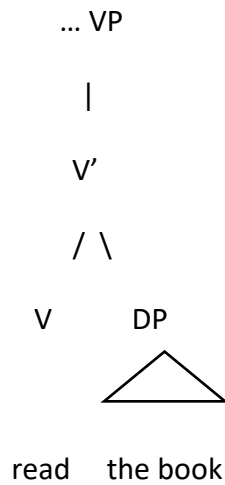
(The grammar of languages can be seen as a computational system that articulates the lexicon and interface level: more specifically, grammar is a generative procedure that might be able to build a representation which is capable of being interpreted through the articulatory-perceptual interface (what in previous models was called Phonetic Form) and through the conceptual-intentional interface (what in previous models was called Logical Form).)

As for the concept of derivation, there is no significant difference when it is compared with GB. However, some concepts of GB theory are eliminated to achieve the economy of the model.

For instance: (i) the concept of *government*: even though the concept is still being accepted in PP approach, in the Minimalist Program, it is replaced by location relations (head-complement and head-specifier), which are derived from the notion 'minimal domain', a minimal set of positions associated with a head in an internal domain merged with the complement and a checking domain (the specifier(s)). Government and c-command play no role in the definition of these domains (Zwart, 1998); (ii) *proper government* is also eliminated, due to two requirements: trace identification (head government) and locality of movement (antecedent government), respectively. The licensing relationship in the trace identification is sisterhood.

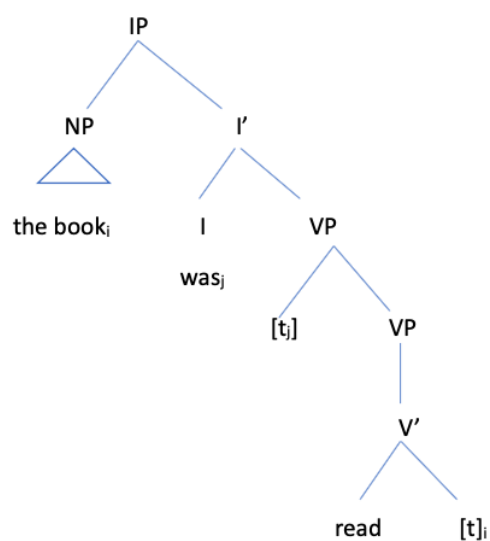
Brito (1999) illustrates some of these notions with the passive construction in English ('the book was read'). In the lexicon, the words should be marked by morphological properties, and these properties should be verified in the proper syntactic position.

(12)



The 'merge' operation gathers two syntactic objects, forming the third one. The insertion of the lexicon occurs in the base of 'merge', thus (12) occurs. After following several steps of merging, passive construction is shown in (13). 'The book' moves from the complement position of the verb 'read' to the specifier position of IP or TP, triggering agreement and assignment of nominative case. What should be noticed is that agreement should be local, which means that the relationship between the specifier and the head triggers the movement.

(13)



(Brito, 1999)

Also, with 'bare phrase structure' (Chomsky 1993), sentence structure is simpler. And it is morphology that drives syntax in Minimalist Program. In this case, Minimalism, in a partial return to the apparatus of pre-1965 transformational theory, has lexical items inserted throughout the course of the syntactic derivation, via generalized transformations, rather than all in one initial block (Lasnik, H. 2002).

One constant concern is the motivation for movement. Chomsky (1995) states that movement is associated with morphology as well. In the nineties, the idea of strong and weak features was an important step for movement explanation:

The idea is to associate certain strong features with visible movements and weak features with non-movement or movement in the "not visible" Syntax or Logical Form.

(Brito,1999)

Movement in a minimalist approach should be as short as possible ('shortest move'). Thus, the condition of 'minimality' becomes the focus of the research in this program. Therefore, the classic P&P model gives us support to define language types, the Minimalist Program proposes an economic solution to the linguistic phenomena, and both approaches are important in the analysis of the null subject phenomenon.

Chomsky emphasizes that Minimalism is just an approach, a conjecture about how human language works ('perfectly'), and a general program for exploring the development of the conjecture (cf. Lasnik, 2002). In both models, we tend to find a 'perfect' solution to the classic psychological questions, the problem of competence and performance. Typology is also a crucial notion that will be discussed in this thesis, because there are different types of languages.

1.1.3. Conclusion

From the description of the theories referred to in previous sections, it is not hard to notice that they are closely related to each other. Even though there are differences between GB theory and the Minimalist program, both are characterized by the existence of universal principles and some type of explanation about the differences between specific grammars - parameters. As Van Valin (2004) indicates, GB theory is one of the approaches that falls within the P & P family of theories, being a direct descendent of Transformational Generative Grammar. And in the same chapter, he also states that the Minimalist Program is a new type of Principles and Parameters which arose in the 1990s.

Being found by Noam Chomsky, both GB and MP develop theories focusing on syntax, and tend to solve syntactical phenomena. They are deeply influenced by the generative framework, supporting both logical form and phonological form, but with differences in the description of sentence structure.

Since both approaches discussed the null subject phenomenon, they were introduced to lay theoretical foundations of the central chapters in this thesis. With all the basic knowledge of these related linguistic theories, in the next chapter, the studies of empty categories are presented in detail to see the differences and similarities between languages allowing empty categories and null subjects.²

1.2. Studies on Empty Categories

² The fundamental theoretical framework of the thesis is the Government and Binding Theory and the Minimalist Program is only lightly touched upon. In addition, in this thesis, I adopt the split inflection hypothesis (Pollock, 1989). The fact that a more branched structure of the VP and the notion of little *v* are only adopted in chapter 4 is mainly due to the empirical data that is studied in that chapter.

In this chapter, we will focus on different types of empty categories, discussing each of them in detail, with examples of different languages. As Chomsky (1988) indicates, the study of empty categories provides a perfect probe for determining the properties of syntactic and semantic representations and the rules that relates them. Moreover, since empty categories are not transparent nor reflect the inner resources of the mind, it guides us to discover the nature of human language faculty.

Before discussing the properties of empty categories, the first question is what forces empty categories to exist from a syntactic perspective. Suppose that a verb predicate has two arguments but some of them are null. The Projection Principle plays a pivotal role in the presence of empty categories because it requires that the Theta Criterion holds at every syntactic level (Jaeggli & Safir, 1989) (see also 2.1).

(14) Theta Criterion

a. Every syntactic argument must be assigned a unique theta-role.

b. Every theta-role must be assigned a unique syntactic argument.

Where syntactic arguments include some empty categories, \bar{S} , and all referential lexical NP³

(Jaeggli, O. & J. Safir, 1989)

It is important to notice that the theta criterion is not totally applicable to the explanation of expletive subjects (in English, for example: ‘there is a man’), since the expletive subject *it* or *there* does not bear a theta-role. Then Chomsky (1982) introduced the Extended Projection Principle (as in 15)⁴.

³ In this chapter IP or TP is used for a simple clause. S was the symbol for IP / TP.

⁴ The EPP can be satisfied by expletives with different properties. English, for example, has two distinct types of expletives: *there*, which has no ϕ features and does not trigger subject-verb agreement (*There*

(15) Extended Projection Principle (EPP)

Every S must have an (NP, S) (i. e., a structural subject)

Even though the EPP is controversial, in the following section, the properties of each type of empty category are closely related to the notion of theta role. Thus, these two principles are presented in order to understand these empty categories (ECs).

1.2.1. Empty Categories in GB⁵

EC can be classified into different types, according to GB theory, as listed in examples (16).

(16)

- (a) Mary is likely [*t* to leave]. -NP trace
- (b) John was [killed *t*]. -NP trace
- (c) They want [*PRO* to win]. -PRO
- (d) Who *t* arrived? -Wh trace / variable

As the example (17a) shows, the EC is A-bound by *Mary*, and *Mary* inherits the θ -role from its trace, marked by *t*. The same happens in the passive sentence (16b): *John*

came three men) and *it*, which has ϕ features (3rd person singular) and triggers agreement, just like French *il* (*it rains, il pleut*). In this thesis, the notion of expletive subject is not explored in all its aspects.

⁵ In the relevant bibliography, the nature of the empty category corresponding to the null subject has been discussed in ways: null pronoun, ellipsis and variable. Since the main goal of the thesis is to study the distribution of the null subject in EP, BP and MC, I will assume without much discussion that, in the three languages/varieties studied, the null subject is always a null pronominal (*pro*). In this context, following Huang's work, I argue in chapters 1 and 2 that MC has the distinction between *pro* and PRO.

inherits the θ -role from the trace. For (17c), the EC has a θ -role, and it is an anaphora and therefore controlled by 'they'.

Chomsky (1982) renews the concept of empty category, using anaphoric and pronominal features to illustrate their properties and argues that empty categories can be classified into four types, including PRO, *pro*, NP-trace and Wh-trace. They are presented in (17) and (18) and are related to the kind of antecedent (when present) and the type of domain where binding (when present) operates:

**(17) Types of Empty Categories/ Relationships between gaps and overt elements
(Chomsky, 1982)**

- a. Gaps with antecedents that lack an independent θ -role
 - (i) and are locally A-bound (NP trace)
 - (ii) and are locally \bar{A} -bound (wh trace)
- b. Gaps with antecedents that have an independent θ -role (controlled PRO)
- c. Gaps having no antecedents (non-controlled PRO and *pro*)

**(18) Properties of empty categories in terms of anaphoric / pronominal features
(Chomsky, 1982)**

[+anaphoric -pronominal] NP-trace

[-anaphoric -pronominal] Wh-trace, variable

[+anaphoric +pronominal] *PRO*

[-anaphoric +pronominal] *pro*

At the same time, he put forward the “soul” of empty categories, called Empty Category Principle (19). Therefore, Empty Category Principle is the core principle that defines the existence of empty categories in the Theory of Government and Binding:

(19) The Empty Category Principle (ECP): [$_{\alpha}e$] must be governed (in some sense).

In order to verify the principles that govern empty categories, consider (20):

(20)

- a. They_i think [[PRO_i to feed [each other]_i] would be difficult]
- b. * They_i seem [[t_i to feed [each other] would be difficult]

The gap in (20a) has an antecedent with an independent θ -role, being a PRO, which violates Subjacency⁶ but can be coindexed with its antecedent. By contrast, in (20b), the antecedent of the EC is in a θ -bar (non-thematic) position, but without an independent θ role, which indicates that the EC is a trace. However, this causes a Subjacency violation, leading to an ungrammatical sentence with a double violation (ECP and Subjacency). With the illustration of examples in (20), the first property of empty categories with an antecedent lacking a θ role is that they are subject to Subjacency.

The second property of gaps with an antecedent but without a θ role is that they are properly governed, being subject to the ECP. The properties of gaps with an antecedent lacking an independent θ role can be summarized in (21), three properties given by Chomsky (1982).

⁶ Subjacency is defined by Chomsky (1981), as a general syntactic locality constraint on movement. It specifies restrictions placed on movement and regards it as a strictly local process.

(21) Properties of gaps with antecedents lacking independent θ role (that is, traces):

- a. They are subject to Subjacency.
- b. They are properly governed (subject to the ECP).
- c. They are anaphors if A-bound and R-expressions if \bar{A} -bound.

When it comes to the gap with antecedents but with independent theta-role, they lack all these properties: it is ungoverned; the antecedent-PRO relation does not need to satisfy the subjacency condition (Chomsky, 1988). Each PRO is assigned a different theta-role, and the choice of antecedent for PRO is determined by the theory of control (Chomsky, 1988).

On the contrary, the antecedent of the trace of 'what' does not have a theta-role. Since PRO is subject to the principles of Control Theory, this type of EC can be treated as controlled PRO.

As indicated before, the relationship between PRO and its antecedent may violate subjacency, which is different from traces. In (22), there are examples from Italian discussed by Rizzi (1982), (22a) is an example of PRO since it is not governed and an independent theta-role; in (22c) there is a trace. When comparing (22b) and (22d), it is easy to find that PRO can appear in the focus position of a cleft sentence, while the trace does not. But Chomsky (1988) argues that this may not apply to English, thus the explanation of this may still be the question if PRO is governed or not. What we should notice is that examples like (22b) may not contain a controlled PRO, because *Gianni* belongs to the second clause.

- (22) a. Gianni vuole tornare a casa.

‘Gianni wants to come back home’

b. È tornare a casa che Gianni vuole.

‘It is to come back home that Gianni wants.’

c. Gianni sembra tornare a casa.

‘Gianni seems to come back home.’

d. *È tornare a casa che Gianni sembra.

‘It is to come back home that Gianni seems.’

Thus, PRO is an empty category with an independent θ role and has [+anaphoric] [+pronominal] properties.

The last category is ECs without antecedents. The interpretation of the empty space in (23) can be a free variable, without antecedent and inherent reference, which can be assumed as PRO. It does not have the property of linking and is not governed: it is the so called arbitrary or non-controlled PRO, as in (23) and (24):

(23) It is clear [how [e to solve the problem]]

(24) PRO staying at home now is the best solution.

Like controlled PRO, the non-controlled PRO is also not governed, sharing the same properties as controlled PRO. Thus, to conclude the properties of these ECs, Jaeggli & Safir (1989) propose a table to compare the major properties of PRO, NP trace and *wh*-trace/variable, as shown in table (1).

Table (1) Summary of Properties of empty categories

	case	θ -role	Pronominal	anaphoric
PRO	-	+	+	+ / -
NP-trace	-	-	-	+
Wh-trace/Variable	+	+	-	-

To summarise, GB treats empty categories in a similar way to full lexical categories, regulated by Principles A, B and C of Binding theory. In Chomsky (1981), only three empty categories are analyzed – NP trace, *wh*-trace and PRO (controlled and non-controlled), as listed in table (1). However, Chomsky (1982), the linguist introduces a fourth type (pro, analyzed as + pronoun, - anaphor) in order to include null subject languages, as we will see in the following chapters of this dissertation.

1.2.2. Some Contrastive Studies of NP trace, Wh-trace and PRO

With the basic definition of ECs from the previous section, we will now present some comparative studies of the three empties categories, studying through different languages. These types of ECs in three languages enable us to understand well the differences between languages and will help us to understand the need for a further type of empty categories.

1.2.2.1 NP-trace

As indicated in the previous section, according to the classification of ECs by Chomsky (1981), there are three types of EC in languages like English: NP-trace, Wh-trace and PRO. NP-trace is constructed as the consequence of movement, which is illustrated in passive sentences and raising structures in several structures.

Brito, Duarte & Matos (2003) discuss ECs in Portuguese and analyze the main properties of the empty category created by the dislocation of NPs. Comparing ungrammatical sentences and grammatical sentences in (25) and (26), we see that if NP movement in passive sentences is processed out of the sentence to which NP belongs, as in (25) (b and c), and if the NP movement is processed out of an inflected sentence, as in (26) (b, c, d), these sentences are ungrammatical.

(25)

- a. [Este livro]_i foi lido[-]_i pela Paula.
- b. *[Este livro]_i foi afirmado que a Paula leu [-]_i
- c. *[Este livro]_i foi afirmado que [-]_i apresenta o estado da questão.

(26)

- a. [Os miúdos]_i parecem [-]_i ter telefonado tarde.
- b. *[Os miúdos]_i parecem que [-]_i telefonaram tarde.
- c. *[Os miúdos]_i parecem [-]_i telefonarem tarde.
- d. *[Os miúdos]_i parecem que os pais chamaram [-]_i.

Thus, we can conclude that NP-traces are subject to principle A of Binding Theory and that this principle characterizes both lexical and null empty anaphors (Brito, Duarte & Matos 2003).

This general characterization also applies to Mandarin Chinese (Yang, 2018). NP traces in Mandarin Chinese can also be produced by passive and raising constructions under severe conditions.

(27)

- a. Li Laoshi piping le Xiaowang
Li teacher criticize perf. Xiaowang
'Professor Li criticized Xiaowang'
- b. [Xiaowang]_i bei piping le [-]_i .
Xiaowang passive criticize perf.
'Xiaowang was criticized'

(28)

- a. [Li Laoshi]_i kanqilai [-]zhidao zhejian shi.
Li professor seem know this issue
'Teacher Li seems to know this issue.'
- b. Kanqilai LiLaoshi zhidao zhejian shi
seem Li teacher know this. issue
'It seems that teacher Li knows this issue.'

In (27), the passive construction in (27), the patient, *Xiaowang*, moves to the initial position of the sentence and leaves an empty position, which is an NP-trace. But it is more complicated when it comes to the example (28), where the movement of NP is caused by the raising verb *kanqilai* (*seem*). In raising constructions, in Mandarin Chinese, there are raising verbs and raising adjectives such as *keneng* (be likely), *kanqilai* (look like), and *kending* (certain), among others (Zheng, 2003). Comparing sentences (27a) and (28b), the raising verb 'seem' has the ability to cause the movement of NP from its basic position to the initial position of the sentence, as in (28a). However, it is under discussion if it is caused by the raising verb or by topicalization.

1.2.2.2 Wh-trace

Similar to NP-trace, *wh*-trace or *wh*-variable is also formed by movement. The major difference between NP-trace and *wh*-trace is the position where the constituent moves to. Yang (2014), starting from Chomsky (1981), states that English has three types of variables: one obtained by *wh*-movement in the relative clause (29a), one caused by *wh*-movement in the interrogative sentence (29b), and the one by topicalization (29c).

(29)

- a. The girl whom you were talking with [NP e_i] is my sister.
- b. What did you read [NP e_i]?
- c. That book, I will not read [NP e_i].

(29) shows that from d-structure to s-structure, the relative word, the interrogative *wh*-word and the noun phrase in a topic-prominence sentence leave their traces after moving. In (29a) *whom* belongs to a Prepositional Phrase inside the relative clause and moves to its left periphery. In (29b), the *wh*-word *what* is moved from the complement position to the sentence-initial position.

As for (29c), following Chomsky (1981), the position of topic is also obtained by *wh*-movement, the trace / variable is case marked and gets case before moving (for another view see Duarte 1987, who argues for a NP movement in topicalization in Portuguese).

Raposo (1992, p. 476) writes about *wh*-traces:

Quando falamos sobre o português, segundo Stowell (1981), a relação de θ -regência envolve uma partilha de índices entre um argumento numa posição- θ e a grelha temática da categoria lexical que o seleciona, o que sugere uma unificação possível da θ -regência e da A-regência em termos de identificação por um índice. Assim, tal como em (31a), t é identificado (sob A-regência) por um elemento com um índice idêntico (t'),

também em (31b) *t* é identificado (sob θ -regência) por um elemento com um índice idêntico (a função- θ Tema co-indexada na grelha temática de **comprar**):

(When we talk about Portuguese, according to Stowell (1981), the θ -government relationship involves a sharing of indices between an argument in θ position and the thematic layer of lexical category that selects it, which suggests a possible unification of θ -government and A-government in terms of identification by an index. Thus, as in (31a), it is identified (under A-government) by an element with an identical index (*t'*), also in (31b) *t* is identified (under θ -government) by an element with an identical index (the function- θ co-indexed in the thematic layer of 'comprar' (to buy):

(30)

- a. [Como_i (é que) [tu pensas [t'_i que eles resolveram o problema t_i]]]?
- b. [[Que livro]_i [o João comprou t_i]]]?

Brito, Duarte & Matos (2003) state that *wh*-phrases in interrogatives, in exclamative sentences and in relative clauses in Portuguese, being different from NP traces, are not limited within a simple sentence, since they show the possibility of long movement, as in examples (31a), (31b) and (31c). In all sentences, the *wh*-constituents occupy at S-Structure a non-argument position, being related to an empty position that corresponds to the internal argument of verbs *trazer*, to bring, and *ver*, to see, and their movement is related to scope phenomena, belonging such trace to a variable type.

(31)

- (a) Quem_i é que a Maria disse que ela traz [-]_i para jantar?
Who is that Maria say-past that she brings to dinner
'Whom did Maria say that she brings to have dinner?'
- (b) [Que bonito filme]_i que ela disse que viu [-]_i este Verão!

What good film that she said that saw this summer

‘What a good film that she said that she saw this summer!’

(c) O filme [que]_i as nossas amigas disseram que viram [-]_i é franco-belga.

The film that my friends said that see is French- Belgian

‘The film our friends said they saw is Franco-Belgian.’

Let us concentrate now on interrogative sentences. As the relevant bibliography shows, languages differ as to the obligation of *wh*-movement. Take Mandarin Chinese for example: the *wh*-constituent is not necessarily displaced, which means that the movement is not obligatory.⁷

(32)

(a) Wo de baozainali?

I possessive bag at where

‘Where is my bag?’

(b) *naliwo de baozai

*where I possessive bag at

‘Where is my bag?’

Comparing (32a) with (32b), we can see that (32b) is ungrammatical, because the *wh*-phrase *nali* cannot move, showing that *wh*-movement is not obligatory in Mandarin Chinese and can stay in the basic position. By contrast, Romanian obligatory dislocate interrogative constituents, even in multiple interrogative sentences, as shown in (33a).

⁷In English: *wh*-movement is obligatory

(a) * She met whom? (only acceptable for echo) (b) Who met whom?

Again, if Mandarin Chinese constructs a sentence like (33a), as (33b) shown, it is ungrammatical.

(33)

(a) Cine ce cumpara? (Romanian)

Who what buy

‘Who buys what?’

(b) *Shui shenme mai le? (Mandarin Chinese)

Who what buy-perf.

‘Who bought what?’

The observation of several languages as for the initial or final position of the interrogative constituents justified the formulation of the following Wh-parameter (34) (Huang 1982):

(34) Wh-Parameter: In syntax, movement of wh-constituents:

Yes (Romance languages, English, Balkan languages);

No (Mandarin Chinese, Korean)

However, French, and Portuguese as well, admits that interrogative morphemes can move or not; hence the formulation of the parameter has to be revised or the existence of Huang’s Parameter may not be justified (Duarte, 2001):

(35)

(a) Elle a rencontré qui?

she had found whom

‘She found whom?’

(b) Qui a rencontré qui ?

who had found whom?

‘Who found whom?’

(Duarte, 2001)

As the following example in Portuguese shows, partial interrogatives may or may not involve syntactic movement of interrogative constituents; when they are not moved, constituents can have a normal interpretation of interrogation (asking for the value of a variable) or have an “echo” interpretation, confirming something that was heard before:

(36)

(a) Comeste o quê no restaurante?

Ate what in the restaurant

‘What did you eat in the restaurant?’

(b) Vais sair quando?

Go leave when?

‘When are you going to leave?’

(c) Tu deste o livro a quem?

you gave the book to whom

‘To whom did you give the book?’

(a) Ela demorou tanto por quê?

she took so long why

‘Why did she take so long?’

(b) Queres o quê?

want what?

‘What do you want?’

All of these data show that Huang’s parameter is not completely adequate. (From the script of *Sintaxe Comparada II*, Brito, A.M., school year of 2017-18 of FLUP)

After this brief presentation of several wh-constructions, we will now discuss PRO, illustrating with examples from English, Portuguese and Mandarin Chinese in the following section.

1.2.2.3 PRO

Being different from an NP-trace and from a variable, PRO is not the result of movement, but is base-generated, being controlled or non-controlled.

Let us analyse controlled PRO in the first place. According to the location of control, it can be divided into two control types: subject control, where PRO has its controller the matrix subject (37a,38a) and object control, where PRO is controlled by the internal argument of the matrix verb (37b,38b).

(37)

- a. John_i decided [PRO]_i to go by himself
- b. John persuades Mary_i[PRO]_i to go by herself

With some differences, Portuguese is similar to English regarding subject and object control, see the following examples.

(38)

- a. O João_i decidiu [PRO]_i sair.
 The João decided-3rd. [PRO]_i leave
 'João decided to leave'
- b. O João persuadiu a Maria_i [PRO]_i a sair
 The João persuaded the Maria_i[PRO]_i to leave
 'João persuaded Maria to leave.'

Mandarin Chinese is not completely similar to Portuguese and to English. Because of the low degree of Mandarin Chinese grammaticalization, finite and infinite verbs have no obvious marks and the demarcation between finite clauses and nonfinite clauses is not clear (Yang, 2018). But, being similar to English, examples shown in (39) do follow subject control (39a) and object control (39b) structure, since (39a) PRO is controlled by the subject *Xiaoming* and in (39b) PRO is controlled by the object *Xiaohong*.

(39)

- a. Xiaoming_i. jueding PRO_i. qu xuexi
 Xiaoming decide go study
 'Xiaoming decided to go to study'
- b. Xiaoming_i. shuofu Xiaohong_j PRO_j. quxuexi
 Xiaoming persuade Xiaohong go study
 'Xiaoming persuaded Xiaohong to go to study'

However, as noted by Yang (2018), in some particular contexts, it is hard to identify if PRO refers to the previous subject, requiring favourable contextual conditions. This is true for (40b), but (40a) need to be reanalysed, since PRO could be directly controlled by *ta*(he), referring to himself.

(40)

- a. $Ta_i xihuan PRO_i zai fangjian shuijiao$

He like at room sleep

‘He likes to sleep in the room.’

- b. $Ta_i jinzhi PRO_i zai fangjian xiyān$

He forbid at room smoke

‘He is forbidden to smoke at the room.’

In the case of (40b), there are actually two possible explanations when it comes to different contextual conditions. Imagine this sentence is spoken by a mother, thus PRO is linked to the subject *ta* (he), the translation can be ‘he is forbidden to smoke at room’. In another situation, if there are two guests in the house, one tells the other the same sentence, it can be interpreted as “he forbids others to smoke inside the room”. While being different from (40b), (40a) can only be interpreted as “he likes himself to sleep inside the room.”

For uncontrolled PRO, the three languages behave similarly, PRO with an arbitrary reference, as shown in (41):

(41)

- a. [PRO] Staying at home now is the best solution.
- b. [PRO] Não sair de casa agora é a melhor coisa.
- c. [PRO]Dai zai jia li shizuihao decuoshi.

stay at home inside be best adv. solution

‘Staying at home is the best solution.’

Since the null subject phenomenon is the major topic discussed in this dissertation, in this section, I will give a brief description of *pro* first.

Unlike PRO, *pro*, according to Chomsky, is used in the subject position of finite clauses that receive case. The use of *pro* could be regarded as the omission of overt pronouns, it is why the phenomenon was called *pro-drop*. One difference between PRO and *pro* that has frequently been noted since Rizzi (1982) is that *pro* can be interpreted as free and specific, marked by Φ features, whereas PRO never has this interpretation unless it is controlled by some other NP. In contrast, it is rarely the case that PRO in *It is impossible PRO to leave* is interpreted as someone, but rather it is interpreted as an ‘arbitrary person’.

As we will see in the next section, *pro* was initially studied in Italian. Based on these early studies on *pro*, we will identify central issues in the research on null subjects, which will be further studied in relation to EP, BP and Mandarin Chinese in the subsequent chapters of the thesis.

1.3. The Null Subject Parameter

As Chomsky (1965: 28) states, the levels of adequacy for linguistic theory can be divided into three degrees, including observational adequacy, descriptive adequacy and explanatory adequacy. According to Biberauer, Holmberg, Roberts & Sheehan (2010), the postulation of parametric variation in UG principles was a very large step in the direction

of explanatory adequacy. In fact, the null subject parameter, which originates from Perlmutter (1971), and is expanded by Rizzi (1982), is the example of a distinguished leap from the standard model in the late 70s to Government and Binding Theory and specially to Principles and Parameter Theory (Figueiredo Silva, 2016). The crucial change is the substitution of a system of rules by a system of principles and parameters.

In this section, the cluster of properties and previous studies of null subjects will be introduced to lay the foundations for the comparative study of EP, BP and Mandarin Chinese in the next chapters.

1.3.1. The Cluster of Properties Associated with Null Subject Languages (Rizzi, 1982)

Perlmutter (1971) proposes the main properties of NSLs properties, including the possibilities of extracting the subject from an embedded sentence that displays a complementizer, which is also known as “that-t effect”. This topic is furtherly studied by Taraldsen (1979), who stresses the importance of a rich verbal inflection system. Then, Kayne (1980) studies the possibility of subject inversion, indicating that in basic SVO languages, the subject can appear both on the left side of the verb and the right side of verb.

Based on previous studies of NSLs, Rizzi (1982) proposes the classic cluster of properties of NSLs (shown in 42).

(42) The cluster of properties of NSLs:

- a. the possibility of a silent, referential, definite subject of finite clauses.
- b. ‘free subject inversion’
- c. the apparent absence of complementiser-trace effects.

d. rich agreement inflection on finite verbs.

Since many 'national' Romance languages have been characterized as pro-drop or null subject languages (NSL), allowing for implicit/null pronominal subjects in the correct information-structure context (Sheehan, 2016), (42a) can be illustrated by many Romance languages, as seen in the examples in (43).

(43)

- a. Canti bene [Italian]
sing.2SG. well
You sing well
- b. Cantas bien [Spanish]
Sing.2SG well
- c. Cantes bé [Catalan]
Sing.2SG well
- d. * (tu) chantes bien [French]
Sing.2SG. well
- e. *(you) sing well. [English]

It is easy to see that, for some Romance languages, the sentences allow for a null subject position, while English and French do not, in which case that gives the evidence of property (42a).

For (42b), related to subject inversion, a focus interpretation normally occurs when the expressed subject is in postverbal position (Roberts, I. & Holmberg, 2010, p. 16), as shown in (44), where (44a) is ok and (44b) is ungrammatical.

(44)

a. Hanno telefonato molti student (Italian)

have-3PL phoned many students.

‘Many students have phoned.’

b. *Ont téléphoné beaucoup d’‘étudiants. (French)

have phoned many students

‘Many students have telephoned.’

The inversion phenomenon varies across languages, and it applies more in Spanish, Portuguese and Greek than in Italian, as we will see in chap 4. Mandarin Chinese, as an NSL, may behave also differently since the inversion behaves more like topicalization. And in Afrikaans, Dutch and German, all SOV languages, it is also hard to test the free inversion phenomenon. So, we are going to discuss this in detail later in this thesis.

The complementizer-trace effects referred to in (42c) have a close relationship with wh-movement, proposed by Perlmutter (1971). Languages which do not allow for null subjects cannot bear wh-movement if the complementizer is present, which can be seen by comparing the English and French examples in (45) to the Italian and Greek examples in (46).

(45)

a. * Who did you say that - wrote this book?

b. Who did you say - wrote this book?

c. * Qui as-tu dit qu’ – a écrit ce livre?

d. Qui as-tu dit qui-a écrit ce livre?

(46)

a. Chi hai detto che - ha scritto questo libro? [Italian]

who have-2SG said that - has written this book

‘Who did you say wrote this book?’

b. Pjos ipes oti - egrapse afto to vivlio [Greek]

who said-2SG that - wrote this the book

‘Who did you say wrote this book?’

Even though property (42c) seems appropriate in Italian and Greek, as illustrated in (46), the absence of the complementizer-trace effect is still hard to be tested in all NSLs. As Gilligan (1987) indicates (*apud* Figueiredo Silva 2016:195), subjects never appear next to the finite complementizers in VSO languages, which poses difficulties to test this effect in VSO languages. Apart from Gilligan’s statement, Mandarin Chinese is also hard to test, since the *wh*-movement is not necessary for the construction of interrogative sentences, as we have already seen above. Thus, this property also should be reviewed and discussed (for other criticisms of the close relation between complementizer-trace effect and null subject see Figueiredo Silva 2016).

The last property represented by Rizzi is the rich agreement on verbs, as most Romance languages show.

(47) Rich agreement: Italian presents not only tense differentiation but also a person and number paradigm (see, among others, Rizzi 1982, Sheehan, 2016):

	Singular	Plural
1 st	Canto	Cantiamo
2 nd	Canti	Cantate
3 rd	Canta	Cantano

However, this is also controversial when we observe other NSLs, take Mandarin Chinese for example. In Mandarin Chinese, agreement is not necessary on verbs. Thus, how to explain Mandarin Chinese also poses challenges for establishing the properties of null subject languages. Thus, in this thesis, we are going to study these properties in detail.

1.3.2. Discussion of the Nature of the Null Subject

After introducing the classic properties of NSLs, it is not hard to find that the empty category in null subject position does have properties different from those empty categories mentioned in Section 1.2.

Those empty categories can be commonly found in English or Mandarin Chinese or Portuguese, but the null subject presented in the previous section can be only found in NSLs, such as Italian.

Thus, in this section, we are going to look into the concept of *pro* and discuss its properties in NSLs.

1.3.2.1 Null *pro*: the Lexical Explanation

Being different from PRO and other empty categories, the possibility of the occurrence of null pronominal subjects (*pro*) in a language is dependent on the existence of an inflectional system with a rich morphological agreement, being able to unambiguously identify *pro*. Thus, English being a language with a poor verb morphology, cannot produce a sentence like (43) (see Raposo, 1992).

But Raposo (1992), Lobo (2013) and many others also indicate that the presence/absence of null subjects may not be founded just on a rich morphological verbal paradigm, since French and German have richer agreement systems compared to

English but do not allow *pro* to be presented, as shown in the following examples, the correspondent without a subject pronoun being ungrammatical.⁸

(48)

a. Je chante, tu chantes, il / elle chante, nous chantons, vous chantez, ils / elles chantent.
(I sing, you sing, he/she sings, we sing, you sing, they sing)

b. Il pleut (it rains)

(49)

(a) Ich arbeit-e; du arbeit-est; er / sie arbeit-et; wir arbeit-en; ihr arbeit-et; sie arbeit-en
(I am working; you work he/she works; we work; you work; they work)

(b) Es regnet (it rains).

A possible development of the lexical explanation would be that the morphological agreement could be characterized as ‘strong’ or ‘weak’ when we discuss different languages. So, a first proposal for the explanation of the presence of *pro* would be the following: For languages which have a strong agreement, *pro* is licensed. But for those which have weak agreement, *pro* is not licensed.

Even with the lexical explanation for null subjects, Rizzi (1982, chapter IV; 1986) indicates that the license of *pro* is more complex than it seems. Some languages, German and French, for example, allow for the expletive *pro* but not the referential *pro*. Take French, for example, it allows for the structure of *Stylistic Inversion*, as shown in (50a) and in (50b), but not personal *pro*, as in (50c) (Raposo, 1992).

⁸ As the examples in (50) show, the richness of French verbal morphology is more apparent than real, because different verb forms are pronounced in the same way. See: *chante* (1sg, 3sg), *chantes* (2sg) *chantent* (3sg). About German see examples in (50).

(50) Examples of French

- a. Je me demande [quand [*pro* partira ton ami]].
- b. J'exige [que [*pro* soit mis fin à ce conflit]].
- c. **pro* Chantent très bien.

When it comes to Italian, *pro* can be the solution for subject position of non-finite subordinate sentence, as in (51a) and (51b), which indicates that agreement is not an obligatory condition. And for sentence (51d), it is not hard to see that *pro* cannot have any referential content.

(51) Examples of Italian

- a. Ritengo [_{CP} essere [_{IP}*pro* troppo tardi per telefonare a Mario]].
- b. Ritengo [_{CP} essere [_{IP}*pro* probabile che Mario ci aiuti]].
- c. Ritengo [poter [lui disporre di fondi considerevoli]].
- d. Ritengo [poter [*pro* disporre di fondi considerevoli]].

Therefore, Rizzi (1986) divides the conditions that license *pro* into two categories, one condition of formal licensing, the other one a condition of identification, known as Empty Category *pro* Theory:

(52) Empty Category *pro* Theory (Rizzi, 1986):

(i) condition of formal license:

pro is required by Infl which can assign nominative case.

(ii) Condition of identification:

pro(personal) is identified by features of person and number in strong-agreement category contained in Infl category which governs *pro*.

Following this theory, Italian has an inflectional category licenser of *pro* (52i), and a strong agreement category that allows the identification of referential *pro* (as 52ii). Hence, languages like Italian admit both expletive *pro* and referential *pro*. By contrast, languages like French may follow the condition of formal license but do not have a strong agreement category. Thus, only expletive *pro* may be accepted in these languages in some conditions (see *stylistic inversion*). Being different from these two types of languages, English has neither the inflectional category nor the agreement category, so *pro* is not allowed in this language under any circumstances.

This proposal can explain the different behaviors of Italian, French and English. However, how could this theory be applied to Mandarin Chinese or Korean, which bear no case markers and have poor verbal morphology but allow *pro*? Consider the example (53) and (54) in Mandarin Chinese.

(53) [e] xiayu le

Rain perf.

‘It rains’

(54)

a. *Wo shuo [-] chile pingguo

I say ate apple

‘I say that I ate the apple’

b. *Ni shuo [-] chile pingguo

you say ate apple

‘You say that you ate the apple.’

c. Ta_i shuo [-]_i chile pingguo

He say ate apple

‘He says that he ate the apple.’

The previous data shows that a more rigorous theory of null subjects must be developed.

1.3.2.2 Typology of null subject languages

In 2010, Roberts and Holmberg argued that the null-argument systems can be described with four types: consistent, partial, expletive and radical, with EP, BP, German and Mandarin Chinese being adequate examples of each type of NSL, respectively.

In this dissertation, expletive NSL will not be studied. Thus, the expletive NSL can be observed from German shown in examples of (49).

For consistent NSLs, a rich verbal morphological system in a language has been regarded for years as the main trigger for null subjects (Rizzi 1982). In fact, with rich agreement, it is reasonable to explain the null subject phenomenon in EP, Spanish or Italian.

Lobo (2013) explains: ‘*A possibilidade de línguas como o português admitirem sujeitos nulos foi relacionada com o facto de essas línguas possuírem morfologia verbal rica, quer em estudos gramaticais tradicionais (cf. Said Ali [1908] 1930, Cunha e Cintra 1984)), quer em estudos com uma componente teórica (cf. Taraldsen 1978, Chomsky 1981).*’ (The possibility of languages, like Portuguese, allowing null subjects, was related with the fact that these languages have rich verbal morphology, both in the traditional grammatical studies and in theoretical studies) There are some examples of Portuguese in (55).

(55)

a. (Eu) Como uma maçã.

(I) eat-1st an apple

‘I eat an apple.’

b. (Tu) Comes uma maçã.

(you) eat-2nd an apple

‘You eat an apple.’

The account based on rich morphology does not explain why Mandarin Chinese, a language with no morphological agreement, allows null subjects, or BP, which has a comparatively less rich agreement than EP, with numerous restrictions on the null subject.

(56) Você come uma maçã. (BP)

You eat an apple

‘You eat an apple.’

In the eighties, Huang (1984) proposed a solution for these distinctions: he argues that if the indicator of the null subject is one internal controller, the agreement is the principle trigger. When it comes to Mandarin Chinese and Japanese, the location of the controller is out of the sentence, being closely related to the coreferential properties and discourse dimensions. This theory was developed more recently, and Roberts & Holmberg (2010) introduce the concept of Radical NSLs; according to these authors, Mandarin Chinese and Japanese are radical NSLs.

Also, a new term, Partial NSLs, was proposed regarding BP (cf. Holmberg, Nayadu & Sheehan, 2009), as its reduced verbal agreement morphology leads BP to perform differently from consistent NSLs like EP. However, Brazil is a heterogeneous country, where there are differences not only regarding verb agreement but also regarding pronominal forms. According to Duarte (2000), among others, there are three coexisting verb paradigms, presented in table (2):

Table 2: Pronoun-verb paradigms in BP (Cyrino&Duarte&Kato, 2000)

Person&number	Pronoun	Paradigm 1	Paradigm 2	Paradigm 3
1 st s	Eu	Amo	Amo	Amo
2 nd s	Tu	Amas	*	*
2 nd s	Você	Ama	Ama	Ama
3 rd s	Ele/Ela	Ama	Ama	Ama
1 st pl	Nós	Amamos	Amamos	*
1 st pl	A gente	*	Ama	Ama
2 nd pl	Vós	Amais	*	*
2 nd pl	Vocês	Amam	Amam	Amam
3 rd pl	Eles/Elas	Amam	Amam	Amam

The pronoun-verb paradigms of BP in the 20th century are shown in table (2), where the reduction of verbal agreement (mainly for the second person) and the coexistence of different grammars can be observed.

The table does not show the change, but we know that the change first occurred in the pronoun system, which triggered the reduction of the verbal morphology agreement system accordingly. The informal second-person pronoun 'Tu' almost disappeared (it

exists just in some varieties) and was replaced by the formal ‘você’. The first plural ‘nós’ has also nearly disappeared and is frequently replaced by ‘a gente’. With these changes, most linguists agree that it is the reduced verbal morphology system that led BP to lose null subjects and become a partial NSL.

Unlike what may appear at first sight, when we compare the properties of partial NSLs and radical NSLs in detail, it is hard to distinguish these two language types, which share various properties, as we will see in the following chapters. Barbosa (2019) was one of the first linguists to propose that there are similarities between partial and radical NSLs. She stresses the influence of discourse rather than agreement in prodrop constructions. The analysis developed in the next chapters will confirm this proximity.

Apart from the classic properties proposed by Chomsky (1981, 1982) and Rizzi (1982), introduced in 1.3.1, in the last decade, other properties have been proposed for NSLs. Roberts (2016), building on Chomsky (1981) and Rizzi (1982, 1986), proposes five central properties for consistent NSLs:

(57)

- (i) The possibility of leaving the definite subject pronoun unexpressed in any person-number combination in any tense;
- (ii) Rich agreement inflection on the verb;
- (iii) 3sg null subjects are restricted to a definite interpretation; an arbitrary null subject (in finite clause) needs a special marker in the 3sg;
- (iv) conform to the Rizzi-Chomsky Cluster;
- (v) allow overt subject pronouns, but with a different interpretation.

For partial and radical NSLs, Roberts (2016), based on Huang (1984), proposes the six properties presented in table (3).

Table 3: Properties of Partial NSLs and Radical NSLs.

Properties	Partial NSLs	Radical NSLs
(i)	Person restrictions on omission of a definite subject pronoun, especially 3 rd person in root contexts;	No person restrictions on omission of subject ⁹ ;
(ii)	Not necessarily very rich agreement of inflection on the verb;	No agreement inflection on the verb;
(iii)	3 rd person null subjects can have an indefinite interpretation without the need for a special marker;	3 rd person null subjects can have an indefinite interpretation without the need for a special marker;
(iv)	No general “free-inversion” option; do not conform to the Rizzi-Chomsky cluster;	Very unclear what the nature of the subject position is, but nothing comparable to “free-inversion”; do not generally conform to the Rizzi-Chomsky cluster;
(v)	Allow overt subject pronouns with no interpretative difference.	Allow overt subject pronouns with no interpretative difference; ¹⁰

⁹ But there are some restrictions as well. For example, in Mandarin Chinese, there are restrictions on 3rd person null arguments in embedded contexts.

¹⁰ Sloppy reading is also possible for radical NSLs, suggesting bare-NP ellipsis.

In the properties shown in table (3), almost all of the properties overlapped in the two types of NSLs, namely (ii), (iii), (iv), (iv) and (v) for example.

For the property (i) of radical NSLs, data from Mandarin Chinese casts doubts on its generalization. As we will see in following chapters, there is some evidence that radical NSLs are part of partial NSLs and that the current quadripartite division of NSLs may not be completely adequate.

In the following chapters of this thesis, we will examine in detail of the properties of consistent, partial and radical NSLs based on examples from EP, BP and Mandarin Chinese, with a view to determining whether this division of NSLs is empirically justified or whether an alternative division with only two types of NSLs, consistent and partial NSLs, is more adequate. As previously mentioned, expletive NSLs will not be considered in the present thesis.

To conclude, in this chapter, we have presented some theoretical considerations from Government and Binding Theory and Principles and Parameters Theory that will be important for this dissertation (section 1.1.)

In section 1.2, we have introduced some studies on empty categories, showing that from a first proposal of three different empty categories, it was necessary to introduce a fourth type ‘pro’, in order to describe null subjects.

In section 1.3, the Null Subject Parameter was introduced, with the presentation of different theories on this matter, in particular the proposal of clusters of properties that distinguish NSLs from non-NSLs. The observation that NSLs behave differently regarding some properties has justified the proposal of distinct types of NSLs: consistent, partial, expletive and radical.

As we will see in the next chapters, the central challenge for linguists is to build a uniform parameter or theoretical model in order to organize NSLs into Universal Grammar (UG). The proliferation of theories on the null subject, on one hand, shows the vital value of analysing NSLs; on the other hand, it illustrates the difficulty of unifying different theories.

So, in this thesis, we still mainly discuss the classic classification of consistent, partial and radical NSLs and, from here on, we will mainly focus on three languages: EP, BP and Mandarin Chinese; the comparison with other languages (English, Italian and French) will be included in some parts to support the hypotheses proposed in this thesis.

2. Null Subjects in EP, BP and Mandarin Chinese

After introducing some basic phenomena and theories of NSLs in the previous chapter, from this chapter on, Portuguese (both EP and BP) and Mandarin Chinese will be the main languages that will be studied and examined. We have seen that EP, BP and Mandarin Chinese are considered three distinct types of NSLs: consistent NSL, partial NSL and radical NSL, respectively. In this chapter, we will briefly study some syntactic phenomena of each language and will present questions which are going to be discussed in the following chapters.

2.1. Null subject in EP

As we have seen before, EP, compared to English or other non-NSLs, has a rich verbal agreement system marked on verbs, reflecting marks of tense, mood, aspect, person, and number. Thus, many linguists believe that the rich morphological system is the major reason for the presence of null subjects, which is supported both in traditional theories (cf. Said Ali [1980]1920, Cunha & Cintra 1984) and modern theories (cf. Taraldsen 1978, Chomsky 1981, Barbosa 2002 and others)

In fact, the verbal forms of EP have different endings for each person/number combination: (eu) *como*, (tu) *comes*, (ele) *come*, (nós) *comemos*, (eles) *comem* (Lobo, 2013). English, in contrast, only has its distinctive verbal form in the third person singular of present tense: (*I/you/we/they*) *eat*, (*he/she*) *eats*.

In this case, EP can recover all necessary information from its verbal forms. Thus, the presence of the subject, namely first and second person pronouns, is redundant in EP.

(58) Examples of EP

a. [-] *Vou ao cinema.* (eu)

- b. [-] *Vais* ao cinema (tu)
- c. [-] *Vamos* ao cinema. (nós)
- d. [-] *Ides* ao cinema. (vós)

As examples in (58) show, even though there are no phonologically realized subjects, the information of person and number can be identified without any ambiguity. For sentence (58a), without indicating the subject is *eu* (I), listeners can understand that the subject is the first-person singular form, and it is also present tense.

From this perspective, as a consistent null subject language, EP conforms to the first two features proposed in (57), it allows unexpressed subjects in any combination and has rich agreement inflection on verbs.

Notice that examples in (58) do not include sentences with third-person null subjects. In fact, the identification of the subject with the 3rd person verb form is more restricted than with 1st and 2nd person. Lobo (2013) indicates that null subjects must satisfy two conditions: (i) identification by verbal inflection, and (ii) identification by a discourse antecedent or through a referent present in the situational context. 1st and 2nd person subjects can be unambiguously identified as they only have a deictic value, i.e., they refer to an entity whose reference is established by the situational context. In cases of ambiguity, such as the sentence in (59), the overt subject tends to be preferred.

(59) O João falou baixo. Querem que repita?
 John spoke low. Do you want that – repeat?

The referent of a 3rd person subject cannot be identified in an unambiguous way outside a specific context. 3rd person null subjects are only admitted when there is a referent in

the situational context or a linguistic antecedent in the discourse context that allows the unambiguous identification of the referent of the subject.

See, for instance, the form 'vai', the subject can be 'he' or 'she'. Let us recall the third principle proposed in (57): it indicates that, in consistent NSLs, 3rd singular null subjects are restricted to a definite interpretation, and an arbitrary null subject in finite clauses needs a special marker.

There is the possibility of an ambiguous interpretation in consistent NSLs whenever the same verb morphological form is shared in the 1st and 3rd person singular.

Also, in the example (60a), in EP, the null subject is third person, and it may be in a certain way ambiguous in EP, because it may refer to at least a 'he' or a 'she':

(60)

a. Diz que o concerto vai continuar.

Say-3rd-sg that the concert go-3rd-sg continue

'He / she says that the concert will continue.'

b. Dizem que o concerto vai continuar.

Say-3rd -pl that the concert go-3rd-sg continue

'someone says that the concert will continue''

c. Diz-se que o concerto vai continuar

say-se that the concert go-3rd-sg continue

'someone says that the concert will continue.'

In fact, in EP this is not the preferable way to express ‘someone’. Consequently, if EP wants to express a generic subject, we need one of two ways: a generic 3rd person plural (60b) or a SE construction (60c):

Let us see now some examples of null subjects in complement clauses:

(61)

a. O João disse que [-] comprou um computador.

John said that - bought a computer

(John_i said that he_i bought a computer.)

b. O João disse que ele comprou um computador.

John said that he bought a computer

(John_i said that he_j bought a computer.)

(Barbosa, 2005)

Comparing sentences in (61), both sentences are grammatical in EP, however, the meanings are different. For (61a), the subject position of *comprar* (to buy) is null and the null subject is interpreted as coreferential with the matrix subject; so, it is *João* (John) that bought the computer.

As for (61b), the subject *ele* (he) is preferably interpreted not as the *João* of the matrix clause and refers to someone else. We see therefore that, in the European variety of Portuguese, unless it is emphatic, an embedded overt pronoun is preferably interpreted as non-coreferential with matrix subject (the Avoid Pronoun Principle of Chomsky 1981). We will see in the next section that BP behaves differently from EP.

It is important to note that these interpretative biases can be cancelled under certain conditions, as illustrated in the EP example in (62b) (from Lobo, 2013:2323), where the pragmatic context favours the extrasentential antecedent for the embedded null subject over the matrix subject antecedent. When the context is not incompatible with the null subject bias for the matrix subject, this interpretation is the preferred one, as illustrated in (62a) and (62b).

(62)

a. [O Rui]_i pensa [que [-]_i vai chegar atrasado].

Rui thinks that go-3rdsg arrive late

(Rui thinks that he will arrive late)

b. [O João]_i não ouviu o despertador. O Rui pensa [que [-]_i vai chegar atrasado].

John not heard the alarm, Rui thinks that go-3rdsg arrive late

(John didn't hear the alarm. Rui thinks that he will arrive late.)

c. O João chegou a horas. [O Rui]_i pensa [que [-]_i vai chegar atrasado].

John arrived on time. Rui thinks that go-3rdsg arrive late

John arrived on time. Rui thinks that he will arrive late.

All null subjects presented in (60), (61), and (62) are definite referential subjects, but the examples in (63) contain arbitrary subjects. As said before, in EP, the clitic pronoun *se* can be applied with an arbitrary value. (63b), when both the subject *a gente* and clitic *se* are phonetically realized, is ungrammatical.

(63)

a. [-] Vive-se num mundo de incertezas.

Lives-SE in-a world of uncertainty

(People live in world of uncertainty.)

b.* A gente vive-se num mundo de incertezas.

People lives-SE in-a world of uncertainty

c. A gente vive num mundo de incerteza.

People lives in-a. world of uncertainty

(People lives in a world of uncertainty.)

Thus, it is clear that EP conforms to the principle (iii) proposed in (57), showing the possibility of a definite interpretation when the 3rd person subject is null and the necessity of a special marker in the 3rd person if the subject is arbitrary.

For the last property in (57), (a consistent NSL allows overt subject pronouns but with a different interpretation), we see that in complex sentences like those in (61) the presence of *e/e* may trigger a disjoint interpretation.

It is not hard to find that, actually, some properties, especially those in (i-iii) proposed by Roberts (2016) in (57), overlap with some of the projections of the classic cluster. The main property left to be discussed is the subject position.

In EP, subject-verb inversion is common. As an SVO language, EP allows the presence of postverbal subject (a V S pattern) in certain circumstances. Thus, all sentences in (64) are grammatical, (64a) with an unaccusative verb and (64b) with an unergative verb.

(64)

a. Chegaram os meninos.

b. Telefonou a Maria.

However, the explanation for postverbal subjects and pre-verbal subjects are diverse, which will be discussed in Chapter 3 in detail.

As all examples in this section show, all properties proposed in (57) can be applied to EP. Partial NSLs like BP have more rigorous conditions for the subject to be null. In the next section, BP is discussed and compared with EP.

2.2. Null Subject in BP

As Duarte (1993,1995), among others, notes, BP shows an increasing tendency to use overt subjects rather than null subjects. Compared with EP, as indicated before, BP has a relative impoverished morphological inflectional paradigm on verbs, thus BP prefers to fill the pre-verbal position of a verb with a phonetically realised subject rather than an empty form, as illustrated by the examples in (65).

(65)

a. E ele_i precisou ir ao banheiro. Quando ele_i viu o que era o banheiro ele_i ficou apavorado.

(And he needs to go to bathroom. When he saw what bathroom was, he was terrified.)

b. [A casa]_i virou um filme quando ela_i teve de ir abaixo.

(The house became a movie when it was demolished.)

(Duarte, 1993)

All subject positions are filled by a definite nominal expression or a pronoun. As a matter of fact, the examples (66) are common in spoken BP. Unlike EP, the informal second person singular pronoun 'tu' is rarely used in BP, instead the formal second person

singular ‘você’ is used. The first-person plural pronoun *nós* has also been replaced by ‘*a gente*’ in many varieties of BP. Crucially, *você* (you) and *a gente* (we) occur with the verb in the 3rd person singular. These changes in the pronominal system of BP have triggered a reduction of the morphological inflectional verbal paradigm. Certain authors argue that this change in BP is similar to the case of Middle French (Vance, 1989, Roberts, 1993).

(66) BP

- a. Eu vou ao cinema.
- b. Você vai ao cinema.
- c. Ele vai ao cinema.
- d. Nós vamos ao cinema / a gente vai ao cinema.
- e. Vocês vão ao cinema.

Given the facts presented above, it can be concluded that BP exhibits the first two properties of partial NSL proposed by Roberts (2016), which is “person restrictions on omission of a definite subject pronoun, especially third person in root contexts” and “not necessarily very rich in agreement of inflection on verb” are found in BP.

The overt pronoun in BP allows for both a coreferential and a disjoint interpretation. Here are some examples from Barbosa (2019), who shows that the null subject in (67b) in EP is used when the embedded subject takes the matrix subject as antecedent, and (67a) is the preferable form in BP with a coreferential interpretation.

(67)

- a. O João disse que ele comprou um computador.

the João said that he bought.3SG a computer

‘John said that he bought a computer.’

b. O João disse que [-] comprou um computador

the João said that bought.3SG a computer

‘John said that he bought a computer.’

(Barbosa, 2019)

When there is an intervening potential antecedent standing between the null subject and its antecedent, BP and EP also perform in a distinct way.

(68)

[O João]_i disse que os moleques acham [que[-]_i é esperto]

the John said that the boys think-3pl that is smart

‘John said that the boys think that he is smart.’

(Barbosa, 2019)

A sentence like (68) is grammatical in EP with an intervening potential antecedent ‘os moleques’ between ‘O João’ and the second complement clause. However, it is ungrammatical in BP (Modesto, 2000a, Rodrigues, 2004,) and an overt pronoun must be used. In other words, a referential null subject requires a local antecedent in BP but not in EP.

According to Figueiredo Silva (2017), in BP, the overt subject pronoun does not need to have a referential subject in a higher position, it may even be a quantified subject, as in (69a) The subject in the embedded clause ‘ele’ can refer to ‘cada professor’ and, in the same variety, we can even have a matrix subject to be coreferential with an overt pronoun, even with an intermediate subject of the same gender and number, as in (69b).

(69) a. [Cada professor]_i pensa que a Maria disse que ele_i é inteligente.

Each teacher thinks that the Mary said that he is intelligent

‘ Each teacher thinks that Mary said that he is intelligent.’

b. [Cada professora]_i pensa que a Maria disse que ela_i é inteligente.

each teacher-f thinks that DET Mary said that she is intelligent

‘ Each teacher thinks that Mary said that she is intelligent.’

(Figueiredo Silva, 2017)

We then conclude that EP and BP differ in the interpretation of null / overt personal pronouns in embedded sentences, in particular for the coreferential interpretation.

To summarize this point, non-arbitrary subjects in BP have a stronger tendency to be phonetically realized in BP than in EP (cf. Barbosa, Duarte & Kato, 2005; Kato & Duarte, 2014). The loss of null subjects is, however, more visible in the first and second person than in the third person (Duarte, 1995, Duarte & Figueiredo Silva, 2016).

As for third person null subjects, they have a much more limited distribution in BP than in EP. (cf. Barbosa, Duarte e Kato, 2005). And they need an accessible antecedent capable to identify them. See Duarte (1995) and Figueiredo Silva (2016). In a complement clause, BP allows overt subject pronouns with no interpretative difference, which is another property of partial NSLs as well.

Let us now examine how arbitrary subjects are expressed in BP. We have seen before that the arbitrary subject in consistent NSLs is often realized as *se*, as in (70) in EP. On the contrary, BP, as a partial NSL, does not behave like EP, as the examples (70c, d) show:

(70)a. É assim que se faz o doce. (EP)

is thus that SE makes the sweet

‘This is how one makes the dessert.’

b. Nesse hotel não se pode entrar na piscina bêbado. (EP)

in-this hotel NEG SE can enter in-the swimming-pool drunk

‘In this hotel it is not permitted to go in the swimming pool drunk.’

c. É assim que faz o doce. (BP)

is thus that makes the sweet

‘This is how one makes the dessert.’

d. Nesse hotel não pode entrar na piscina bêbado. (BP)

in-this hotel NEG can enter in-the swimming-pool drunk

‘In this hotel it is not permitted to go in the swimming pool drunk.’

(Holmberg, Nayudu & Sheehan, 2009)

In (70), we see that in BP there is no overt strategy to compensate for the arbitrary null subject and it is licit to use a null subject in this case. This is also true for non-thematic subjects, as with weather predicates, as illustrated in (71).

(71) Está chovendo. (BP)

is raining

‘It’s raining’

The examples in (70) illustrate the third property of partial null-subject languages, which is that “third null subjects can have an indefinite interpretation without the need for a special marker”. But here some questions are justified: (i) Is there any relationship

between types of subjects and the position of the null subject? (ii) Under which conditions the null subject can be null or not? We will leave these questions to be discussed with more detail in the following chapter.

The fourth property mentioned by Roberts (2016) is related to the position of the subject. EP allows free subject inversion, but BP does not. Sentences in (64) (*Chegaram os meninos/ Telefonou a Maria*) can be hardly found in BP. We will also return to this topic in chapter 4.

2.3. Null Subject in Mandarin Chinese

Mandarin Chinese, as a pro-drop language, has been discussed for a long time, being regarded as a radical NSL, along with Japanese, Korean, Kokota, Wichita, Malayalam, Thai, Burmese and Indonesian. Chinese is a language that lacks articles, and allows null subjects and null objects (Barbosa,2019).

Most of the studies on Mandarin Chinese have put the focus on the comparison between Mandarin Chinese ECs and English ECs, applying the differences to translation studies. Thus, compared with null subject studies in Portuguese, the syntactic analysis of null subjects in Mandarin Chinese is not abundantly studied. In this chapter, previous studies on null subjects in Mandarin Chinese will be introduced and discussed, leaving some particular questions to be solved in the following chapters.

Before discussing null subjects, we must introduce some basic properties of Mandarin Chinese. This language has a poor verbal morphology system, which means that person, number, tense and mood are rarely marked on verbs.

(72)

a. Wo xihuan pingguo

I like apple

'I like apple.'

b. Ta xihuan pingguo

he/she like apple

'He/she likes apple.'

c. Women xihuan pingguo

we like apple

'we like apple'

d. Wo zhiqian xihuan pingguo

I before like apple

'Before, I liked apple.'

From the observation of the examples in (72), we see that no matter the change of person or tense, the verb *xihuan* ('like') remains always the same. For tense, only a phrase *zhiqian* ('before') is added to indicate the past.

Due to the poor morphological system in Mandarin Chinese, the following problem arises: how to define the finiteness of a clause? In general, a clause containing a finite verb can be regarded as a finite clause, and vice versa. In this case, if the verb does not have any tense, person, number or mood markers, how can we define finiteness?

Huang (1984) proposes a new way to define verbs in Mandarin Chinese. In his view, there are two types of verbs: 'Say-Type' verbs and 'Force-type' verbs. The first group, which is the 'Say-type', is followed by a finite clause, while the second group is followed by a non-finite clause, containing a so-called 'control verb'.

(73) Two types of Verb in Mandarin Chinese

- a. Say-type verb: shuo ('speak'), xiangxin ('believe'), zhidao ('know'), gaosu ('tell')...
- b. Force-type verb: zhunbei ('prepare'), shifa ('try'), quan ('persuade'), bi ('force'),
qing ('invite')...

The finiteness of a sentence, according to Huang (1984), can be tested by the insertion of modal auxiliaries, for example, *hui* ('can').

Consider example (74): if the modal auxiliary *hui* is inserted in the clause in (74a), it will be ungrammatical (see 74c). Verbs in (74) are 'Force type verbs', thus the following clause is a non-finite clause.

(74)

- a. Wo zhunbei [PRO mingtian lai]

I prepare tomorrow come

'I prepare to come tomorrow.'

- b. Wo quan Zhangsan [PRO bumai zhe ben shu].

I persuade Zhangsan not buy this DET book

'I persuade Zhangsan not to buy this book.'

- c. *Wo zhunbei [PRO mingtian hui lai].

I prepare tomorrow can come

By comparing the sentences in (75) with those in (74), we see that, regarding question (75a), all answers from (75b) to (75d) are grammatical. Especially in (75d), the auxiliary *hui* can be added to the clause. Thus, following Huang (1984), the clause is finite.

(75)

a. Xiaoming mingtian lai ma?

Xiaoming tomorrow come Q

‘Will Xiaoming come tomorrow?’

b. Wo xiangxin [*pro* lai].

I believe come

‘I believe he will come.’

c. wo xiangxin ta lai.

I believe he come

‘I believe he will come.’

d. wo xiangxin ta hui lai.

I believe he ART come

‘I believe he will come.’

Not all linguists agree with this theory to identify the finiteness of a clause. Take Xu (1994), for example. He argues that, even though a sentence like (74) cannot include the auxiliary *hui*, other auxiliaries can be added, such as *yao*, which also indicates the future tense, as shown in (76).

(76) wo zhunbei [PRO mingtian yao canjia yige hui]

I prepare tomorrow will attend a meeting

‘I prepare to attend a meeting tomorrow’.

The embedded clause in (76) contains the auxiliary *yao*(will), which also indicates the future tense. In this case, the methodology proposed by Huang (1984) is problematic.

With these doubts, Hu (1997) continues to propose a renewed criterion for the definition of the non-finite clause, based on the EPP, PRO theorem and Case theory, as shown in (77).

(77) Hu's Criterion (1997)

- a. The subject position is a theta-position.
- b. The subject position cannot be lexicalized.

Under these two restrictions, the sentence in (78) is a non-finite clause, since PRO occupies the theta-position, and if another element is inserted, it turns out to be an ungrammatical sentence.

(78)

a. Zhangsan shifa [PRO bu chouyan]

Zhangsan try not smoke

'Zhangsan tries not to smoke.'

b. *Zhangsan shifa ta bu chouyan

Zhangsan tries he not smoke

'Zhangsan tries not to smoke.'

Thus, in Mandarin Chinese, the finiteness of a sentence is not characterized by the morphological system but by comparing the verb type. Two methods, which were presented here, describe this basic language phenomenon in Mandarin Chinese.

All examples from (72) to (78) show that Mandarin Chinese allows for both PRO and *pro* in subject position, even though there are restrictions for *pro*. Huang (1989) compares the similarities between PRO and *pro*, proposing that PRO and *pro* can be treated as a group rather than separate empty categories. They share many similarities, according to his Generalized Control Rule.

(79) Generalized Control Rule (GCR) (Huang, 1989, p. 193)

α is the control domain for β if it is the minimal category that satisfies both (a) and (b):

- a. α is the lowest S or NP that consists of (i) β , or (ii) the minimal maximal category containing β (henceforth, MMC (β)).
- b. α contains a subject accessible to β .

According to Huang's GCR theory (1989), both PRO and *pro* can have two possible control domains, one with the lowest NP/P including β , and one with the MMC (β). Thus, all examples shown before with PRO or *pro* are treated equally in Huang's Control Theory.

On the contrary, Xu (1986) thinks that Mandarin Chinese has a new empty category, which is called Free Empty Category (FEC). Languages like Mandarin Chinese, Japanese and Korean, lacking morphological markers, have a free empty category as a null subject. Other languages with specified features, like English, Portuguese, and Italian, conform to the classification of four empty categories, shown in (80).

(80) Xu's classification of Empty Categories (1986)

Type 1: EC without specified features: FEC (Mandarin Chinese).

Type 2: EC with specified feature: NP-trace, PRO, variable, and *pro*.

Both Xu's and Huang's classifications have deficiencies. In Xu's theory, English, French, Portuguese, and Italian are all categorised together. However, it should be noticed that Portuguese and Italian allow for *pro* but English and French do not. And Mandarin Chinese, categorised as a type 1 language, on the contrary, allows for *pro*. This poses the first problem to Xu's proposal. For Huang, there are some similarities between PRO and *pro*. Nevertheless, in a sentence like (78), under certain circumstances, overt subject pronouns cannot be inserted, which turns a non-finite clause with a PRO; in other circumstances, the insertion of overt subject pronouns is admitted. In this case, *pro* should be discussed separately from PRO. Thus, in this thesis, I will still use the universal classification of ECs, only distinguishing the different types of null subjects.

Apart from the complex sentences referred before, there are great restrictions on *pro* as well in simple sentences.

Examples (81) and (82) are from Huang (1989), indicating that both subjects and objects can be dropped in finite sentences.

(81) Questions:

Zhangsan kanjian Lisi le ma?

Zhangsan see Lisi ASP Q

'Did Zhangsan see Lisi?'

(82) Answers:

a. (ta) kanjian (ta) le.

he see he Perf

'(He) saw (him).'

b.

wo xiang (ta) kanjian (ta) le.

I think he see he Perf

‘I think (he) saw (him).’

In (82), both subjects and objects can be null, and the empty category should be identified contextually. If there is no context or dialogue behind a simple sentence like ‘I like apple’, the subject is preferentially overt. In contrast, examples like (83) are completely grammatical with *pro*, in the absence of a context, because they contain expletive or non-argument subjects:

(83)

a. xiayu le.

rain. Part.

‘It’s raining.’

b. zhengzai xiaxue.

now rain

‘It’s raining.’

c. kanqilai hen hao.

seem very good

‘It seems very good.’

As for word order and specifically subject ‘inversion’, Mandarin Chinese allows it, as illustrated in (84), but, as will be discussed in chapter 4, this word order is subject to rigorous conditions.

(84)

a. tamen dao le.

they arrive part.

‘They have arrived.’

b. Dao le tamen.

Arrive part. they

‘They have arrived.’

c. Ta. dao le.

he arrive part.

‘He has arrived.’

d. Dao le ta.

Arrive part. he

‘He has arrived.’

Comparing sentences (a) / (b) with (c) / (d), we can see that, when the pronoun is referential, subject-verb inversion is accepted in oral and informal conditions. However, the focus of interpretation is different among these four sentences, which will be discussed in detail in chapter 4, with a comparison of the different scope of focus.

As for complex sentences, in particular adverbial / temporal clauses, according to Zheng, Luegi, Madeira & Matos (2018), in Mandarin Chinese, it is not only possible but also highly frequent for both a null and an overt subject to be interpreted as referring to a subject antecedent in forward anaphora structures (Yang, et al., 2010)

(85)

a. Zhangsan_i daizhe yiding maozi, zai [-]_i chui lazhu de shihou.

Zhangsan wear Asp. one hat at. blow candle of time

‘Zhangsan was wearing a hat, when (he) blew the candle.’

b. Zhangsan_i dai zhe yiding maozi, zai ta_{i/j} chui laizhu de shihou.

Zhangsan wear Asp. one hat at. he blow candle of time

‘Zhangsan was wearing a hat, when he blew the candle.’

Both sentences in (85) contain *when* clauses, where the interpretation of null subject is highly influenced by the semantic input.¹¹ Second, even though both (85a) and (85b) are both accept by Mandarin Chinese, the frequency and interpretation are different. (85a) can be heard in colloquial Mandarin Chinese, however it does not represent a formal sentence, usually the focus is the previous sentence. If the order of clause of (85) is switched, the interpretation will be totally different, as illustrated in (86).

(86)

a. Zai [-]_i chui laizhu de shihou, Zhangsan_i daizhe yiding maozi.

at. blow candle of time Zhangsan wear Asp. one hat

When Zhangsan is blowing the candle, he wears a hat.’

b. Zai ta_j chui laizhu de shihou, Zhangsan_i daizhe yiding maozi.

at. he blow candle of time Zhangsan wear Asp. one hat

When he is blowing the candle, Zhangsan wears a hat.’

¹¹ Zheng 2018 analyses “when clauses” as non-restrictive relative clauses, which means that there is no c-command between the subject of the “when clause” and the subject of the matrix clause. See below the discussion about completive clauses.

When the null subject clause locates in the first position, it is interpreted as the coreferential subject in the following clause. However, when the overt pronoun clause is present in the first position in (86b), with the neutral tone, the interpretation of pronoun ‘he’ cannot be the same as the subject in the following sentence. Therefore “when clauses” cannot provide enough evidence to verify if Mandarin Chinese allows for a c-commanding condition on the interpretation of null and non-null third pronouns.

To verify this, we must look for completive clauses. Some examples in Mandarin Chinese are provided in (87).

(87)

a. Qiao_i shuo ta_{i/j} maile yitai diannao

John say he bought one computer

‘John said he bought a computer.’

b. Qiao_i shuo [-]_i maile yitai diannao

John say bought one computer

‘John said he bought a computer.’

c. Qiao_i gaosu Xiaoming_j ta_{i/*j} maile yitai diannao

John tell Xiaoming he bought one computer

‘John tells Xiaoming that he bought one computer.’

In completive sentences like (87), there is a c-command relation between the two subjects involved. With an overt embedded subject, (87a) can be interpreted as (87b), which has a null embedded subject. In this case, MC is again like BP. As for (87c), the

subject in the embedded clause can be linked to the c-commanding subject of the matrix clause.

However, in predicative sentences, the null embedded *pro* behaves differently from examples (87), as illustrated in (88), which is ungrammatical with a null embedded subject.

(88)

a. *Xiaoming_i renwei [-]_i hen congming

Xiaoming think he very smart

‘Xiaoming thinks that he is very smart.’

In order to change (88a) into a grammatical sentence, a local anaphor like *ziji* should be added to the subject position, as shown in (89).

(89) Xiaoming_i renwei [-]_i ziji hen congming

Xiaoming think self very smart

‘Xiaoming thinks that he is very smart’.

Adding a local anaphor in subject position, the null pronoun can have a coreferential interpretation with the subject in the matrix clause. This effect is also discussed by Barbosa (2019), even though Mandarin Chinese lacks Exceptional case-marking (ECM), subjects of complement clauses behave as though they are in the same binding domain as the matrix clause. This complex anaphor can appear as the subject of the completive clause, but only when it is the subject of a clause immediately below its antecedent.

However, this complex anaphor cannot be the sole subject a simple sentence, as illustrated in (90), which is explained by Principle A of the Binding Theory.

(90)

. *Ziji xihuan dangao

Self like cake

'I myself like cake.'

As for the anaphor 'ziji', this cannot be go to a deeper position, when it is compared with the respective position in (91).

(91)

a. Zhangsan_i juede Lisi_j hui shanghai ta ziji*_{i/j}.

Zhangsan think Lisi will hurt him self

'Zhangsan_i thinks that Lisi_j will hurt himself*_{i/j}.'

(Haddad 2007)

b. Xiaoming_i xiangxin ta ziji_i neng kaoguo.

Xiaoming believe him self can pass.the.exam

'Xiaoming believes that he himself can pass the exam.'

(Sung, 1990)

To conclude the discussion on subjects of Mandarin Chinese in embedded clauses, the examples show that subjects in completive clauses can be null or overt. For embedded subjects, both the null and overt pronouns can be interpreted as co-referential to the

matrix subjects, showing that, as Roberts (2016) notes, radical NSL “allow overt subject pronouns with no interpretative difference”.

As for predicate sentences, the null embedded *pro* can only be grammatically linked to the matrix subject with the anaphor ‘*ziji*’, which may be further studied in the future.

Comparing Chinese to BP and EP, the null embedded subject, a *pro*, is allowed to present in completive clauses of all three languages, even though Mandarin Chinese “prefers” an extra anaphoric ‘*ziji*’ in the embedded subject position. In these conditions the null embedded subject should be coreferential to the subject of an immediately higher sentence.

As for an overt embedded subject, consistent NSL prefer a non-coreferential interpretation, while both NSL of BP and Mandarin Chinese admit coreferential and disjoint interpretation to the matrix subject.

From all examples above, we can see that BP and Mandarin Chinese are very similar regarding the distribution and interpretation of *pro* and full pronouns in embedded contexts, particularly in complement clauses.

Thus, regarding the null subject and its relation to word order, *pro* and overt pronouns in completive sentences, Mandarin Chinese has a pattern being similar to BP, which will be discussed in following chapters as well. It should, however, be stressed that verbal agreement may trigger the null subject in EP and partially in BP, but not in Chinese. It is, therefore, crucial to elaborate the theoretical explanation of NSLs.

2.4. Conclusion on the Types of Subjects in the Three Languages

Even in NSLs, types of null subjects can be different. Moreover, the different types of subjects may also influence the null property. In this section, types of subjects are discussed and studied in order to build a theoretical background for the discussion to be developed in following chapters.

Subjects can be classified by their semantic and thematic properties, dependent on the semantic value assigned by the predicate. Moreover, subjects differ from each other regarding their referential ability, being definite/indefinite, specific/nonspecific, generic/non generic.

As for thematic roles, a nominal phrase can play various roles, being an Agent, an Experiencer, a Theme, a Patient, a Location, etc. According to Lobo (2013), depending on the distribution of thematic roles by a predicate in a sentence, it is possible to distinguish argumental subjects, quasi-argumental subjects, and non-arguments. Argumental subjects are subjects receiving a thematic theta role in a sentence, for example, Agent, Experiencer or Theme, as illustrated in (92) for Portuguese and in (93) for Mandarin Chinese.

(92)

a. *A Maria telefonou.*

ART-f. Maria phoned

‘Maria phoned.’ (Agent)

b. *O João gosta da Maria.*

ART-m. João likes prep-f. Maria

‘João likes Maria.’ (Experiencer)

c. *A árvore caiu.*

ART-f.tree fell

‘The tree fell down.’ (Theme)

(93)

a. *XiaoMing* zai dadianhua

XiaoMing part. phone

‘Xiaoming is phoning.’ (Agent)

b. *XiaoLi* xihuan Lili.

XiaoLi like Lili

‘XiaoLi likes Lili.’ (Experiencer)

c. *Shu* dao le.

Tree fall part.

‘Tree fell down.’ (Theme)

In (92a) and (93a), *a Maria* and *Xiaoming* are Agents of the verbs *telefonar* and *dadianhua*; experiencers are presented in (92b) and (93b), *o João* and *XiaoLi*. The last sentence of each group contains a Theme subject, *a árvore* and *shu*, respectively.

In Portuguese, existence verbs such as *existir* and raising verbs like *parecer* are good examples of verbs that have either non-thematic subjects (*parecer*) or Theme arguments, generally in post-verbal position, as in (94). The same happens in Mandarin Chinese, examples in (95) contain the verb *You* (‘have’) and *Kanqilai* (‘seem’).

(94)

a. [-] _{expl} Existem muitos acidentes nesta estrada.

exist-3rd many accidents on-this-f. highway

‘There are many accidents on this highway.’

b. [-]_{expl} Parece que a Maria é corajosa.

Seem-3rd that ART-f. Maria is brave-f.

‘It seems that Maria is brave.’

(95)

a. you shigu fasheng le

Have accident happen part.

‘There is an accident.’

b. kanqilai XiaoMei hen yonggan.

Seem XiaoMei very brave

‘It seems that XiaoMei is very brave.’

Non-argumental subjects refer to grammatical subjects without thematic roles. Weather verbs belong to this type and the subject is null in NSLs, for example in Portuguese, presented in (96):

(96)

a. [-]_{expl} Chove

Rain-3rd

b. [-]_{expl} Neva

Snow-3rd

However, a phonological realized noun phrase is also admitted with the verb *chover* to rain’, as in (97). In this case, when subjects have a minimal referential ability in a sentence, they can be treated as “quasi-argument” subjects. This type of subject

behaves similarly to non-argument subjects: it is usually a third person singular personal pronoun, and it corresponds to non-referential pronouns in non-NSLs, like *it*, *il*, *es*, and so on.

(97)

a. Chovem pedras de gelo.

Rain-3rd-pl cubes of ice

‘it’s raining ice cubes.’

b. Nevam minúsculos flocos de neve.

Snow-3rd-pl small flakes of snow

‘It snows small snowflakes.’

(Lobo, 2013)

There are examples from Mandarin Chinese in (98) as well.

(98)

a. [-]_{expl} xia yu le.

drop rain part.

‘it’s raining.’

b. [-]_{expl} xia xue le.

drop snow part.

‘it’s snowing.’

c. [-]_{expl} xia bingbao le

drop hailstone part.

'it hails.'

In (98), the three sentences contain the meteorological verb *xia* ('drop'), and like in Portuguese, the verb can select a nominal expression. Consider example (98a), which combines with the noun *yu* ('rain'); what should be noticed is that the verb initial sentence is grammatical and commonly used in Mandarin Chinese.

In the following chapter, we are going to analyze these different types of subjects in detail to test their behavioral NSLs.

To summarize, this chapter studied the Null Subject Parameter and briefly described how it is characterized in three different types of languages: Consistent, Partial and Radical NSLs.

In section 2.1, the null subject in EP was introduced. Given the rich verbal agreement morphology of this language, 1st and 2nd person pronouns can easily be null. 3rd person null subjects are subject to more restrictions. They need to be unambiguously identified by a discourse antecedent or a referent present in the situational context. A 3rd plural null pronoun and *se*-constructions are the solution used in generic sentences. EP conforms to all properties proposed in (57) regarding null subjects

In section 2.2 null subjects in BP were discussed, with some properties being like EP, and some behaving markedly differently. Referential subjects in BP have a stronger tendency to be phonetically realized in BP than in EP. Besides, word order and null/overt subject alternation in complement clauses can also be considered differently when it is compared with EP.

In section 2.3, the focus was on Mandarin Chinese. Since Chinese is a morphologically poor language, the type of verbs was firstly studied, which influences the null subject structure. By comparing different types of sentences containing different types of verbs, we concluded that Chinese behaves differently from EP, but may behave similarly to BP, which was left to be discussed in the following chapters.

In section 2.4, the types of subjects in NSLs were discussed regarding to these three languages. In addition to verbal morphology, the type of subject also influences the characterization of different types of NSLs, which will be discussed in greater depth in chapter 3.

We have seen that it is not hard to find some similarities between Mandarin Chinese and BP as for the presence of *pro*. The syntactic rules used to explain these similarities should be studied and explained in a new way. Apart from verbal morphology, the types of subjects also influence the possibility of subject drop. Thus, from here on, we are going to compare Mandarin Chinese with BP and EP from a different scope, which provides more possibilities to reconsider the classification of NSLs and the null subject parameter.

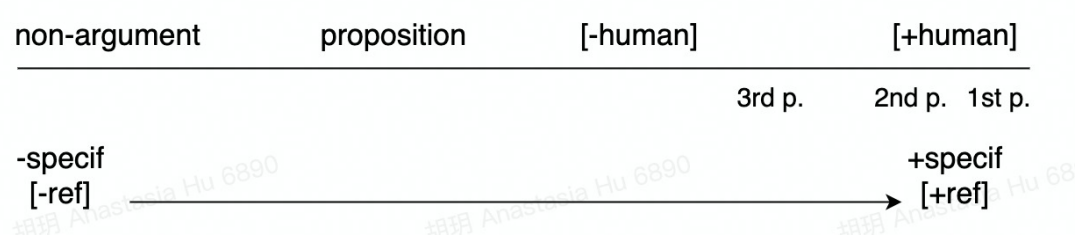
3. The Nature of Subjects in NSLs

After introducing some basic phenomena and theories of NSL in the previous chapters, from this chapter on, Portuguese (both EP and BP) and Mandarin Chinese will be the main languages that will be studied and examined. We have seen that EP, BP and Mandarin Chinese are three distinctive examples of three types of NSLs, namely consistent NSL, partial NSL and radical NSL, respectively. In this chapter, we will briefly study some syntactic phenomena of each language, in particular focusing on the referential property of subjects, mainly the impersonal and indefinite SE in Portuguese and their equivalents in Mandarin Chinese.

3.1. Referential Hierarchy of Subjects

Cyrino, Duarte & Kato (2000), among others, propose that when some languages or varieties have an internal option for a null variant or a non-null variant, one strong factor for the selection of one form or another is related to the referential status of the subject. In fact, there is a tight relationship between the referential hierarchy and the ability to be null. In this section, we are going to see how the referential hierarchy of subjects in general may influence the subject realization in EP, BP and Mandarin Chinese. Figure 2 presents the referential hierarchy proposed by Cyrino, Duarte & Kato (2000).

Figure 2 Referential Hierarchy



(Cyrino, Duarte e Kato (2000:59)

The diagram shows a hierarchy of reference of nominal expressions, presenting different referential degrees of pronouns and nominal expressions. In this hypothesis, the first person and the second person are the most referential subjects, either in non NSLs or in NSLs, followed by the third person pronoun and full NPs. Propositions and non-argument nominal expressions are the least referential category.

With this proposal of referential hierarchy, one question arises: is there any relationship between this hierarchy and null subjects in NSLs? Cyrino, Duarte e Kato (2000:59) propose the Implication Mapping Hypothesis as shown in (99).

(99) The Implicational Mapping Hypothesis

- a. The more referential, the greater possibility of non-null pronoun.
- b. A null variant at a specific point on the scale implies null variants to its left in the referential hierarchy.

(Cyrino, Duarte e Kato (2000:59)

Since EP is a consistent NSL, it allows for null subjects almost in any condition in simple sentences. Despite this fact, the Referential Hierarchy and the Implicational Mapping Hypothesis are relevant to account for the null/overt subject alternation in this language. As these proposals by Cyrino, Duarte & Kato (2000) would predict, in EP, subjects at lower positions in the referential hierarchy are less likely to be phonetically realized than subjects at higher positions. For example, the subjects at the bottom of the hierarchy, i.e., non-argumental subjects, are obligatory null in EP. Arbitrary subjects are also necessarily null in EP. They cannot alternate with an overt pronoun, maintaining the same interpretation. Consider the following example from Lobo (2016):

(100)

a. Estão a bater à porta. Vai ver quem é.

Are to knock the door. Goes see whom is.

‘They are knocking the door. He will see who are they.’

b. *Eles estão a bater à porta. Vai ver quem é.

They are. To knock the door. Goes see whom is

‘They are knocking the door. He will see who are they.’

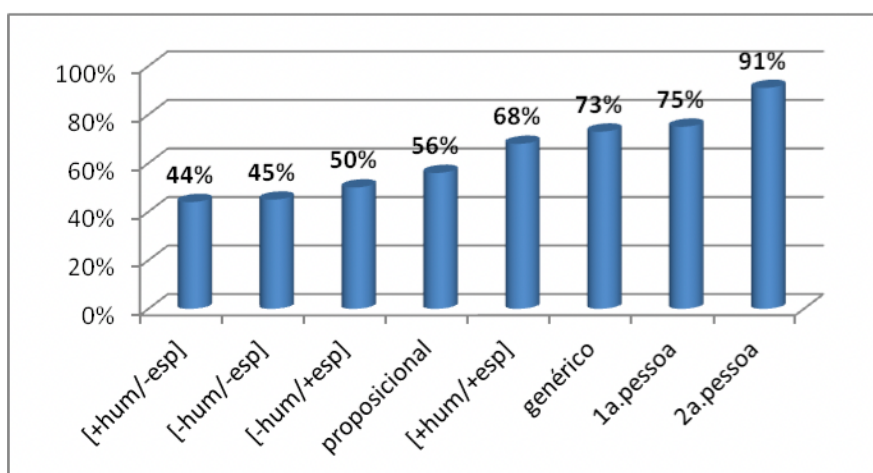
As Lobo (2016) notes, the sentence *eles estão a bater à porta* is grammatical, but it no longer has an arbitrary reading. The hierarchy in Figure 2 includes the trace [+ specific]. An arbitrary subject is [-specific] and, therefore, according to the referential hierarchy, it is less referential than a non-arbitrary subject. Therefore, the fact that arbitrary subjects are obligatorily null but non-arbitrary argumental subjects are not consistent with the Referential Hierarchy and the Implicational Mapping Hypothesis.

In the case of non-arbitrary 3rd person argumental subjects, there are some contradictory results for EP regarding the role of the [-human] and [+human] features, which are also part of the referential hierarchy. In this hierarchy, a [+ human] subject is considered more referential than a [-human] subject and, hence, more likely to be overt. Confirming this proposal, some studies on EP (Barbosa, Duarte & Kato, 2005; Morgado, Luegi & Lobo, 2018) show that third-person subjects with a [- human] feature tend to be null, while overt subject pronouns tend to be [+ human]. However, an experimental study by Madeira, Fiéis & Teixeira (2021) found no animacy effects in EP. Their results indicate that overt and null subject pronouns can recover both [+ human] and [-human] antecedents. Given the mixed results on the role of these semantic features, further research is still needed.

It is, however, possible to conclude that the referential hierarchy has influence on the choice of overt/null subjects in consistent NSLs. But does it apply to partial NSLs and radical NSLs?

To argue for the referentiality hierarchy presented in Figure 2, Cyrino, Duarte and Kato (2000) present data from an earlier study by Duarte (1995) based on large corpus of Brazilian theatre plays. The results of this study on BP are summarized in Figure 3.

Figure 3: Percentages of overt pronouns in the corpus-based study by Duarte (1995) (revised by Duarte, 2012, and Cyrino, Duarte & Kato, 2000)



If we analyze Figure 3 from left to right, we conclude that the ability of a subject to be null decreases as referentiality increases. In this case, 1st and 2nd personal pronouns tend to be phonologically realized rather than being null, recalling examples (66) from BP.

If the bar chart in Figure 3 is adequate for all subjects in BP? Is that also applicable to Mandarin Chinese? We will see the comparison between two languages within this chapter to see the relationship between two languages.

3.2. Nature of Pronouns in European Portuguese

As introduced before, EP, as a consistent NSL, allows the subject to be null in almost any condition, independently of its argument, non-argument, or quasi-argument nature. And referential hierarchy still exists in EP, it shows influence on null subject phenomena. Since argument null subjects are quite commonly seen in NSLs and have been studied in detail before, in this section, only impersonal or indefinite SE will be introduced and studied, being one of the most significant clitics in EP and a major difference between EP and BP.

3.2.1. Types of Null Pronouns in EP

We have already seen in 2.1 and in the beginning part of the chapter 3 that argument subjects, which assume thematic roles in a sentence (recall examples (58), repeated in (101), can be omitted without any ambiguity.

(101)

- a. [-] Vou ao cinema. (eu)
- b. [-] Vais ao cinema. (tu)
- c. [-] Vamos ao cinema. (nós)
- d. [-] Ides ao cinema. (vós)

In the case of argument subjects, rich verbal morphology plays the central role in allowing the subject position to be null, which is widely accepted by many Romance linguists (Chomsky, 1981, Cunha & Cintra, 1984, Said Ali, [1908] 1930, Taraldsen, 1978).

However, under Minimalist Program, regarding argument subjects and according to some linguists (Barbosa, 1995; Alexiadou & Anagnostopoulou, 1998), the subject position is not even projected, because it is the verbal agreement morphology that works as a pronoun. We will not develop this line of research in this dissertation.

Generic / arbitrary subjects are an interesting topic in the study of the Null Subject Parameter in EP, because they are usually substituted by the pronoun SE and a null pronoun with a 3rd person plural verb morphology, receiving an existential interpretation, similar to ‘someone’ or ‘some people’ (Raposo, 2013: 908)

(102)

a. Dizem que vai chover amanhã.

Said-3pl that go-3sg rain tomorrow

‘People say that it will rain tomorrow.’

b. Diz-se que vai chover amanhã.

said-3sg-SE that go-3sg rain tomorrow

‘People say that it will rain tomorrow.’

(Raposo, 2013: 908)

Apart from SE and the third person plural verb morphology, the generic interpretation can also be expressed by the second person pronoun, when the listener is implicitly included in the group that represents people in general. It is what happens in the examples in (103):

(103)

a. Em Barcelona, se (tu) entras num museu sem camisa

In Barcelona, if (you-informal) enter-2sg in-one museum without shirt

ou camisola, vais preso!

or sweater, go-2sg arrested

‘In Barcelona, if you enter into a museum without dressing a shirt or sweater, you will be arrested.’

(104)

Na América, se você não tem um cartão de crédito,

in-the America, if you(formal) not have-3sg one card of credit

não pode pedir um empréstimo ao banco.

not can-3sg ask one loan to-the bank

‘In America, if you do not have a credit card, you cannot ask for a loan from the bank.’

(Raposo, 2013: 908)

From (102) to (104), the semantic context can be easily understood by inserting an indefinite or an undetermined pronoun ‘alguém’ or ‘alguma pessoa’. The indefinite subject is indicated by a third person plural or by a second person pronoun with the agreeing verb form (*dizem / entras / tem*).

The most interesting fact is that EP allows several constructions with SE, as we will see now:

(105)

a. Ontem compraram-se demasiadas salsichas no talho Sanzot.

Yesterday se-bought-3pl too-many sausages at-the butcher-shop Sanzot

‘Yesterday someone bought too many sausages at the Sanzot butcher shop.’

b. Essas salsichas compraram-se ontem no talho Sanzot.

Those sausages SE-bought-3pl yesterday at-the butcher-shop Sanzot

‘Yesterday someone or other bought those sausages at the Sanzot butcher shop.’

c. Compra-se sempre demasiadas salsichas no talho Sanzot.

SE-buy-3sg always too-many sausages at-the butcher-shop Sanzot

‘one(people) always buy too many sausages at the Sanzot butcher shop.

(Raposo and Uriagereka,1996)

According to these authors, the examples in (105) are classified into two types of SE constructions. (105a) and (105b) are indefinite SE, and (105c) can be treated as a generic SE construction.

The major difference between indefinite SE (in this case related to a passive value of the sentence) and generic (also called “nominative”, “impersonal” SE by other linguists) is verb agreement. These phenomena raise many difficult questions. How are SE-constructions related to null subject in EP? Why did BP lose SE constructions? These are some questions to be discussed in the following sections.

3.2.2. Impersonal SE in EP

The SE construction with values of reflex, reciprocal, and rarely ‘Se médio’ (middle SE) can be observed in Latin texts in different eras. For reflex and reciprocal SE, they have a relationship with the pronominal form of Indo-European, but the *médio se* is a new invention of Latin. From the initial stage, the middle voice was used to express in Latin through verbal forms with passive morphology (*levor* ‘levanto-me’ *movetur* ‘move-se’). Being different from the passive structure, the middle form does not allow the independent representation of the agent and the theme in the syntactic structure, which means that it excludes the presence of an agent argument, being distinct from the grammatical subject argument (Martins,2003).

In the final medieval period, there were relative changes in the SE construction, with more diversity in its sentence structures. Portuguese and Spanish started to have more SE sentence constructions without agreement between the verb and its internal argument, presenting an active form, weakening the tied link between internal argument and subject position (Naro,1976; Lapesa,1981; Lapesa, 2000, among others). See the examples in (106):

(106)

a. As outras cousas da grandeza desta terra e do seu governo e costumes se guarda pera os livros de geografia (séc. XVI. Rodrigues, 1913: 177)

b. en el pueblo (...) se falla e deue fallar diversos linages e condições

(séc. XV; examples from Lapesa, 2000: 813)

Sentences in (106) are examples of impersonal SE, which was generated on the basis of the passive *se*. According to Martins (2003), the active character of the new construction is manifested not only in its subject-verb agreement pattern, but also in its compatibility with intransitive verbs (see (107)) and with the verbs *ser* and *estar* (see (108)), in the explicit case of the internal pronominal argument as accusative (see (109)). In the case of Spanish, the construction is manifested in the mark of the internal argument by the preposition *a* (see e.g. (110)). Both the accusative pronoun of sentences (109) and the *a*-apposition in sentence (110) clearly identify the post-verbal constituent as a direct object.

(107) O médico da camara ... ainda não é chegado. Não lhe faltará que fazer, porque se adoece e morre muito (António Vieira, *apud* Rodrigues, 1913: 183)

(108)

a. É-se obrigado acaso a pagar fôro em metro às deusas do Parnaso? Se não se é, não se deve andar sem arte e veia a versar. (António F. de Castilho, *apud* Said Ali, 1908: 97)

b. Aqui, senhor Pancrácio, está-se optimamente (*idem*. Said Ali, 1908: 97)

(109)

a. Tinha-se um burrinho, ia-se buscar e levar a farinha. Trazia-se-o [o trigo] em grão e levava-se em farinha. (Português dialectal: Porto Santo. CORDIAL-SIN,

PST 24)

b. En cuanto al dinero si se lo maneja con prudencia... (Francisco de Ayala. *apud* Lapesa 2000: 815)

(110) Se robava a amigos como a enemigos (D. Hurtado de Mendoza. *apud* Keniston 1937: 342)

(Martins 2003)

Considering both diachronic-oriented literature and the descriptive grammars, linguists, in general, believe that the passive SE construction persists, while the impersonal construction was added. Naro (1976) indicates that the passive construction shows some signs of fossilization; the synthetic passive form no longer allows for the expression of the agent, causing sentences in (111) to be ungrammatical in Contemporary Portuguese:

(111)

a. Como José se conheceu pelos irmãos. (séc. XIV; Naro, 1976: 789)

b. O mar remoto navegamos, que só dos feos focas se navega. (séc. XVI; Naro, 1976: 781)

After introducing different types of SE, illustrated with examples from several authors, what matters in NSLs is essentially the impersonal SE rather than the passive SE, although some passive SE constructions will be still presented for comparison.

Then let us recall examples in (105), repeated in (112).

(112)

a. Ontem **compraram-se** demasiadas salsichas no talho Sanzot.

Yesterday se-bought-3pl too-many sausages at-the butcher-shop Sanzot

‘Yesterday someone or other bought too many sausages at the Sanzot butcher shop.’

b. Essas salsichas **compraram-se** ontem no talho Sanzot.

Those sausages SE-bought-3pl yesterday at-the butcher-shop Sanzot

‘Yesterday someone or other bought those sausages at the Sanzot butcher shop.’

c. **Compra-se** sempre demasiadas salsichas no talho Sanzot.

SE-buy-3sg always too-many sausages at-the butcher-shop Sanzot

‘one(people) always buy too many sausages at the Sanzot butcher shop.’

(Raposo & Uriagereka, 1996)

Observing (112a) and (112c), both of them allow for the subject position to be null. The major difference between them is verbal agreement. In (112a), the SE verb *comprar* agrees with the NP internal argument (Theme), which is ‘*demasiadas salsichas*’, adopting a third person plural verbal form. (112c) does not, the verb *comprar* is in the third person singular form, with no evidence of agreement with the internal argument.

In the 20th and 21st centuries, there was an intense discussion around the grammaticality of sentences in (112a) and (113). Both examples contain transitive verbs, but the verbal form does not agree with the NP on the right side of the transitive verb.

(113)

a. **Fez-se** obras em casa.

Does-3rd-sg SE works in home

‘One (people) does works in home.’

b. **Vende-se** bordados tradicionais.

Sells-3rd-sg SE embroideries traditional-pl

‘One (people) sells traditional embroidery.’

(Ribeiro, 2011)

There is no consensus on the acceptability of the SE structures without agreement between the verb and the NP on the right side. Cunha & Cintra (1984) still prefer the agreement structure in SE sentence, while Peres & Mória (1995) stress that the SE construction without agreement is a grammatical form. Brito, Duarte & Matos (2003) distinguish the passive SE from the nominative / impersonal SE, this one with an argument status, assuming itself in terms of theta assignment as if it was the subject of the clause.

Nominative SE, unlike reflex and reciprocal SE, is characterized by having a non-specific reference, since it is not possible to identify or delimit its referent. The subject function of nominative *se* can be tested by substituting it with the nominal expressions ‘*alguém*’ (Ribeiro, 2011).

(114) a. **Caminhou-se** durante toda a noite.

Walked-3rd-sg SE during all the night

‘One (people) walked during all night.’

b. Alguém **caminhou** durante toda a noite.

Someone walked-3rd-sg during all the night

‘Someone walked during all night.’

c. *Alguém **caminhou-se** durante toda a noite.

Someone walked-3rd-sg SE during all the night

‘Someone walked during all night’.

d. *O rapaz **caminhou-se** durante toda a noite.

The boy walked-3rd-sg SE during all the night

‘The boy walked during all night.’

When ‘alguém’ and ‘o rapaz’ are added, (114c) and (114d) turn to be ungrammatical, because both constituents have the ability to receive nominative case. Actually, Matos & Duarte (1986) have already indicated that impersonal SE exhibits a nominative case only in contexts where the case is allowed, and that it has an argument status, receiving the thematic role attributed to the argument position to which it is associated. Thus, the nominative SE, linking to the subject position, can assume the thematic role when the predicate allows. But the thematic role that SE assumes can be different, being agent or theme or other according to the predicate. There are more examples to show the various thematic roles that SE may assume, which are given by Ribeiro (2011):

(115)

a. [O João]_{SU-nom} **ofereceu** um CD à Maria.

The João offered-3rd-sg a CD to-the Maria

‘João offered a CD to Maria.’

b. **Ofereceu-[se]**_{SU-nom} um CD à Maria.

Offered-3rd-sg SE a CD to Maria

‘One (people) offered a CD to Maria.’

c. [O peregrino]_{SU-nom} **caminhou** a noite inteira.

The pilgrim walked-3rd-sg the night entire

‘The pilgrim walked all night.’

d. **Caminhou-[se]**_{SU-nom} a noite inteira.

Walked-3rd-sg SE. the night entire

‘One (people) walked all night.’

e. [A criança]_{SU-nom} **morreu** de fome.

The child died-3rd-sg of famine

‘the child died of famine.’

f. **Morre-[se]**_{SU-nom} de fome.

Died-3rd-sg SE of famine

‘One (people) died of famine.’

As (115) shows, (115b) contains a transitive verb and (115d) contains an unergative verb, both of them including the external arguments, while an unaccusative verb is presented in (115f), with an internal argument.

Brito, Duarte & Matos (2003) indicate that SE is an argument clitic of arbitrary reference; Dobrovie-Sorin (2005) and D’Alessandro (2007) state that it is a pronoun and has nominative case; Reinhart & Siloni (2005) believe that it is a reducer morpheme of

nominative case. Overall, all consider that impersonal SE has nominative case and can be present in an NSL.

After this introduction to impersonal SE, let us discuss the generic and indefinite SE respectively.

3.2.2.1 Generic SE with transitive verbs

From the examples listed before, we see that SE can be present in a sentence with a transitive verb but without a phonologically realized subject. Let us recall examples (112c) and (115b), repeated in (116).

(116)

a. **Compra-[se]**_{SU-nom} sempre demasiadas salsichas no talho Sanzot.

Buy-3rd-sg SE always too-many sausages in-the butcher shop Sanzot

‘One (people) always buy too many sausages at the Sanzot butcher-shop.’

b. **Ofereceu-[se]**_{SU-nom} um CD à Maria.

Offered-3rd-sg SE a CD to Maria

‘One (people) offered a CD to Maria.’

Comparing the sentences in (116), verbal agreement may cause some confusion. (116a) clearly shows no agreement between SE-verb and the internal argument on its right side. However, (116b) may have agreement or may have not, because it exhibits a third person singular verb form that may agree either with SE or with *um CD* ‘a CD’. Thus, more examples should be presented to give further evidence of agreement between the verb and its internal argument.

(117)

a. Por outro lado, pesquisou-se as características

On the other hand, researched-3rd-sg SE the-pl characteristics
do antigo espaço rural.

of-the old space rural

‘On the other hand, people researched the characteristics of old rural space.’

b. O projeto arrancou, comprou-se a carrinha e os brinquedos.

The Project started-3rd-sg, bought-3rd-sg SE the mini-van and the-pl toys

‘The Project started, people bought the mini van and the toys.’

(Ribeiro,2011)

Combining the examples in (117) with those in (116), when the SE-verb is transitive in EP, normally, no agreement occurs between the verb and the internal argument. Both internal arguments in (117a) and (116) are plural, but the verbal morphology presents a third person singular. So, in this case, it seems that the indetermination of the SE construction with a transitive verb behaves similarly to the construction with a full 3rd singular NP subject.

(118)

a. Por outro lado, o presidente pesquisou as características do antigo espaço rural.

‘On the other hand, the president researched the characteristics of the old rural space.’

b. A menina comprou os brinquedos.

‘The girl bought the toys.’

The major difference between (117) and (118) is the nominative case location, with SE in (117) receiving nominative case and the full NPs in (118) bearing nominative case.

Let us now simplify the sentence (116a) to (119a) in order to analyze its syntactic structure.

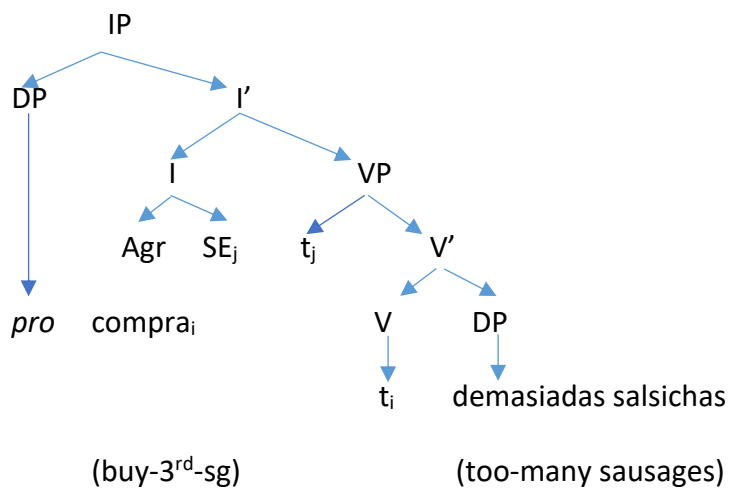
(119)

Compra-[se]_{SU-nom} demasiadas salsichas

Buy-3rd-sg SE too-many sausages

‘People buy too many sausages.’

(120) S-Structure of (119) (simplified)¹²



EP is a NSL and, therefore, the DP on the pre-verbal position is null. The transitive verb *comprar* (to buy) in VP moves to Agr position. SE is projected and obtains the nominative

¹² According to Abney (1987), the nominal expressions will be described as Determiner Phrase (DP).

case. Following the agreement rule, *compra(r)* takes the third person singular form, constructing the sentence (119) grammatically. On the other hand, the DP *demasiadas salsichas*, selected by the verb, stays *in situ* and no link is generated between this DP and the verb in Agr position.

We know that in EP the position of SE is not always on the right side of the verb (by enclisis); it may also appear on the pre-verbal position (by proclisis) when the sentence contains a negative, an interrogative and another proclisis trigger. This is similar to other clitics in EP, as illustrated in (121) and (122):

(121)

a. Eu não comprei o livro.

I not bought-1st-sg the book

‘I didn’t buy the book.’

b. Eu não o comprei.

I not the bought-1st-sg

‘I didn’t buy that (book).’

c. *Eu não comprei-o.

I not bought-1st-sg it

‘I didn’t buy that (book).’

(122)

a. Eu comprei o livro.

I bought-1st-sg the book

‘I bought the book.’

b. Eu comprei-o.

I bought-1st-sg it

'I bought it.'

c.*Eu o comprei.

I it bought-1st-sg

'I bought it.'

To conclude, in generic SE sentence constructions, SE can receive the nominative case, regardless of its location in the sentence (preverbal or postverbal position). As Martins (2003) suggests, impersonal SE has an argument nature, playing the role of a grammatical subject. In other words, due to the fact that the SE has a nominative or argument nature, the null subject sentence without agreement between the verb and its internal argument can be explained and the grammaticality of the sentence is accounted for.

3.2.2.2 Indefinite SE with transitive verbs

In the last section (3.2.2.1), we have explained the non-agreement between the verb and its internal argument in sentences that contain the nominative or impersonal SE. But how can the first two sentences (repeated in (123)) be analysed? That is, how to explain the plural agreement and how to relate this to the null subject phenomenon in EP?

(123)

a. Ontem compraram-se **demasiadas salsichas** no talho Sanzot.

Yesterday bought-3pl-se too-many sausages at-the butcher-shop Sanzot

'Yesterday someone bought too many sausages at the Sanzot butcher shop.'

or ‘Yesterday too many sausages were bought at the Sanzot butcher shop.’

b. Essas salsichas **compraram-se** ontem no talho Sanzot.

Those sausages bought-3pl-SE yesterday at-the butcher-shop Sanzot

‘Yesterday those sausages were bought at the Sanzot butcher shop.’

In the previous section, we saw that the generic SE verb does not have to agree with the internal argument on the right side, since it has an argument nature. But how can we explain the sentences in (123a)? The verb *comprar*, on one hand, agrees with the internal argument ‘*demasiadas salsichas*’, being third person plural. On the other hand, the internal argument in (123a) on the right side of the verb moves to the subject position on the left side of the verb in (123b).

In most Government and Binding approaches, linguists regard sentences in (123) as a passive construction, because an internal argument behaves like a surface subject. According to Burzio (1986), the explanations of (123a) and (123b) can be illustrated in (124a) and (124b) in a simplified way.

(124)

a. [_{IP} *pro*_i [_I Tns, Agr, SE]¹³ [_{VP} *comprar* [...*salsichas*]_i]]

SE buy sausages

b. [_{IP} [*Essas salsichas*]_i [_I Tns, Agr, SE] [_{VP} *comprar* *t*_i]]

those sausages SE buy

¹³Tns: Abbreviation of TENSE; Agr: Abbreviation of AGREEMENT.

In Burzio's (1986) opinion, the agreement in (124b) is explained by stipulating a chain between the internal argument and a null expletive subject, which is further transmitted to Agr position. The left-located DP is the result of the movement of that DP from a basic right position in (124a) to a left (SU) position in (124b).

However, Burzio's explanation is not followed by Raposo & Uriagereka (1996). The authors propose that DP movement is the result of topicalization, which is supported by three empirical tests.

First, comparing the distribution of overt topics and the DP in embedded SE construction, it seems that they share the same pattern of distribution.

(125)

Vai ser difícil [os tribunais aceitarem os documentos].

Will be difficult the courts to-accept-3pl the documents

'It will be difficult for the courts to accept the documents.'

(126)

a. Vai ser difícil [*pro* ser_{em} aceites [os documentos]].

Will be difficult to-be-3pl accepted the documents

'It will be difficult for the documents to be accepted.'

b. Vai ser difícil [*pro* aceitar_{em-se} [os documentos]].

Will be difficult to-accept-3pl-SE- the documents

'It will be difficult for someone or other to accept the documents'

(127)

a. Vai ser difícil [[os documentos]_i ser_{em} aceites *t_i*].

will be difficult the documents to-be-3pl accepted

‘It will be difficult for the documents to be accepted.’

b. *Vai ser difícil [[os documentos]_i aceitar~~em~~-se *t_i*]

will be difficult the documents to-accepted-3pl-SE-

‘It will be difficult for someone or other to accept the documents.’

c. Vai ser difícil [que [os documentos]_i se aceitem *t_i*].

will be difficult that the documents SE-accept-3pl

‘It will be difficult that someone or other accepts the documents.’

(Raposo, 1996)

From examples (125) to (127), differences between a classic passive sentence and the SE construction can be clearly seen. Especially when (127b) and (127c) are observed, when the DP occupies the preverbal position in a passive sentence like the one included in (127a), the sentence is ungrammatical without *que* (that), as in (127b), but grammatical with *que* (that), as (127c). This distribution is similar to the location of a topic of a correspondent sentence. Now, observe (128), which is also provided by the same authors:

(128)

a. Vai ser difícil [que [esses documentos], o tribunal (os) possa aceitar *ec*].

be difficult that those documents, the court (them) may accept

‘It will be difficult that, those documents, the court may accept them.’

b. * Vai ser difícil [[esses documentos], os tribunais aceitar~~em~~(-nos) *ec*].

Will be difficult, those documents, the courts to-acctet-3pl (-them)

‘It will be difficult,those documents, for the courts to accept (them).’

(Raposo & Uriagereka, 1996)

(128a), a complex sentence with *que* and an internal topic, is grammatical but (128b) is not, indicating that overt topics are ruled out in embedded infinitival complements as well, as in a SE construction in (128b).

For the two linguists the SE construction of (123b) is the result of topicalization rather than a NP movement to spec of IP.

Second, a topic binds an empty category in object position but not in [Spec, Infl], which makes the agreement in (123b) grammatical.

And the third reason is that a topic cannot be presented on the right side of a *wh*-word, which is also true for preverbal DP in SE construction sentences, as presented in (129) and in (130).¹⁴

(129)

a. [Esses livros]_i [a quem]_k entregaste *ec_i ec_k*?

those books. to whom gave-2sg

‘Those books to whom did you give?’

b.* [A quem]_k [esses livros]_i entregaste *ec_i ec_k*?

to whom those books gave-2-sg

(130)

¹⁴ In the examples of (129) and (130), *ec* is continuously used to represent empty category, since these follow the original representation of Raposo & Uriagereka (1996).

a. [Esses livro]_i [em que loja]_k se compraram *ec_i ec_k*?

those books. in what store SE-bought-3pl

‘Those books, in what store did someone buy them?’

b. ?? [Em que loja]_k [esses livros]_i se compraram *ec_i ec_k*?

in what store. those books SE-bought-3pl

(Raposo & Uriagereka 1996)

To conclude, EP allows the SE construction with a null subject on the left side of the sentences and agreement between the verb and a post-verbal internal argument. Again, it offers us a proof that indefinite SE is one key for the understanding of null subject phenomena in EP.

3.2.2.3 Indefinite SE with intransitive verbs

When a SE sentence includes an intransitive verb, it acts normally in the same way as the generic construction described in 3.2.2.1., that is, with a transitive verb. Since SE has an argument status and can have a nominative case, no matter whether the verb is transitive or not, the null subject SE sentence can be always grammatical, as examples (125d) and (125f) at the beginning of 3.2. show.

However, there is another situation that should be stressed. The presence of SE may create an autonomous but indefinite reference when it is in a sentence with unergative verbs, like *caminhar*, *sorrir*, *falar*, *mentir*, etc., as in (131):

(131)

a. Caminhou-se sem parar durante toda a semana.

Walked-3sg SE without stop during all the week

‘One (people) walked without stopping during the whole week.’

b. Na polícia, sorri-se muito,

in-the police office policeman laughs-3rd-sg-SE a lot

fala-se pouco e mente-se sempre.

speaks-3rd-sg-SE little and lies-3rd-sg-SE always

‘In police office, policeman laughs a lot, speaks little, and always lies.’

An arbitrary subject or a generic subject interpretation can be deduced from (131a); in (131b) there is a definite interpretation (*a polícia*), but it is important to note that this is a collective noun. Thus, SE can have an argument interpretation.

To sum up, when there is a 3rd singular verbal form and verb agreement is not obvious, the SE construction is an important option to mean a generic null subject in EP. Generic SE has an argument nature both with transitive verbs and intransitive verbs, which justifies no agreement occurring between the verb and the internal argument (when it exists) on the right side of the SE-verb.

While the construction with an indefinite SE in the SVO order may be considered the result of topicalization (at least by Raposo & Uriagereka, 1996), there is a chain between the topic position and the internal argument on the right side of the verb, causing the agreement with the SE-verb. Nevertheless, it is important to note that some linguists consider the SE construction with a plural verb agreement a passive construction.

SE construction was also commonly used in BP before the 19th century. However, from the 19th century on, there was a dramatic change and a vanishing trend of SE construction in BP, and this is related to the fact that BP is no longer a consistent NSL, only a partial NSL.

In the following section, the nature of pronouns in BP is discussed in order to go on studying the major differences between consistent and partial NSLs.

3.3. Nature of Pronouns in Brazilian Portuguese

The personal pronoun system in BP is more reduced when it is compared with its counterpart in EP. In Table 4, there are the common pronouns being illustrated.

Table 4: Personal Pronouns in BP

1 st person	single		Eu
	plural		nós/a gente
2 nd person	single		você
	plural		vocês
3 rd person	single	male	Ele
		female	Ela
	plural	male	Eles
		female	Elas

Because of gender difference, third person pronouns contain four expressions, including *ele, ela, eles* and *elas*, which are the same as in EP. However, unlike EP, BP only has two forms for the 2nd person, *você* and *vocês*. EP contains four, adding other two forms, *tu*

(informal ‘you’) and *vós* (‘vós’ tends to disappear and only is maintained in northern varieties or in very formal contexts).

Modern BP exhibits overt subject pronouns where *pro* would be expected in null subject languages (Cyrino, Duarte & Kato, 2000). Tarallo (1983) also stressed the decrease in null pronominal subjects. It seems that BP experienced a long-term change, with the decrease of the SE construction being one of the most significant phenomena.

Recalling Figure 2, 1st and 2nd pronominal subjects in BP are usually phonetically realized in finite sentences. 3rd person pronouns should be discussed separately. They have restricted conditions to be null when they are not anaphoric, specifically in impersonal null subject and hyper-raising constructions. Many linguists believe that 3rd person referential null subject in BP is always anaphoric (Moreira da Silva, 1983; FigueiredoSilva, 1996; Modesto, 2000).

We will study all this in the next paragraphs, commenting the examples below.¹⁵

(132)

a. O João disse que [-] / ele mandou um presente.

The João said-3rd-sg that sent-3rd-sg one present

‘João said that he sent (someone) one present.’

b.*Mandou um presente.

Sent-3rd-sg one present

He sent (someone) a present.

¹⁵There are several proposals in the literature about the nature of referential null subjects in BP. Some authors argue that null subjects are variables and deleted topics (See in particular Negrão & Müller, 1996; Negrão & Viotti, 2000; Modesto, 2000; 2008). In this thesis, we will maintain the classical view that referential null pronouns in BP are null personal pronouns (*pro*). See also chap.2 on this matter.

(Carvalho, 2018)

In (132a), if the subject in the subordinate clause refers to the same subject (*O João*) in the matrix clause, it can be null in the subordinate clause, but not in the matrix clause. In other words, when the subject has a referential antecedent, it may be null. While in (132b), when no referential entity can be denoted, a null subject is not allowed in BP¹⁶. In order to change (132b) into a grammatical sentence, contextual information should be added, in which situation null referential subject can be recovered from previous discourse.

However, Carvalho (2018) proposes that when the subject is not referential, it also has the possibility to be null, as in (133).

(133)

a. Aqui vende bala.

Here sells bullet

They sell bullet here.

b. Funciona assim: não comeu toda a comida, fica de castigo.

Functions-3rd-sg like this not ate-3rd-sg all the food stayed-3rd-sg of penalty

‘It works like this: he did not eat all the food, (so) he was punished.’

(Carvalho, 2018)

c. (*Ele / *Isso) tá chovendo.

it / that is raining

¹⁶ In EP, 3rd person null subject in this case also needs a prominent antecedent in the discourse. *Out of the blue* does not work. (Duarte & Figueiredo Silva, 2016).

(Kato, 1999:5, Figueiredo Silva, 2000:130)

It should be noticed from the examples in (133) that, under some circumstances, the subject may be null having an indefinite or arbitrary interpretation.

Comparing sentences in BP (as shown in 133) and the indefinite/impersonal constructions in 3.2 in EP, we see that the SE construction is a difference between BP and EP impersonal null subject sentences. Thus, from here on, different types of subjects in BP are discussed.

3.3.1. From Null to Overt Subjects in BP

According to the research conducted by Cyrino, Duarte & Kato (2000), null subjects existed in BP in the 18th century, even when the subject was [+human]. Around the 19th and 20th century, more full pronouns started to be used in daily conversations among youngsters. There are some examples from their study in (134):

(134) Null and full pronouns for [+human] subjects

a. [-] Sou capaz de beber o mar . (18th century)

am-1st-sg able to drink the sea

‘I am able to drink the sea.’

b. [-] Falei com seu tenente-coroné, e

spoke-1st-sg with the lieutenant-colonel, and

ele_i disse-me que [-]_i havia ...(19th century)

he told-1st-sg-me that (he) would...

‘I spoke with the lieutenant-colonel, and he told me that he would...

d. *Eu só estou repetindo o que eu li.* (20th century)

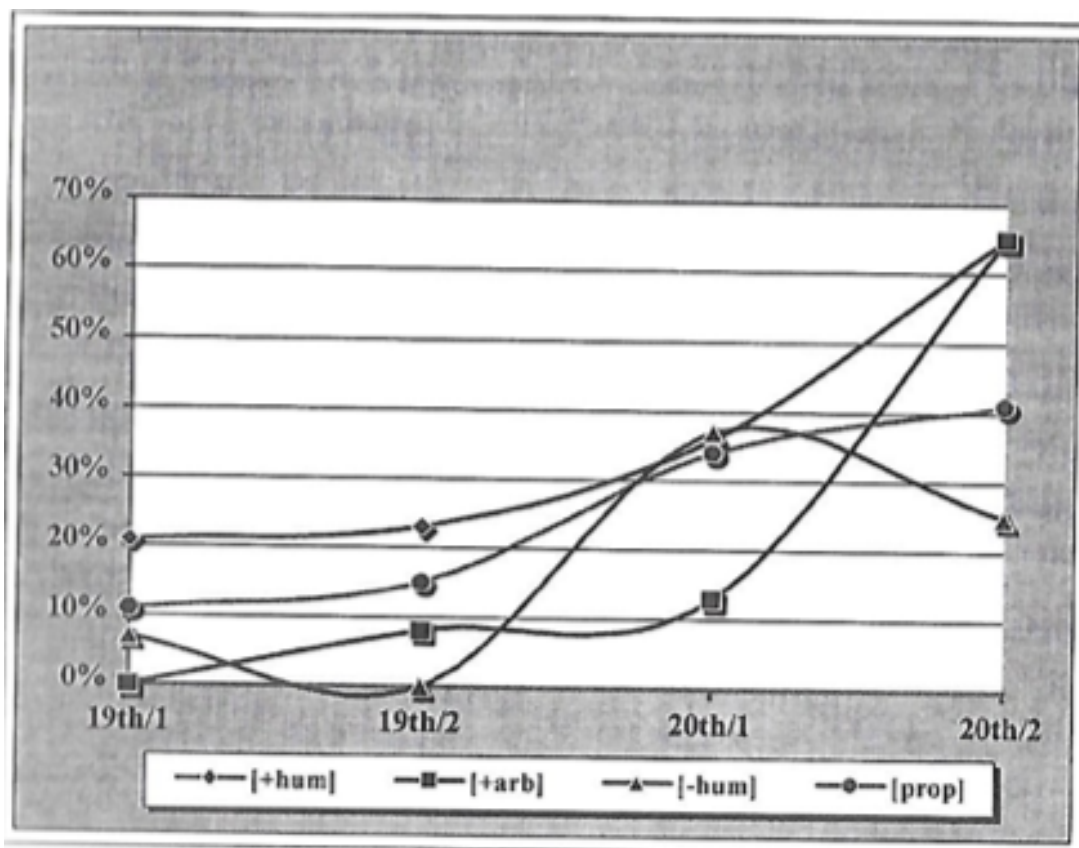
I only am repeating what I read-1st-sg-past

'I am only repeating what I have read.'

(Cyrino, Duarte & Kato, 2000)

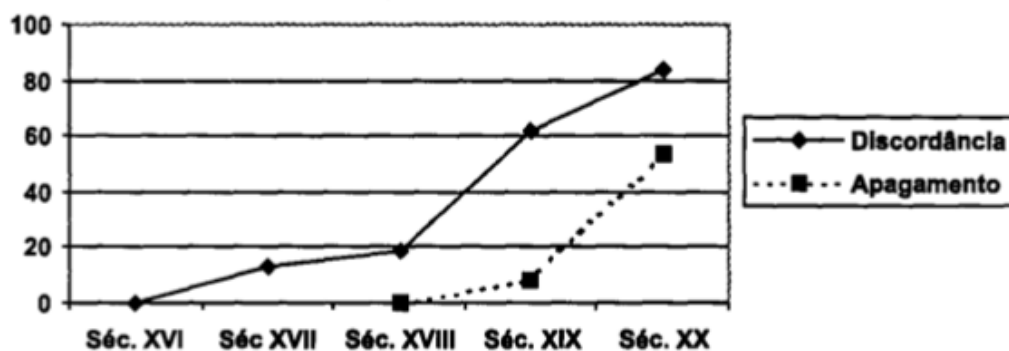
According to Cyrino, Duarte & Kato (2000), overt [+human] subject pronouns have increased from 33% in the 18th century to 72% in the second half of the 20th century. This trend is also applicable to the subjects with [+ human /-specific] features, ranging from 0% to 7%. The arbitrary reference moves from 0% overt pronouns to 55%. Thus, combining all sources collected since the 19th century, Cyrino, Duarte & Kato (2000: 63) conclude with the following figure.

Figure (4): Overt Pronominal Subjects and the Referential Hierarchy



Nunes (1990) investigates the elimination of the SE construction since the 16th century, as illustrated in Figure 5; the data show that the change operates in a different direction from the SE construction of EP mentioned in the previous section, which may be the other reason for the fact of null subject restriction.

Figure (5): Percentages of Impersonal SE Construction with Verbal Disagreement between Verb and Internal Object and Erasing of SE in non-coordinated finite sentences



With these changes across centuries, apart from the overt referential pronouns in BP and the null referential pronouns in EP, a major difference between null subjects in EP and BP is found in impersonal structures, one with the clitic SE (EP) and the other one without (BP), but both allowing for *pro*, as in (135):

(135)

a. Nos dias de hoje, não usa mais saia. (BP)

in-the days of today not use-3rd-sg more skirt

‘Nowadays, she doesn’t wear skirt anymore.’

b. Nos dias de hoje, não se usa mais saia. (EP)

in-the days of today, not SE use-3rd-sg more skirt

‘Nowadays, one/people doesn’t wear skirts anymore.’

(136)

a. Nos dias de hoje, ela não usa mais saia. (BP)

in-the days of today she not use-3rd-sg more skirt

‘Nowadays, she doesn’t wear skirt anymore.’

b. Nos dias de hoje, não usa mais saia. (BP)

in-the days of today not use-3rd-sg more skirt

‘Nowadays, one/people doesn’t wear skirts anymore.’

(Gonçalves, 2002)

The impersonal constructions in BP and EP are compared in (135) and (136). In EP, when the interpretation in a sentence is determined, the subject may be null, and it can be deduced from the conjugation of the verb, shown in (135a) (see, however, the possibility of “ele”, / “ela”).

When the interpretation of a sentence is indeterminate, SE is added to refer to an arbitrary or a group of subjects, as in (135b) (EP). On the contrary, a determined and specific interpretation in BP is realized with an overt subject (136a) and an indeterminate interpretation is expressed by a null subject sentence which does not contain a SE construction (136b).

To sum up, even though overt subjects are gradually preferred in BP, with the vanishing of the SE construction, BP still has the null impersonal construction in finite clauses, which should be studied in detail in the following section, being one of the major differences between consistent NSLs and partial NSLs.

3.3.2. Impersonal Null Subjects in BP

As seen before, impersonal null subjects in BP can be divided into two groups based on sentence interpretation: the existential / impersonal null subject and the generic / impersonal null subject, as illustrated in (133), repeated in (137).

(137)

a. Aqui vende bala.

Here sells bullet

They sell bullet here.

b. Funciona assim: não comeu toda a comida, fica de castigo.

Functions-3rd-sg like this not ate-3rd-sg all the food stayed-3rd-sg of penalty

‘It works like this: if someone does not eat all the food, (so) someone is punished.’

(Carvalho, 2018)

In (137a), according to Carvalho (2018), the reference of the null subject excludes both the speaker and the listener, in which case the non-referential null subject of (137a) is existential since it evokes the existence of some entity. (137b) has a generic interpretation because any person, including the speaker and the listener, can be included in the reference of this type of null subject.

The distinction between an existential null subject and a generic null subject is also explained by Holmberg (2010): he describes it as a generic null subject and an arbitrary null subject pronoun, translated into English as either ‘one’ or ‘you’, which denotes people in general; the arbitrary null subject has the translation of ‘they’ in English, which denotes people in general in some domain, excluding the speaker and the addressee.

In this thesis, we will follow the definition of Carvalho (2018), discussing the characteristics of existential and generic null subjects separately.

3.3.2.1 Existential Null Subject

According to the studies of Carvalho (2018), the impersonal / existential null construction should be established with stage-level transitive verbs, which lack the licensing of elements that point out the presence of an agent, manifested in (131).

(138)

a. Nessa escola ensina matemática.

In-this school teaches math

‘This school teaches math.’

b. ?? Nesse hospital nasce rápido.

In-this hospital borns quickly

c. *Nessa fazenda cresce tranquilamente.

On this farm grows peacefully.

d. *Nessa escola sabe matemática.

In-this school knows math

(Carvalho, 2018)

Carvalho (2018) indicates that (138a) is grammatical since it contains a transitive verb *ensinar* (‘to teach’) and it is a stage-level predicate (in this sort of context). The other sentences are ungrammatical ((138b) and (138c) with the unaccusative verb *nasce* (‘to be born’) and (138d) with the verb *saber* (know), an individual-level predicate).

Apart from verb restrictions, the definition of the existential null subject also poses limits on grammaticality judgments. There are more examples given by Carvalho (2018) that support this claim:

(139)

- a. *Naquela escola de culinária prepara doce para ficar famoso.

At-that school of cooking prepares dessert to become famous.

- b. *Na feira não escuta a si mesmo.

At-the fair not listens to itself

- c. *Aqui conserta sapato com zelo.

Here fixes shoes with zeal.

Expressions in (139), like ‘para ficar famoso’, ‘a si mesmo’ and ‘com zelo’, are subject oriented. Since the existential null subject does not include the speaker and the addressee, the null subject causes the sentences to be ungrammatical.

The major difference between the existential null subject and the SE-construction is the ability to license these elements. The impersonal null subject does not have that ability, while the clitic SE does, even though SE is defective to some degree when it is compared with full pronouns.

The second difference is that SE can produce a generic construction as well, but the existential null subject cannot.

After understanding the restrictions on the existential null subject, let us view the sentence structure of (137a). According to Duarte (1997), among others, *aqui* may occupy the spec of IP.

(140)

a. *Aqui vende bala.* (BP)

b. *Vende-se pastilhas aqui.* (EP)

Comparing sentence structures in (140) of BP and EP: in BP since the verb is a transitive one, selecting its internal NP *bala*, the DP / ADV *aqui* moves from a bottom position to the top position, since the position of the subject is empty. However, as indicated before, this DP / ADV in the sentence-initial position does not license the features of number or person. But in EP, the major difference is the insertion of SE, which licenses a person feature but not a number feature, and SE is linked to an expletive *pro* in the sentence-initial position, and *aqui* may locate *in situ* without movement.

3.3.2.2 Generic Null Subjects

Apart from the different interpretation between the existential construction and the generic sentence, another major difference is the selection of the verb as well. Unlike existential null subjects, which only allow for transitive verbs, generic sentences can include all types of verbs (Carvalho, 2018).

(141)

a. *Nesse tipo de bairro é assim: nasceu, vai crescer malandro.*

In-this kind of neighborhood is like this: is born, will grow up naughty.

‘In this kind of neighborhood, it is like this: once born, one will grow up to be naughty.’

b. Nesse colégio é assim: sabe a matéria, passa; não sabe, não passa.

In-this school is like this: know the subject, pass; not know, not pass .

‘In this school it's like this: you know the subject, you pass; if you don't know it, you don't pass.’

However, what should be noticed is that generic constructions without SE can be grammatical when verbs are transitive, as shown in examples (141), but not with all verbs. Gonçalves (date) points out that, for intransitive and unaccusative verbs, the sentences tend to be marginal and ungrammatical; only under certain conditions can they be grammatical.

(142) Transitive verbs:

a. No shopping, almoça antes do meio-dia.

In the Shopping, eats before of mid-day

‘In Shopping, one eats before the mid-day.’

Intransitive verbs:

b. *Aqui tosse muito no inverno.

Here cough a lot in winter.

‘In winter, people cough a lot here.’

Unaccusative verbs:

c. *Aqui chega tarde no serviço.

Here arrives late in service

‘The service is late here.’

From the examples in (142), we see that the relationship between verb type and the generic null subject is not so obvious as Carvalho (2018) indicates. Surprisingly, a generic null subject also prefers transitive verbs. On the contrary, the construction with SE does not pose a challenge for verb types (143).

(143) Transitive verb used intransitively:

a: Come-se muito no inverno.

Eat-SE a lot in winter

‘People eat a lot in winter.’

intransitive verb:

b. Trabalha-se bastante nesse lugar.

work-se enough in-this place

‘People work a lot in this place.’

transitive prepositional verb:

c.: Precisa-se de empregos.

need-SE of jobs

‘People need jobs.’

ergative / unaccusative verb:

d. Chegou-se tarde à reunião.

Arrived-SE late to-the meeting

‘One is late to the meeting’

predicative verb:

e. É-se feliz quando se é jovem.

Is-SE happy when SE is young

‘You are happy when you are young.’

passive construction:

f. Aqui é-se visto por todos.

Here is SE viewed by everyone.

‘Here you are seen by everyone.’

(Nunes, 1990)

We see that all types of verbs are allowed in SE-constructions in EP, which indicates that SE has the ability to be licensed. Without SE, the selection of the verbs is limited. Since in null generic subject constructions in BP, the sentences are marginal or ungrammatical, there is a high percentage of phonetically realized subjects rather than null, as shown in the figure (4).

Thus, as for verb selection for generic null subjects in BP, we may define the main condition as follows:

(144)

The null generic subject in BP is possible with all types of verbs; however, the use of unaccusative or unergative verbs can be limited.

In order to explain the possible combination with all verbs and generic null subjects, the notion of phi-feature should be discussed. According to Carvalho (2018), unlike the existential null subject, the generic null subject bears phi-features, which enables it to combine with different types of verbs, even though following a rigorous rule.

Comparing now the examples in (145) below. For a grammatical sentence with SE in EP, shown in (145c), the generic interpretation can be deduced from the insertion of SE when the subject position is null. While in BP, if no adequate context is given before the sentence, as in (145a), this will be regarded as a marginal or an ungrammatical sentence. Instead of SE, BP may add a generic subject in the sentence initial position, *a gente* (145b):

(145)

a. ? Compra demasiadas salsichas. (BP)

Buy too many sausages.

b. A gente compra demasiadas salsichas.

People buy too many sausages

‘People buy too many sausages.’

c. Compra-se demasiadas salsichas. (EP)

buy-se too many sausages

‘People buy too many sausages.’

By contrast, when a previous context is given or in certain contexts (interrogative sentence), the null generic construction can be grammatical, as illustrated in (146):

(146)

a. Como enxuga a mão nesse aparelho?

How dry hands on this device

‘How do you dry your hands on this device?’

b. Esse tipo de exercício só faz sentado, pra não machucar as pernas.

This type of exercise only does sitting, to not hurt legs.

‘This type of exercise is only done while sitting, so as not to hurt your legs.’

c. Como se enxuga sem toalha?

How SE dry without towel

How do you dry yourself without a towel?’

(Carvalho, 2018)

Interestingly, the grammatical null constructions given by Carvalho (2018), for example (146a) and (146c), are all interrogative sentences, where the addressees can be easily identified because they are in the oral conversation. While for (146b), the null position in the second part of the sentence can be linked to the previous part to identify the real subject in the null position.

Since the concept of complete phi-features of generic null subject is justified by the author based on examples in (146), there are reasons to believe that it is the type of sentence and context that influences the behavior of the null generic subject, rather than its phi-features property. If complete phi-features are tested in all conditions, why sentence (146a) has a marginal or even an ungrammatical nature?

Therefore, I propose that the generic null subject behaves similarly to the existential subject, which lacks complete phi-features. Both tend to be grammatical when

present in sentences with transitive verbs, but marginal with intransitive or unaccusative verbs.

However, there is a difference in the degree of phi-features in existential null subjects and generic null subjects, which causes the different percentage of phonetic realization subjects in figure (4).

To conclude, unlike EP, which has a SE-construction, BP has no SE-construction. For the generic and existential subjects, BP has either the possibility of expressing the subject by a DP/ADV *aqui* or the null hypothesis, highly dependent on the nature of subjects and their referential ability and the type of verb. All this characterizes a partial NSL, BP.

Now, let us move to Mandarin Chinese in order to study the nature of subjects in subject position.

3.4. Nature of Pronouns in Mandarin Chinese

Considering historic research, Huang (1984) proposes that the null subject in Mandarin Chinese should be regarded as a variable linked by a zero topic, based on the proposal that Mandarin Chinese is a topic-oriented language.

Many linguists also regard BP as a topic-oriented language (Costa et al, 2011; Negrão& Viotti,2000; Avelar&Galves 2016, among others). Based on this property, it is reasonable

to treat Mandarin Chinese and BP as a group, being unified with one common general property¹⁷.

Tomioka (2003) treats Mandarin Chinese's null subject as NP-Ellipsis, which is furtherly adopted by Barbosa (2019) in order to unify the properties of radical NSLs. But what cannot be ignored is the possibility of sentences like 'xia yu le' (It rains), the structure being the same as that of EP and BP. Thus, why *pro* in Mandarin Chinese should be treated in another format? By considering these facts, the nature of *pro* in Mandarin Chinese should be reviewed.

Like BP, Mandarin Chinese has experienced many changes both in morphology and in syntactic structure. Mandarin Chinese, known as Simplified Mandarin Chinese, actually developed from Old Mandarin Chinese and traditional Chinese. In classic ancient Chinese literature, the omission of different constituents of a sentence is commonly found, including subjects, objects, prepositions, and even verbs. The main purpose of the omission of constituents in ancient Chinese is to construct a simplified version of texts with abundant discourse coherence. The complexity of omission in ancient Chinese is to a higher degree compared with that in modern Chinese.

In ancient Chinese, first and second person pronouns are usually presented by self-expression terms and titles of addressees in daily communication, even though it still allows for a null position in certain conditions, for example, the sentences in (147), which are extracts from the *Analects* of Confucius, a monumental work in Warring States Period (475-221BC).

¹⁷ BP and MC are characterized in this thesis as "topic-oriented languages" due to the importance that topic expression has in the information structure of the sentence. However, this does not mean that sentence structure is identical in both languages. BP tends to construct sentences like: *O João, ele é meu amigo*. MC is not like this. In the typical sentence of MC, the subject corresponds to the topic but does not repeat it in the form of a pronoun as in BP.

(147)

a. 季氏旅于泰山，子谓冉有曰：女弗能救与？

Jishi lǚ yu taishan, zǐ wei Ranyou yue: 'ru funeng jiu yu?'

Mr.Ji sacrifice at Tai-mountain, Confucius ask Ranyou say: you cannot stop part.

Mr. Ji will sacrifice at Tai mountain, Confucius asks Ranyou : 'Can't you stop him?'

b.对曰：“不能。”

dui yue : 'buneng'

respond say: cannot

'he responds: 'I can't.'

During the Warring States Period, it was the social status that influenced the way to address people to whom someone talks. In (147a), the teacher of Ranyou, who is Confucius, addresses him as 'ru', which signifies 'you', in a top versus bottom condition (TVB, a traditional translation condition in ancient Chinese). In this TVB condition, the second person singular pronouns can be expressed as 'er', 'ru'(you), and the first person is 'wu', 'wo'(me). To answer the question raised by Confucius, in (147b), the pronoun is omitted.

Apart from conversation, in ancient Chinese, first person pronouns are usually omitted when the context records personal stories or backgrounds, where the subject is the narrator himself, as shown in (148).

(148)

迁生龙门，耕牧河山之阳，年十岁则诵古文。

Qian Sheng Longmen, Gengmu heshan zhi yang,

Qian born Longmen, farming-grazing river-mountain of sunny-side(south),

nian shisui ze song guwen

age ten evenchant ancient prose

‘Qian was born in Longmen, (I) was farming and grazing on the south side of rivers and mountains, and even at age of ten, (I) could chant ancient prose.’

(Taishigong Zixu, *Records of the Grand Scribe*)

The narrator in (148) is Qian himself; thus, apart from the first sentence, the subjects in the following sentences are deleted. This is also addressed by other linguists, as Mandarin Chinese “brought forward sentence”, where the subject of the following sentence is the same as the one in the previous sentence. Or, in the reverse order: a first sentence may be without a subject, while the following one has the same realized subject; this is also grammatical in ancient Mandarin Chinese, as in (149).

(149)子曰：“（吾）听讼，吾犹人也。必也，使无讼乎！”（颜渊）

Zi yue: ‘ting song, wu youren ye.’

Confucius says: hear lawsuit, I like others particle

‘Confucius says: ‘when I trial the lawsuit, I am the same like others.’

Let us now study the type of subjects in modern Mandarin Chinese. Do they behave similarly to those of ancient Mandarin Chinese? How does modern Mandarin Chinese behave with respect to null subjects? Does Mandarin Chinese behave similarly to BP? We will address these questions in detail in next paragraph.

3.4.1. Pronoun Omission in Mandarin Chinese

With some similarities to ancient Chinese, subject omission in modern Mandarin Chinese happens, in daily conversation, in the first and second person: in fact, they are commonly null. As we know, discourse in conversation normally occurs by turns, one question corresponding to one answer. Under the influence of semantic relationship,

the subject is easily recognised, even though the sentence does not have expressed pronouns. Consider (150), for example:

(150)

a. Chi le ma?

eat perf part.

Have you eaten something?

b. Chi le.

Eat perf.

I have eaten something.

This dialogue is commonly found in daily conversation in Mandarin Chinese, especially in the north of China. Both in the question (150a) and the answer (150b) the subjects 'you' and 'I' are omitted, without compromising discourse coherence. To explain the null subjects in (150), many Mandarin Chinese linguists propose that it is the discourse, the dialogue or the daily conversation that explain the subject to be null (Huang, 1984, Yang, 2013, among others).

Consider the same dialogue but with the subjects being non-first or non-second person pronouns.

(151)

a. Ta chi le ma?

He eat perf part.

'Has he eaten something?'

b. Ta chi le.

He eat perf

‘He has eaten something.’

c.* Ø Chi le ma?

eat perf part.

‘Has he eaten something?’

d. * Ø Chi le.

eat perf

‘He has eaten something.’

In (151), both the subjects of the question and the answer are the third person singular ‘ta’ (he). The same dialogue can have the same discourse analysis (a daily dialogue) compared to that of (150). However, what should be noticed here is that the omission of third person pronouns causes the sentence to be ungrammatical or contain semantic bias in the interpretation of the subjects of the sentence, see (151c) and (151d). But if the question is raised by (151a), (151d) can be acceptable due to the contextual input.

Apart from semantic input, if the referential hierarchy of pronouns also influence the null ability of MC? Consider examples shown in (152).

(152)

a.*Wo shuo [-] chile pingguo

I say ate apple

b. *Ni shuo [-] chile pingguo

you say ate apple

c. Tai shuo [-]I chile pingguo

He say ate apple

In complex sentences, 3rd person subjects behave differently from 1st person and 2nd person subjects. The more referential, the less to be null, with 1st and 2nd persons hardly be null in embedded sentence but 3rd persons can be null, being similar to BP.

3.4.2. Impersonal Null Subjects in Mandarin Chinese

In 3.2, impersonal null subjects were divided into existential and generic subjects, which were discussed in detail separately. In order to accomplish further comparisons between languages, in this section, impersonal null subjects of Mandarin Chinese are also discussed for these types.

3.4.2.1. Existential Null Subjects in Mandarin Chinese

Studies on Mandarin Chinese existential subjects have proceeded in various directions, mainly focusing on the comparisons between English existential *there*-construction and the equivalent in Mandarin Chinese. Since English is a non-NSL, normally the studies emphasized similarities and differences between Mandarin Chinese and English. However, existential sentences behave in a distinct way when there is a comparison with existential subjects in BP. Thus, in this section, the classification of existential subjects in Mandarin Chinese is presented according to BP and we will see that there are common characteristics between partial NSLs and radical NSLs.

In order to introduce the issue of existential sentences in Mandarin Chinese, it is necessary to stress the problem of word order: some constituents are optional and, therefore, in this construction, the sentence has often the following order, as shown in (153):

(153) (NP₁)+V+ NP₂+(XP)

As we will see below, the NP₁ occupying the surface first position can be omitted under certain conditions. From here on, the existential subject structure will be divided into different groups, according to the verb type contained in the sentence, so that we can see in which condition the NP₁ can be null.

According to many linguists (Huang, 1984; Partee, 2006, a.o.), there are three types of existential constructions in Mandarin Chinese: ‘you’ construction, which is also addressed as atelic unaccusative verb structure (Waltraud, 2020); ‘coming into and going out of existence verbs’; and locative verbs and sentences with an experiencer suffix ‘*guo*’ or ‘*le*’. Paul, Lu and Lee (2020) converge these last two types into one category, telic unaccusative verbs. However, since the behaviour of the NP₁ in both types is different, the traditional classification will be maintained here.

In ‘you’ (have) construction, NP₁ is optional and the subject position can be filled with a locative NP.

(154)

a. you gui

have ghost

‘There are ghosts.’

b.

you yige ren hen xihuan ni

have one man very like you

‘There is a man who likes you very much’

(Partee, 2006)

(155)

a.

xuexiao you gui

school have ghosts

‘There are ghosts at school.’

b.

zheli you yige ren hen xihuan ni

here have one man very like you

‘There is a man who likes you very much here.’

Comparing (154) and (155), the locative NP can be added to occupy the first position, indicating the location of events presented in the sentence. Some linguists may question if, in a topic-prominence language like Mandarin Chinese, the locative NP is the result of topicalization or rather a basic PP position in a simple structure. Considering examples in (156), it can be easily seen that the PP can be presented in any position of the sentence.

(156)

a. Zai jiali you yiwei keren

At home have one guest

‘there is a guest at home.’

b. You yiwei keren zai jiali

Have one guest at home

‘there is a guest at home.’

When the locative NP / ADV is presented at the right side of V+NP2 in a 'you' sentence, the result is ungrammatical, as in (157):

(157)

a. *?you gui xuexiao

Have ghost school

'there is a ghost in school.'

b. *?You yige ren xihuan ni zheli

Have one people like you here

'there is one person who likes you here.'

The PP 'zai jiali' in (156) can be present either on the left side or the right side, which proves that NP1 is not the result of topicalization, being the unique structure of existential 'you' sentence in Mandarin Chinese.

Further, Partee (2006) states that NP1 can also be occupied by a possessor in this sentential construction, as in the example (158).

(158)

Wo you yiben shu hen youqu

I have a book very interesting

'I have a book which is very interesting.'

Comparing examples above in Mandarin Chinese and sentences in 3.3.2.1., similarities between Mandarin Chinese and BP as for the presence of NP1 / ADV can be observed. A locative NP can optionally occupy the NP1 position in both languages. As for sentence (159), BP also allows for the presence of a possessor in the NP1 position, according to Duarte & Figueiredo Silva (2016):

(159)

a. O meu pente quebrou o cabo.

ART my comb broke the cable

‘My comb broke the cable.’

As for the second category of existential sentences, Partee (2006) addresses it as ‘coming into and going out of existence’ verbs. She states that verbs including ‘*lai*’ (to come), ‘*fasheng*’ (to happen) and ‘*dao*’ (to arrive) express the meaning of ‘coming into’ and verbs like ‘*si*’ (to die), ‘*pao*’ (to run) and ‘*qu*’ (to go) are ‘going out of existence’. The subject position can be filled by locative NPs or temporal NPs, shown in examples (161a) and (161b), respectively.

(160)

a. Laile yige ren

Came one person

‘One person came.’

b. Sile yige ren

Died one person

‘one person died’

(161)

a. Tajia laile yige ren

His-home came a person

‘there is a person who came to his home.’

b. Zuotian sile yige ren

Yesterday died one person

‘There is a person who died yesterday.’

However, according to Teng Shou-hsin (2009), all the above-mentioned verbs, that is, ‘you’ sentences and ‘coming into and going out of existence’ verbs are all stative verbs. In all the examples (154) to (161), NP1 can be optionally occupied, even though the type of NP1 is different from each other.

Moreover, the phonetically realized optional NP1 is not only expressed in existential sentence in Mandarin Chinese, but also when the verbs are action verbs, transitive or intransitive, with suffixes of durative aspect ‘zhe’ or with the perfective particle ‘le’, where preverbal overt subjects should be obligatory.

(162)

a. chuangshang tangzhe bingren

bed-on lie-part. patient

‘there is a patient lying on the bed’

b. Chufangli zuole xuduo haochide

Kitchen-inside did many delicious-food

There are delicious foods cooked in the kitchen.

c. *? Tangzhe bingren

Lie-part. patient

b.*?Zuole xuduo haochide

Did many delicious-food

As (162c) and (162d) show, no matter whether a transitive action verb *zuo* ('to make') or an intransitive action verb 'tang' (to lie down) is present, the null subject position on the left side of the construction causes the sentence to be ungrammatical.

Thus, in sentences with action verbs suffixed with 'zhe' or with the particle 'le', the subject cannot be null. Only existential verbs, including 'you', 'coming into existence verbs' and 'coming out of existence verbs', can construct null subject impersonal existential sentences.

As for the syntactic structure of existential null subject in Mandarin Chinese, since Mandarin Chinese and BP allow for an optional null subject in this situation, I consider that (161) is also applicable to the explanation of (155a), repeated here as (163), and I present the syntactic structure (164) for (163):

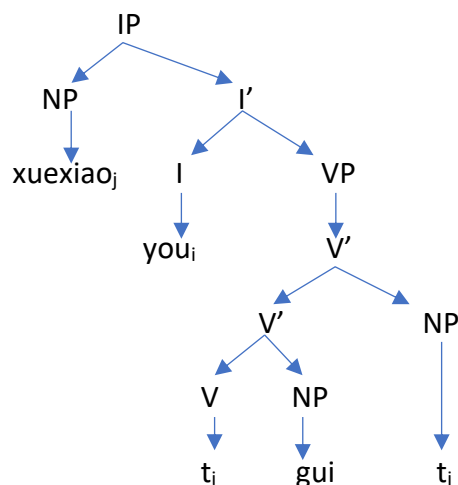
(163)

Xuexiao you gui

School have ghost

'There are ghosts in the school.'

(164)



(164) is the analysis of sentence (163) in Mandarin Chinese, similar to the BP *aqui vende bala* sentences of BP. It seems that an explanation based on movement also functions well in existential structures in Mandarin Chinese. Existential verb ‘you’ selects its internal complement NP ‘gui’, and NP moves from the bottom position to the null subject position. Since no agreement on person or number can be found in Mandarin Chinese, V moves to I to acquire only tense and mood. All this explains why existential sentences with a surface subject are grammatical in Mandarin Chinese.

To conclude, although existential constructions are an interesting topic deserving separate research, it seems that Mandarin Chinese and BP perform in the same way, because the subject position can be null or be expressed by a locative NP.

3.4.2.2. Generic Null Subjects in Mandarin Chinese

Having studied the main properties of existential sentences in Mandarin Chinese, and after a brief comparison with BP, let us now study generic sentences with null subjects in Mandarin Chinese.

Generic null subject sentences in EP can appear in a larger range of constructions: with the clitic SE and other constructions. Since Mandarin Chinese does not contain clitics, generic sentences in Mandarin Chinese pose some problems. As we will see just now,

rigorous rules apply to Mandarin Chinese generic null subject sentences. One possible hypothesis is that Mandarin Chinese generic null subject sentences follow the same rules of BP.

As stated in (144) for BP, null generic subjects can be used with all types of verbs, although the interpretation is limited and marginal. Observing examples in (165), this seems also true in Mandarin Chinese.

(165)

a. ?*maile henduo pingguo

bought many apple

‘People bought many apples.’

b. renmen maile henduo pinguo

people bought many apple

‘People bought many apples’.

c. xuexiao li, liudian jiu qichuangle

school inside, six o’clock already get-up

‘At school, students get up at six o’clock’.

d. zai putaoya jiang puyu

In Portugal speak Portuguese

‘People speak Portuguese in Portugal.’

It is important to recall the corresponding examples in BP (*compra demasiadas salsichas, a gente compra demasiadas salsichas*). We see that both transitive verbs and intransitive verbs can appear in null subject generic constructions. Studying BP, Carvalho

(2018) refers to the involved phi-features. Since Mandarin Chinese does not require phi-features in this construction and no agreement of person, number, case in verbs and i nominals take place, the notion of phi-feature in generic null subjects seems inadequate.

What should be the key factor to explain null subject generic in Mandarin Chinese? Studying sentences in (165), when no context is given previously, abrupt null subject generic would be ungrammatical, as some sentences in (165) show. However, when certain information is given, with a locative or temporal background, the null subject generic construction tends to be well-formed, as in (165c) and (165d). Also, in interrogative sentences in oral conversation, with facility of identification of null subjects, a null subject generic sentence is also commonly seen in Mandarin Chinese.

(166)

a. Ruhe shiyong zhege shebei ne?

How use this equipment part.

‘How to use this equipment?’

b. Ruhe jiankang yinshi ne?

How healthily eat part.

‘How to eat healthily?’

However, it seems that the interrogative construction with a generic subject is not a distinct construction in NSLs, since the same sentence can be expressed in English (‘how to use this equipment?’), with a PRO subject. Thus, the interrogation should not be considered one feature of generic null subject sentences.

Apart from interrogative sentences, Carvalho (2018) proposes that context plays a pivotal role in generic null subject sentences in partial NSLs. In the so-called ‘radical

NSLs', a semantic explanation is also important for the explanation of the null phenomenon. Comparing (167a) with (146c) repeated here in (167b), similarities between BP and Mandarin Chinese are apparent.

(167)

a. Zhege dongzuo yao xiaoxin, fangzhi shoushang.

This action should careful, prevent injured

'People should be careful of this action, prevent yourself from getting injured.'

b. Esse tipo de exercício só faz sentado, pra não machucar as pernas.

This type of exercise only does seated, to not hurt legs

'People only do this type of exercise seated, in order to not hurt the legs.'

The full context given in sentences (167a) and (167b) enables the sentences to be grammatical without any bias in semantic interpretation. However, the study of these two sentences in detail shows us that in both languages a hyper-raising or a topicalization cause the sentences to be grammatical. A syntactic movement to the first position in existential null subject constructions (with a locative or other NP) is the mechanism that is involved in all cases. Thus, null subject generic sentences do not need a new methodology to explain the word order. Regardless of sentence type (ex. interrogative sentence) or semantic influence (rich in context), these sentences are always the result of the movement from a deep structure to a surface structure, therefore syntactic reasons seem to be crucial as the way to explain all these phenomena.

After the brief analysis of null subject generic sentences in Mandarin Chinese, we see that, with subtle differences between the characteristics of different types of subjects, BP and Mandarin Chinese can possibly be categorized as one group of languages. For

1st, 2nd and 3rd personal pronouns, 1st and 2nd person tend to be phonetically realized in both BP and Mandarin Chinese, unless abundant contextual information is given in the sentences or dialogues. For 3rd person pronoun, without extra contextual information, it still tends to be filled rather than null. However, with contextual information, both languages allow the subject position to be null.

The abundant similarities illustrated in this chapter seem to go in this direction. However, there is a cluster of properties that characterize NSLs and their different types. In the following chapter, word order phenomena will be discussed.

3.5. Summary

This chapter compared the different nature of subjects in EP, BP and Chinese and summarized some key findings, the nature of subjects being one of the crucial trigger null entities.

Section 3. 1 presented the referential hierarchy of different subjects, with 1st and 2nd pronouns owning the highest referential ability and non-argument pronouns occupying the bottom position in the hierarchy. According to the research by Duarte (1995), in BP, the ability to be null decreases as referentiality increases.

To delve into the overt and null subjects' relationship, in the following sections typical types of subjects were studied. In 3.2, the nature of null subjects in EP was discussed. Due to the fact that EP almost allows for null subject with any subject type, the relationship between the referentiality hierarchy and null subject ability are less important than in partial or radical NSLs. However, the impersonal SE or indefinite SE is an interesting construction to be studied, since it behaves differently from the equivalent construction in BP.

Section 3.3 is dedicated to the path from consistent to partial NSL which BP has experienced over time. Despite the decreasing ability of null subjects and the deletion of SE construction, BP still has the null impersonal construction in finite clauses. Existential and generic null subjects were discussed in this section. By analysing different impersonal sentence constructions, it could be seen that BP has either the possibility of expressing the subject by a DP/ADV *aqui* or the null hypothesis, which is dependent on the nature of subjects and their referential ability and on the type of verb.

At last, in 3.4, we have seen that ancient Chinese also allows for null subject in almost any conditions. However, modern Chinese gradually lost the null subject ability. Like BP, pronouns with the highest referential ability tend to be phonetically realized, as with 1st and 2nd pronouns. But the exception is the contextual influence: abundant semantic input allows the 1st and 2nd pronouns to be null. But for complex sentence, MC also follows the referential hierarchy pattern, which is like BP. As for impersonal subjects, Chinese also prefers a null subject construction, with the subject position occupied by a DP/ADV or with certain verb types, or with a generic construction.

In this chapter, based on the nature of pronouns in the three languages here analysed, we saw that BP and Mandarin Chinese can be categorized into one unique group of NSLs rather than two, with many similarities in the behaviour of null subjects; also, it was possible to argue for similar syntactic treatments.

4. 'Subject-Verb Inversion' and the Null Subject Parameter

In previous chapters, we have seen that word order is an important syntactic issue and in consistent NSLs is strictly related to the null subject parameter. In this chapter, we will reflect on word order.

Word order differences across languages or within the same languages may have two possible explanations: languages combine and organize phrases in distinct ways, or they have different combinations because of constituents' movement. Since Mandarin Chinese, EP and BP are all SVO languages, and they allow VS word order (V+NP), we must find an explanation for that. The subject position in NSLs has always been a popular topic, since the 1980s 'free inversion' has been highly discussed in relation to the null subject parameter.

In this chapter, we are going to discuss some problems of word order in Portuguese, Italian, English, French and Mandarin Chinese, and, specifically, we are going to discuss if 'free inversion' is related to radical NSLs and partial NSLs.

4.1. Subject Position and Verb Movement

This section presents an overview of the studies on verb movement. Firstly, the Split-IP hypothesis and Belletti's theory are introduced and applied to studies of different languages. Then, free inversion in EP, BP and Mandarin Chinese is studied in detail.

4.1.1. Pollock's (1989) Split-IP Hypothesis and Belletti (1990)

In the 1980s, one of the most significant works on movement was Pollock's (1989) Split-IP hypothesis. He observes some differences in word order between English and French and concludes that French has verb movement (explaining the word order in *Jean embrasse souvent Marie*, *Jean n'aime pas Marie*) and English has not (explaining *John*

often kisses Mary, John does not love Mary). In this way, he explains the differences between these two languages regarding adverb placement and the position of negative particles, among other phenomena.

The second idea of his work is that verb movement is a two-phase process, including short verb movement to AGR and movement of V+AGR to Tense. In order to support his proposal, Pollock analyses the verb position in inflected and non-inflected sentences with temporal-aspectual adverbs. In non-inflected sentences, two word orders are possible:

(168)

a. Souvent paraître triste pendant son voyage de noce, c'est rare

often to.seem sad during one's honeymoon that's rare

'To often look sad during one's honeymoon is rare.'

b. Paraître souvent triste pendant son voyage de noce, c'est rare.

'To seem often sad during one's honeymoon is rare'

In (168a) and (168b), the position of lexical verb *paraître* ('to seem') can be presented occur either on the left side of the adverb *souvent* ('often') or on its right side.

By contrast, in negative sentences with *pas*, the infinitive auxiliary *être* (*to be*) can be present on the left side of the negative marker *pas*, but the lexical verb *sembler* (*to seem*) cannot, as in (169a) and (169b).

(169)a. N'être pas heureux est une condition pour écrire des romans

Neg-to-be neg happy is a condition for writing some novels

‘Not to be happy is a prerequisite for writing novels.’

b. * Ne sembler pas heureux est une condition pour...

ne to.seem NEG happy is a condition for ...

Thus, Pollock proposes a two-phase verb movement illustrated in (170), where there is a short verb movement to e_i (AGR) and then to a higher position of V_i (Tense). Agr is the host of agreement features, and the other one is the head of I / T, the host of tense features.

(170) V_i pas e_i [VP souvent t_i ...]

To explain the different performance of auxiliaries (like *être* in (169a)) and lexical verbs (as *sembler* in (169b)), he suggests that auxiliaries do not assign theta-roles, in which case they can move to head Agr. However, lexical verbs do assign theta-roles, so they cannot be freely moved to Agr unless Agr is morphologically ‘rich’.

So, the whole hypothesis is addressed as the Split-IP hypothesis, where I is divided into T and AGR, which has a consequence that there are two possible positions for V and two positions for the subject. This hypothesis was very important and gave rise to many studies about word order in several languages.

However, there are some problems with this approach. In Pollock’s hypothesis, Agr occupies the lower position, but in Romance languages, tense suffixes are closer to verb stem compared to agreement suffixes, and this may require another analysis. Another remark is related to languages with poor agreement. Mandarin Chinese, which lacks agreement inflection on the verb, allows for tense particles added directly on the right

side of the verb. With this hypothesis, how can we explain languages like Mandarin Chinese, which are morphologically poor, but allow for ‘free inversion’ of the lexical verb ‘*kanqilai*’, which equals to French lexical verb *sembler* in (164b)? Examples of Mandarin Chinese are listed in (171), with sentences using lexical verb ‘*kanqilai*’.

(171)

a. *kanqilai ta henlei.*

Seem he very-tired

‘it seems that he is very tired.’

b. *ta kanqilai henlei.*

He seem very-tired

‘it seems that he is very tired.’

Before answering these questions, let us briefly look at Belletti’s analysis. Concerning the relative position of Tense and Agr, Belletti (1990) discusses verb movement in relation to suffixes of morphologically rich Romance languages and combines Baker’s Mirror Principle, stating that the hierarchical order should be Agr-I + T, which is contrary to Pollock’s hypothesis. This new order is further approved by many linguists, including Chomsky (1991) and Cinque (1999). Cinque (1999) indicates that the inflectional domain covers more properties, such as aspect, mood, and modality for example, but we will not adopt this view in this dissertation.

4.1.2. Subject Inversion in Italian, French and English

Subject-verb inversion can be observed in non-NSLs, like English, but it is restricted to some constructions (see 172).

(172)

a. [_{TP} Here _T [_{VP} comes your man]].

b. [_{TP} Your man _T [_{VP} comes]].

Before Pollock and Belletti, Rizzi (1982) and Burzio (1986) proposed the concept of subject inversion and related it with the null subject parameter. See, first of all, the following examples in Italian:

(173) a. Gianni ha telefonato. / [-] Ha telefonato. / Ha telefonato Gianni.

b. John talked. / * Talked. / * Talked John.

Italian, being a NSL, allows “free” subject-verb inversion. In the 80s, some linguists (e.g., Rizzi, 1982, for Italian) even proposed that “subject-verb inversion” is obtained by a dislocation of the NP subject to an adjunction to VP or to IP. In the 90s, many linguists proposed that subject-verb inversion is obtained by the movement of the verb to a high position on the left side of the subject; the NP subject is projected in the spec of VP (the NP subject occupies its base-generated position inside the VP) and, if it remains *in situ*, subject-verb inversion is obtained.

According to Figueiredo Silva (2017), a post-verbal subject may also be the result of an anti-topic construction, which is compatible with a pronominal resumption in the canonical subject preverbal position, as French in (174).

(174)

a. Il a mangé, Jean.

b. Il a mangé la soupe, Jean.

c. Il a mangé hier, Jean.

d. Il a envoyé une lettre à Pierre, Jean.

(Lambrecht, 1981)

In fact, in non-NSLs, the subject can be located on the right side of the sentence, separated by a comma in order to be the anti-topic; and expletive pronouns cannot be omitted, as in (175) in English.

(175)

a. They should not be neglected, the mistakes.

b. He is writing a letter, John.

Since non-NSL can also be characterized by the anti-topic construction, in this thesis we will exclude the discussion of the anti-topic construction, and we will only discuss the so-called “subject-verb inversion”.

Other linguists distinguished two different positions for subjects. For example, Cardinaletti (2001) proposes that Spec SubjP occupies a higher position than Spec AgrP. Moro (1997) indicates that the higher Spec SubjP is the one that is a strong formal referential position, while the lower Spec AgrP can be strong or weak, being referential or not referential.

(176)

a. A Gianni piaceva la musica.

b. A Gianni è capitata una disgrazia.

c. La causa della rivolta sono Gianni e Maria.

d. There is hope.

(Figueiredo Silva, 2017).

The subject or a pre-verbal PP in the previous two sentences are in higher position Spec SubjP, and the latter two are in lower Spec Agr. The illustration of (169c) is given in (177):

(177) [_{SubjP} la causa della rivolta_k [_{AgrSP} *pro*_{expl} sono [_{SC} Maria e Gianni *t_k*]]]

(Cardinaletti, 2001: 125)

As a matter of fact, ‘free inversion’ is regarded by some linguists as incongruous with the general concept of economy in minimalism (Sheehan, 2004). In Chomsky’s (1998) opinion, move is the ‘last resort’ when merge or agree cannot be possible. Thus, the trigger entities of this ‘last resort’ should be considered appropriately.

The studies on SubjP and ArgP provide us with more positions to be considered when the subject is null.

But what is important is that both positions are in the IP domain. In this case, the topic and other constituents can be presented on the left side of these positions. If we assume that the higher SubjP and ArgP do exist in NSLs, then we should look carefully at the so-called “subject-verb inversion” in EP, BP and Mandarin Chinese; this will be the main topic of this chapter.

4.2. Subject-verb Inversion in EP, BP and Mandarin Chinese

4.2.1. Free subject inversion in EP

Before discussing the classic analysis of free subject inversion of EP, let us present firstly the main discourse condition that triggers this inversion in EP , inversion occurs in contexts with a narrow focus on the subject, with all types of verbs (Costa, 1998; Sheehan, 2004):

(178)

Quem comeu o bolo?

Who ate the cake?

‘who ate the cake?’

a. Comeu(-o) o João.

Ate(the cake) DET John

‘ John ate’

b. #O João comeu(-o)

DET John ate (the cake)

‘John ate.’

(179)

Quem falou?

Who talked?

a. Falou o João.

Talked DET John

‘John talked.’

b. #O João falou.

DET John talked

‘John talked.’

(180)

Quem chegou?

Who arrived

‘who arrived?’

a. Chegou o João.

Arrived DETJohn

‘John arrived.’

b. #O João chegou.

DET John arrived

‘John arrived.’

It also occurs in broad-focus contexts, with a group of intransitive verbs that Pinto (1997) calls “inversion verbs”, i.e., intransitive verbs that optionally select a null locative-temporal argument, which can satisfy the EPP (e.g., to arrive, to call) (cf. Costa, 2011; Sheehan, 2004)

(181)

O que aconteceu?

What happened

‘what happened?’

a.. #Comeu (o bolo) o João (o bolo).

Ate (the cake) DET John (the cake)

b. O João comeu o bolo.

DET John ate the cake

‘John ate the cake.’

(182)

O que aconteceu?

What happened

‘what happened?’

a. #Falou o João.

Spoke DET John

‘John spoke.’

b. O João falou.

DET John spoke

‘John spoke.’

(183)

O que aconteceu?

What happened

‘what happened?’

a. Telefonou o João.

Phoned DET John

‘John phoned.’

b. O João telefonou.

DET John phoned

‘John phoned.’

(184)

O que aconteceu?

What happened

‘what happened?’

a. Chegou o João.

Arrived DET John

‘John arrived.’

b. O João chegou.

DET John arrived

‘John arrived.’

Comparing examples of (181), (182) with examples of (183), (184), we see that “subject inversion” is highly influenced by inversion verbs like *chegar*, *telefonar*. As the main object of this section is to find a unified syntactic way to explain inversion in NSLs, the type of verbs and the discourse conditions will not be discussed in detail in this thesis.

The traditional view of “subject inversion” was the movement of a NP subject to some post-verbal position. After Pollock and Belletti approaches, as we have seen above, the idea is different; in “subject-inversion” contexts, the verb moves higher than the subject.

However, Barbosa (2009) considers that the subject of NSLs does not move to the spec of TP, and, if it is present in the preverbal position, this is the result of clitic left dislocation (CLLD), an A-bar extraction, since the rich morphological system allows the EPP feature to be satisfied by incorporation with T (Barbosa, 2009). Barbosa (2009) assumes that a post-verbal subject is interpreted as focus (informational or contrastive) and derives from a position inside the VP, which can be also addressed as part of the rheme (or nuclear scope) (Reinhart 1995, Zubizarreta 1998). And this is attested by the comparison between object CLLD and dislocated DP.

(185)a. O que comeu o João?

DET what ate DET John

‘What did John eat?’

b. ?A sopa comeu-a.

DET soup ate -it

‘The soup, he ate it.’

c. A sopa comeu (-a), mas não sei se comeu o resto.

DET soup ate -it but not know.1SG if ate DET rest

‘the soup, he ate (it), but I don’t know what else he ate

Answering (185a), (185b) is less acceptable than (185c), which contains contrastive information, being addressed as ‘Contrastive Topic’ (Vilkuna, 1995). The post-verbal position prefers a focus interpretation, but the preverbal subject is topic focused. Theme-Rheme articulation is, therefore, the key to define the subject nature in EP. Thus, Barbosa (2009) indicates that the availability of a post-verbal subject construction is highly dependent on information structure conditions, which is illustrated by examples in (186).

(186)

a. Perdi eu o autocarro.

Missed I DET bus

‘I was the one who missed the bus.

b. Vê lá. Por causa das pressas, perdi eu o autocarro.

See there, because of the hurry missed I ART bus.

‘Guess what, because I was in a hurry I missed the bus.

Without a favorable context, as in (186b), (186a) is perceived as an unnatural sentence, with an interpretation of contrastive focus, while (186b) is well-formed and understood, with an emphatic reading on the subject ‘eu’. Thus, according to the differences in focus interpretation, VSO construction is more marked than SVO construction in EP.

Apart from the analysis based on the Theme-Rheme articulation, the third person plural agreement in unaccusative construction of SVO and VSO is also an attractive phenomenon in EP. Let us compare sentences given by Cardinaletti (1997) in (187) and studied by Costa (2000) as well.

(187)

- a. ? Chegou três pessoas.
- b. Chegaram três pessoas.
- c. *Três pessoas chegou.
- d. Três pessoas chegaram.

Comparing the examples shown in (187), the preverbal subject requires stricter agreement with verbs than in the postverbal construction, as it can be seen in (187a), which is acceptable, contrary to (187c), which is ungrammatical.

Under this comparison, Cardinaletti (1997) questions the theory that *pro* is the result of movement from a postverbal position since the phi-features are not completely inherited from the postverbal position.

However, this assertion is also problematic. Even though (187a) can be heard in certain situations and can be accepted to some extent, it is not a common acceptable grammatical sentence. If a rigorous grammatical rule is applied to the analysis of (187a), it can be also treated as problematic. The acceptance of cases like (184a) may be the result of loose-rule regulation in Portuguese dialects.

Going back to Theme-Rheme approach, marked constructions in EP can be found with examples from (188) to (185), given by Lobo (2013:2333).

(188) Clefting structure

a. Fui *eu* que abri a porta.

Was I that opened the door

‘It was me who opened the door.’

b. *Fui [-] que abri a porta.

Was that opened the door

‘It was me who opened the door.’

c. *Eu é* que abro a porta.

I be-3sg that open-1sg the door

‘I am the person who opened the door.’

d. *[-] É que abro a porta.

be-3sg that open-1sg the door

‘I am the person who opened the door.’

When the subject is focalized, the construction with *pro* is ungrammatical. In this case, *pro* can inherit the phi-features from pronouns; however, it is hard for it to inherit a

focus interpretation. And as introduced previously, (188a) and (188c) differ in the degree of focalization, which can also be identified by stress. *Eu* in (188a) is normally accompanied by a stronger stress than that one in (188c), furtherly ascertaining Barbosa's theory (2009).

See also (189) sentences with subjects modified by a focalized adverb (*só, também*, etc.):

(189)

a. [Só eu] sei o que sofri!

Only I know-1sg what suffered-1sg

'Only I know what I suffered.'

b. *[Só [-]] sei o que sofri!

Only know-1sg what suffered-1sg

'Only I know what I suffered.'

See also imperative sentences with contrastively focalized subjects:

(190)

a. -Atende o telefone!

Answer the phone

'*Answer the phone!*'

- Atende tu!

Answer you

'*You answer the phone!*'

b. - *Atende o telephone (with a neutral prosody).

Answer the phone

'Answer the phone!'

-Atende [-]!

answer

'You answer the phone!'

(191) Subject Focalized Structure

a. Às três horas, chegou a Ana, às cinco horas, a Laura, e às seis, cheguei eu.

At three o'clock, arrived the Ana, at five o'clock, the Laura, and at six, arrived I

'At three o'clock, Ana arrived, at five o'clock, Laura arrived, and at six, I arrived.'

b. *Às três horas, chegou a Ana, às cinco horas, a Laura, e às seis, cheguei [-]

At three o'clock, arrived the Ana, at five o'clock, the Laura, and at six, arrived

'At three o'clock, Ana arrived, at five o'clock, Laura arrived, and at six, I arrived.'

From (189) to (191), when the DP is the focalized constituent, it is hardly to be presented as null, which performs similarly to that of (194). Comparing the preverbal pronouns construction, 'Free subject inversion' is the solution for focalization.

As for the sentence structure of free inversion of consistent NSLs, (192) is given by Barbosa (2009). Barbosa (2009) concludes that one crucial property of the parameter in consistent NSLs of the EP/Italian/Spanish type is the availability of (192): where the verbal complex raises to T, the subject remains in the post-verbal field and Agr has a complete set of phi-features:

(192) [[_T V-Agr] [_{sv t} **Subject**]]

However, it is important to note that Barbosa (2009) approach predicts that the basic word order in EP is VSO, being the subject internal to VP and the preverbal subject in a A' position. By contrast, Costa (1998, 2001, 2004), Costa & Duarte (2002) and Sheehan (2007, 2010) argue in favor of a different approach and they show that the SVO order is obligatory in neutral discourse contexts, where all the information is new, and the clitic-left dislocation is not admitted:

(193)

A: O que é que aconteceu?

B:

a. O Pedro partiu o braço.

b. #Partiu o Pedro o braço.

c. #O braço, o Pedro partiu-o.

(Costa, 2004: 16)

To sum up, in a consistent NSL like EP, free subject-verb inversion is very productive, and it is related not only to rich morphological agreement system but also to information structure. As for word order, SVO is the basic and unmarked order, being VS(O) a possible pattern: VS(O) is a contrastive construction with a focus reading and SVO has a topic reading.

As for the pre-verbal position of the subject, there is a great discussion, but we can assume here, following Costa (2004) among others, that it occupies the final spec position of TP.

As for partial NSLs and radical NSLs, 'free subject inversion' is less present, and this will be discussed in the following two sections.

4.2.2. Subject-Verb Inversion in BP

Being different from consistent NSLs, BP, as a partial NSL, is gradually losing free inversion. Therefore, post-verbal subjects are subject to restricted conditions than in EP.

As we will see now, only the unaccusative construction allows for the post-verbal construction, obeying the restriction of mono-argument predicates, which has been studied by many Portuguese and Brazilian linguists (e.g. Figueiredo Silva, 2000; Kato, 2000; Kato & Tarallo, 2003; Barbosa, 2009).

See the following examples:

(194) Transitive verb construction

a. *Tomaram muitas cervejas os professores.

Took-3pl many beers the teachers

‘The teachers drank many beers.’

b. *Enviou-lhe muitos beijos o Romeu.

Sent-3sg clitic many kisses the Romeu

‘The Romeu sent her many kisses.’

(195) Unergative construction (Figueiredo Silva, 1996)

a.* Estava tossindo um cara atrás de mim.

Was coughing a guy behind of me

‘A guy was coughing behind me.’

(196) Unaccusative construction (Britto, 1999)

a.Tinha chegado muitas cartas.

Had arrived many letters

‘there had arrived many letters.’

b. ? Tinha chegado o homem.

Had arrived the man

‘There had arrived the man.’

From the examples in (196), we see that the unaccusative verbs permit subject-verb inversion, while the other verbs do not. However, with unaccusative verbs, BP only allows for inversion in the context of broad focus. Consider the following examples from Costa & Figueiredo Silva (2006):

(197)

A: Quem chegou?

who arrived

‘who arrived?’

B:

a. Chegou o João. (PE/#PB)

arrived the John

‘John arrived.’

b. O João chegou. (#PE/PB)

the John arrived

‘John arrived.’

(198)

A: O que aconteceu?

What happened

‘What happened?’

B:

a. Chegou o João. (PE/PB)

arrived the John

'John arrived.'

b. O João chegou. (PE/PB)

the John arrived

'John arrived.'

Therefore, 'free' subject-verb inversion seems to be admitted in a partial null subject language like BP depending on verb type and discourse conditions: unaccusative verbs with broad focus.

However, Pilati (2002) states that subject-verb inversion is possible in BP with transitive verbs, at least in certain contexts. Moreover, the author classifies VOS construction in BP into three categories.

First, there are sentences with transitive verbs and subjects that are not modified by a focus operator, as in (199):

(199)

a. Tem a palavra a Senadora Heloísa Helena.

Have-3rd-sg DET phrase DET senator Heloísa Helena.

'Senator Heloísa Helena has a word.'

b. Merece destaque a nova secção deste jornal.

Deserve highlight DET new section of-this journal

'The new section of this newspaper deserves to be highlighted.'

c. Pega fogo a disputa eleitoral no São Paulo Futebol Clube

catch fire DET dispute electoral in São Paulo Futebol Club

‘The electoral dispute at São Paulo Futebol Club catches fire’

Second, there are sentences with transitive verbs and a subject modified by a focus operator (*só* ‘only’), as in (200):

(200)

Só responderam à chamada os alunos do Fundão.

Only answer-3pl DET call DET students of Fundão

‘Only the students from Fundão answered the call.’

In the third place, there are sentences with light verbs, as in (201).

(201)

a. *Tomou posse o Ministro da Agricultura.*

took office DET Minister of Agriculture

‘The Minister of Agriculture took office.’

b. *Também faz parte do programa a professora Renata Silva.*

Also do-3sg part of program DET teacher Renata Silva

‘Professor Renata Silva is also part of the program.’

From the examples from (199) to (201), the mono-argument restriction is no longer the unique restriction that limits the subject-verb inversion in BP. Focalization is also an element that should be concerned with partial NSLs. Pilati is not the first linguist to emphasize the importance of semantics and information structure in BP. Negrão & Viotti

(2000) state that BP is a discourse-oriented language. And Modesto (2007) also gives evidence that BP can be treated as a topic prominent language.

Concluding these remarks on subject-verb inversion in BP: BP is, in general, losing subject inversion. With a narrow focus on the subject, BP prefers the SV order SV. In sentence focus contexts, however, BP still admits subject-verb inversion mainly with unaccusative verbs, even though it is considered a partial NSL.

4.2.3. Subject-Verb Inversion in Mandarin Chinese

In Mandarin Chinese, free subject-verb inversion is highly accepted in some dialects, as illustrated in (202). While in standard Chinese, this can also be accepted.

(202)

a. dao le nin lei.

Arrive part. You part-oral

‘You have arrived.’

Since Mandarin Chinese is regarded as a language with optional subject-verb inversion and a discourse-oriented language, we will make a comparison between Mandarin Chinese and BP; the examples are given in the same order presented above for BP.

Following the classification of verb types discussed before in BP, there are some examples in Mandarin Chinese as well.

(203) **Transitive verb construction**

a. Laoshimen hele henduo pijiu

Teachers drank a lot of beer

‘Teachers drank a lot of beer.’

b. *Hele henduo pijiu laoshimen

Drank a lot of beer teachers

‘Teachers drank a lot of beer.’

c. Xueshengmen songgei laoshi henduo kapian

students send the-teacher many card

‘Students sent many cards to the teacher.’

d. *Songgei laoshi henduo kapian xueshengmen

Sent teachers many card students

‘Students sent many cards to teachers.’

From the examples, we see that ‘free’ subject inversion is problematic in Mandarin Chinese transitive constructions as it is in BP. When the subject *laoshimen* (teachers) from (203a) and *xuesheng* (student) from (203c) occur in post-verbal position in (203b) and (203d), the sentences are ungrammatical. The only way to obtain grammatical sentences like (203b) and (203d) is through ‘topicalization’, using a comma in a written register and a break in oral production, in order to build emphasis on the subject, in which case the subject can occur in post-verbal position. However, this is not commonly acceptable in a formal register, existing only in oral informal conversations, which is illustrated in the answers to (204a).

(204)

a. shui hele henduo pijiu?

Who drank a lot of beer

‘Who drank a lot of beer?’

b. Xiaoming hele

Xiaoming drank

‘Xiaoming drank .’

c. *hele Xiaoming

Drank Xiaoming

‘Xiaoming drank .’

As for unergative constructions in Mandarin Chinese, subject-verb inversion is not easily accepted:

(205)

a. Xiaoming xiaole

Xiaoming smiled

‘Xiaoming smiled’

b? *Xiaole xiaoming

smiled Xiaoming

‘Xiaoming smiled’

Examples in (205) show that, with unergative verbs, free subject-verb inversion is not allowed, and may even cause ambiguity in its semantic interpretation when it comes to (205b). For (205b), it can be understood by the contextual input, but it is not commonly accepted by public.

However, in the unaccusative construction, Mandarin Chinese, like BP, prefers subject-verb inversion in many cases, as shown in (206).

(206) Unaccusative construction in Mandarin Chinese

a. Laile henduo keren

Come many guests

‘Many guests come’

b. Sile yiqun bingren

Died many patients

‘Many patients died.’

The mono-argument condition applicable in BP also characterizes Mandarin Chinese, as (206) shows. In fact, the VS construction is perfectly well-formed with unaccusative verbs in Mandarin Chinese, corresponding to VS constructions in BP.

Lastly, Mandarin Chinese also only allows the VS order for a broad focus reading, instead of a narrow focus. Comparing examples of (207), (208) with that of (206).

(207)

a. shui daole?

Who arrived

‘Who has arrived?’

b. # Daole xiaoming. (ok EP, #BP)

Arrived Xiaoming

‘Xiaoming arrived.’

c. Xiaoming daole. (#EP, ok BP)

Xiaoming arrived

‘Xiaoming arrived.’

(208)

a. Fashengle shenme shi?

Happened what issue

‘What happened?’

b. Daole xiaoming. (ok EP, ok BP)

Arrived Xiaoming

‘Xiaoming arrived.’

c. Xiaoming daole. (ok EP, ok BP)

Xiaoming arrived

‘Xiaoming arrived.’

The examples in (207) illustrate sentences with a narrow subject focus reading, which is a context where subject-verb inversion is not allowed both in BP and in Mandarin Chinese, differently from what happens in EP. By contrast, with a broad focus reading, which is illustrated in (208), subject-verb inversion can be accepted by the three languages.

To sum up, only unaccusative verbs allow free subject-inversion in both BP and Mandarin. Transitive and unergative verbs are generally incompatible with subject inversion. As for the interpretation, both BP and Mandarin allow postverbal subjects in unaccusative sentences with a broad focus reading, while EP allows them both in narrow and broad focus contexts.

4.3. Inversion in consistent NSLs and partial NSLs

4.3.1. Left Dislocation and Subject-verb Inversion

According to some authors, left dislocation is one of the explanations for consistent NSLs' free subject-verb inversion. However, if left dislocation explains movement in some languages and constructions, it is also problematic in other circumstances.

For instance, Suñer (2000) shows that the true left dislocated subjects in Spanish allow optional *ad sensum* agreement. In (209a), 'the jury' is singular but the verb 'estaban' are third person plural. There is no agreement between the sentence-initial subject and the verb in the clause. It is the semantic agreement rather than syntactic agreement which occurs in (209a). But the preverbal-subject construction does not allow the semantic agreement, as in (209b). Thus, in this case, the author proposes that the subject is in a spec-head with I, and that left dislocation cannot always be the explanation for preverbal subjects.

(209).

a. El Jurado, María nos aseguró que estaban pressionados

the jury-ms María us assured-3s that were-3pl pressured-mpl

'The jury, Maria assured us that they felt pressured.'

b.El Jurado *estaban presionados/ estaba pressionado.

the jury *were pressured/was pressured

'The jury felt pressured.'

Similarly, in BP, only the referential subjects can be CLLD, which is stated by Britto (2000).

(210)

a. [O Instituto de F.]_i ele_i manda os piores professores, (...)

the institute of F. it sends the worst professors...

‘The institute of F. sends the worse professors.’

[referential]

b. [Toda pessoa que assiste uma peça]_i ela_i tem uma opinião(...)

every person who attends a play he has an opinion ...

‘Everyone who goes to see a play has na opinion.’

[referential]

c. *[Ninguém]_i ele_i gosta de chorar

nobody he likes of cry

‘Nobody likes to cry.’

[non-referential]

All examples in (210) are considered Subject Doubling Structures (SDS) in BP. What should be noticed is that only referential subjects (210a, b) can be doubled, but non-referential cannot.

Mandarin Chinese also allows a subject doubling construction. There are some Mandarin Chinese examples (210), which are counterparts of the ones in (210).

(211)

a. [Beida]_i ta_i pailaile zuihaode laoshi

PKU it sent best teachers

‘The PKU sent the best teachers (to us)’

[referential]

b.[Canjia bisai de xuesheng]_i tamen_i dou hen kaixin

Participate competition DE students they all very happy

‘All of the students who participate in the competition are very happy.’

[referential]

c.*? [Meiyouren]_i ta_i xihuan ku

No-one he like cry

‘Nobody likes to cry.’

[non-referential]

The doubling of subjects with referential nominal expressions occurs, therefore, in Mandarin Chinese, considering (211a) and (211b) for example. And this phenomenon is not associated with alteration of intonation, stress, or speed of utterance between the dislocated DPs and the (doubled) pronouns. When non-referential dislocated subjects are doubled by pronouns, the sentences are ungrammatical, as shown in (211c) and (211d). (211d) can be heard in some colloquial conversations, but it is limited to certain areas in China.

Barbosa (2009) indicates that the absence of this type of subject doubling, in EP for example, can be explained by appealing to the Principle Avoid Pronoun suggested by Chomsky (1981). She further stresses that it is the EPP feature that distinguishes NSLs from non-NSLs, since EPP is checked by [+D/N] Agr in NSLs.

However, other authors consider that what legitimates (210a, b) is *pro* satisfying the EPP (Sheehan, 2007).

As a NSL, Mandarin Chinese owns a poor morphology system, where neither person nor number is marked on the verb. In this sense, how can this be explained by Barbosa (2009)’s theory?

Apart from EPP checking, is there any approach to distinguish BP and Mandarin Chinese from non NSLs? It is the topic that will be developed in next paragraph.

4.3.2. The Unaccusative Structure and the Causative / Non-causative Alternation in Mandarin Chinese

The sentences *The girl laughed* and *An accident happened* look, prima facie, very similar structurally. Both start with a noun phrase, and both include an intransitive verb, i.e., a verb with a single argument. The same parallelism occurs in the following sentences:

(212)

a. Os atletas correram (durante meia hora)

the athletes run-3pl-past (during half hour)

‘The athletes run (for half a hour)’

b. Correram os atletas.

Run-3pl-past the athletes

‘The athletes run.’

c. Os miúdos chegaram.

The children arrive-3pl-past

‘The children arrived.’

d. Chegaram os miúdos.

arrive-3pl-past the children

‘The children arrived.’

In order to better understand the syntactic structure of the sentences above, we must also look at the following phenomenon,

(213)

a. A manteiga derreteu.

The butter melt-3sg-past

‘the butter melt’

b. Derreteu a manteiga.

Melt-3sg-past the butter

‘the butter melt’

c. A Ana derreteu a manteiga.

DET Ana melt-3sg-past the butter

‘The butter is melt by Ana.’

In (213a) and (213c) we have an alteration, a new subject, the causer, added in ‘d’. This is the so-called causative / inchoative or non-causative alternation, a phenomenon that exists in several languages.

Let us compare the behaviour of all this in Mandarin Chinese and Portuguese (EP).

Actually, this type of difference also exists in Mandarin Chinese.

(214)

a. Nvhai xiaole

Girl laughed

the girl laughed.

b. *Xiaole nvhai

laughed girl

the girl laughed.

c. Keren laile

guest came

'Guest arrived.'

d. Laile keren

came guest

'Guest arrived.'

e Cuxiao laile keren

promotion came guest

'Promotion attracts guests to come.'

f. Deng kaile

light light-up

'The light lights up'

g. Kai deng le

light-up light part.

'The light lights up'

h. Ta kai deng le

he light-up light part.

'She lighted up the light'

Comparing all examples mentioned above, causative-anticausative alteration can be commonly found in both EP and Mandarin Chinese. However, their deep syntactic structures are different. Let us look carefully at other examples:

(215)

a. Fuqin sile

father died

‘Father died’

b. Sile fuqin

died father

‘Father died’

c. Wangmian sile fuqin

Wangmian died father

‘Wangmian’s father died.’

(216)

a. His father died.

- *Died his father.

- * He died his father.

b. O pai do João morreu.

- Morreu o pai do João.

- *João morreu o pai.

Through the examples, we see that Mandarin Chinese is different from other languages, because an unaccusative verb like *to die* accepts a new argument in (215c), which

differentiates Mandarin Chinese from English and EP. This extra NP does not mean a causer but means a possessive relationship with the NP on the right side of V.

For three types of verbs, including unergative verbs, transitive verbs and unaccusative verbs, each type of them contains two more subclasses, which are defined by the number of arguments.

(217)

a. Unergative verbs

-with one argument: (representing action, intransitive verbs)

笑(to laugh)、哭(to cry)、飞(to fly)、跳(to jump)、吵闹(to wrangle)...

c. Transitive verbs

打(to fight)、骂(to blame)、吃(to eat)、写(to write)、批评(to accuse)、

欺骗(to deceive)、赞美(to praise)、打胜(to win)...

c. Unaccusative verbs

-with one argument:

来(to come)、是(to be)、有(to have)、死(to die)、

出现(to appear)、发生(to occur)...(existential verbs)

开(to open)、关(to close)、沉(to sink)、摇(to shake)、吓(了一跳)(to be scared)、

气死(to be mad) ... [inchoative verbs (intransitive verbs)]

-with two arguments, those that accept the causative/non-causative alternation:

causative verbs:开(to open)、关(to close)、沉(to sink)、摇(to shake)、

吓（了他一跳）(to be scared)、气死（to be mad） ...

As the presentation already shows, with unaccusative verbs Mandarin Chinese admits true inchoative verbs (intransitive verbs) and verbs which may admit two arguments, the ones that can appear in a causative – inchoative alternation, admitting the transitive construction with a causative value: 开(to open)、关(to close)、沉(to sink)、摇(to shake); 吓（了他一跳）(to be scared)、气死（to be mad） ... And unaccusative verbs can be furtherly divided into three genres, as indicated in (218):

(218)

A. Ergative verbs: take 沉 (to sink)、吓 (to be scared) for example

B. Existential verbs: 来（to come），发生 (to appear)，消失 (to disappear)，死 (to die) ...

C. Non self-determination verbs: 掉 (to drop),落(to fall), 丢 (to lose) ...

From the point of view of syntactic structure, there are three major sentence types formed by unaccusative verbs: V+NP, NP+V, NP1+V+NP2. Class A and class B project V+NP and NP+V orders.

Some linguists look at NP1+V+NP2 as the transitive version of causative verbs, thus, they treat this form as a transitive sentence. On the contrary, we will adopt here Zhang's view that they are still unaccusative verbs. We will develop this hypothesis in the next pages.

The V+NP (VS) order is, in a certain sense, the basic one, as the NP is an internal argument due to the unaccusative of the verb.

The S V order, which is 'NP+V', is obtained by NP movement to the spec of IP / TP, as described in (220), being similar to EP unaccusative syntactic construction.

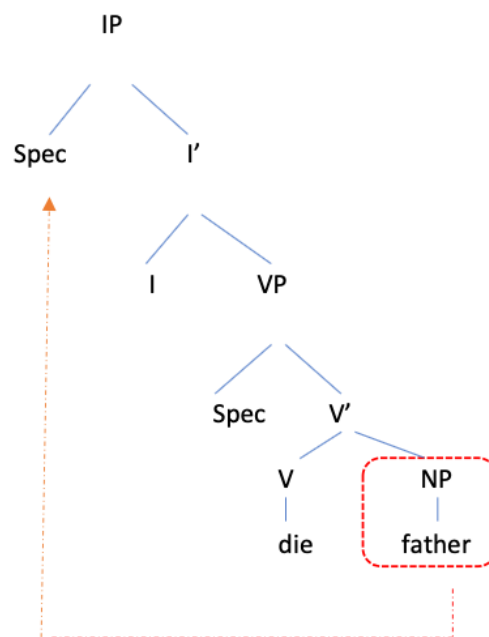
(219)

fu qin si

father die

(Father died)

(220)



As in Portuguese, the internal argument of the verb *si* (die) , which is the NP *fuqin* (Father), moves to the Spec position (subject), the sentence-initial position.

Considering NP1+V+NP2 construction, there are two main possibilities:

1 – The NP1 is the causer of this causative sentence.

2 - NP1 and NP2 establish a possessive relationship.

There are some examples, representative of the possessor reading (221-223):

(221)

Wang Mian si (tone3)¹⁸ le fu qin

Wang Mian die father

‘Wangmian’s father died’

(222)

Na jia gong si(tone 1)¹ chen guo chuan

that company sink(past) boat

‘The boat of that company sank’

(223)

Na ge gong chang ta le qiang

that factory fall(past) wall

‘the wall of that factory callapsed’

One may hold the idea that this construction is the result of promotion of the possessive NP. However, Han Jingquan (2001) argued that in sentences like (222), NP1 and NP2 do have a possessive relationship. Two questions justify: (i) What is the reason for the possessive NP promotion? (ii) Why is the nominative case assigned to the possessive

¹⁸ These ‘si’ have different tones, identifying different characters and meaning. The ‘si’ in (221) is in the third tone, meaning ‘to die’. The second one in ‘19’ is in the first tone, combining with the previous character to form the meaning of company.

NP1 and how could the same case also be assigned to the NP2? The same questions apply to (224):

(224)

Zhang San diao le ta de qian bao

Zhang San drop (past) his wallet

'Zhang San's wallet lost'

One alternative to explain this sentence structure is to argue that, in an unaccusative sentence structure, there is another syntactic level in the construction, where a little *v*, a light verb meaning an (abstract) EXPERIENCE, meaning that NP1 can be an experiencer, on a broad meaning (Zhang 2009). The NP1 in (221)-(223) can be treated as an experiencer and some NP1s are locative. This can be attested by examples given in (225). No matter for the locative NP or the Possessive NP, they are all 'EXPERIENCER's.

(225)

(a)

Yi yuan si le bing ren

hospital die(past) patient(s)

'Patient(s) in that hospital died'

(b)

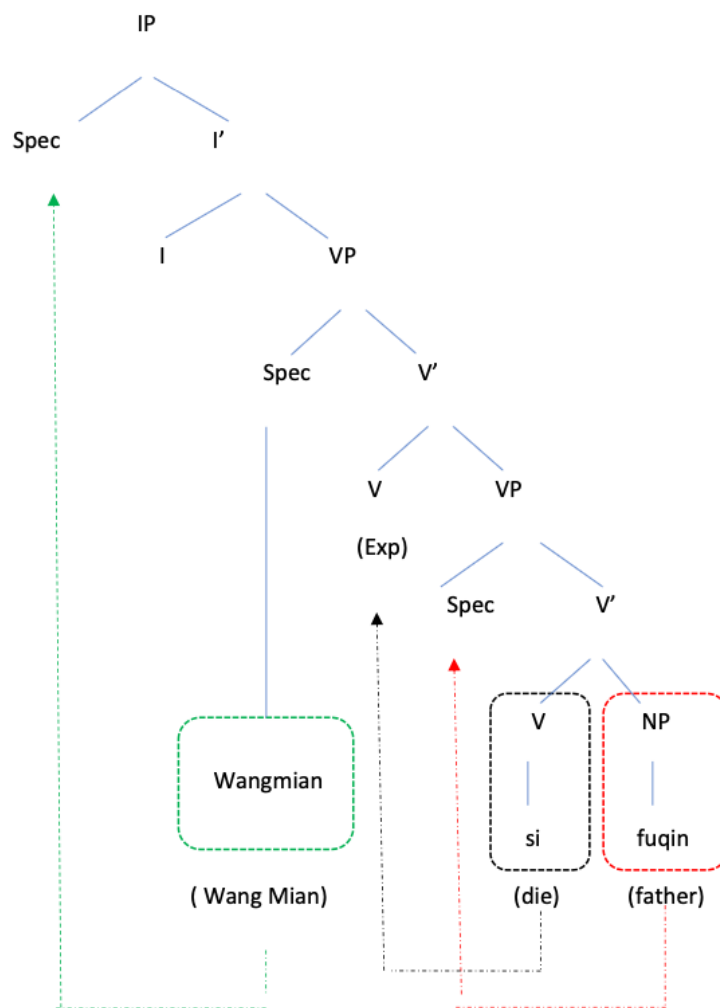
Zhang yi sheng si le bing ren

Zhang Doctor die(past) patient

'Doctor Zhang's patient(s) died'

We will use the example of ‘Wangmian died his father’ to illustrate the sentence structure.

(226) [_{IP}Wangmian k [_{VP} t_k sile j (EXP) [_{VP}fuqin_i [t_j t_i]]]]



In (226), ‘Wang Mian’, the experiencer, is generated in the spec position of little v. ‘Father’, the internal argument moves to the position of [Spec VP], and then ‘die’ moves to the [V, V’]. The little (or the light verb) can assign the experiencer role to NP1, and NP1 moves to Spec position of IP / TP to find nominative case. The verb ‘die’ has no ability to assign case to ‘father’, forcing ‘father’ to move to a Spec position to accept the

case. Thus, this alternation requires three movements to achieve the final ‘NP1+V+NP2’ structure.

Let us now analyse the sentence structure of these verbs when another argument, normally with the thematic role of Experiencer or Causer, may occur, illustrating once more the causative/non-causative alternation:

(227)

a. Najia dalou miele huo

that building put out fire

‘the fire in that building was put out’

b. Xiaofangyuan miele huo

fireman put out fire

‘fireman put out the fire’

c. Huo miele

fire put out

‘the fire was put out’

(228)

a. Xiaoqu gaishanle kongqi zhiliang

the-community improved air quality

‘the air quality in the community was improved’

b. Zhengfu gaishanle kongqi zhiliang

government improved air quality

‘government improved the air quality’

c. Kongqi zhiliang gaishanle

air quality improved

‘the air quality was improved’

(229)

a. Shuishou chenle chuan¹⁹

sailors sank the-boat

‘the boat that sailors took sank’

b. Taifeng chenle chuan

typhoon sank the-boat

‘typhoon sank the boat’

c. Chuan chenle

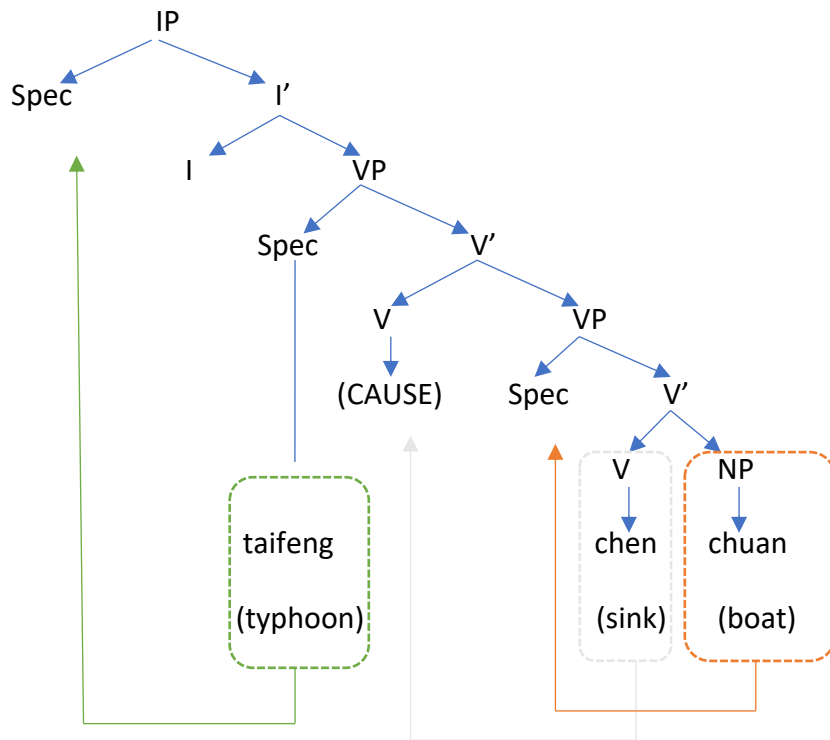
the-boat sank

‘the boat sank’

The examples illustrate the so-called causative-non causative alternation. When the NP1 is animated, it is usually regarded as the causer. Take (229b) for example, whose deep sentence structure and movements are illustrated in (230):

¹⁹ This sentence is actually ambiguous. The sailor could be treated as the causer, but at the same time, it could be treated as experiencer as well. In the example, we treat it as the experiencer.

(230)



There is no great difference between (230) and (226), except the presence in the structure of little *v* / light verb. From the analysis above, we can clearly see that the introduction of little *v* / light verb in the structure enables us to explain the generation of sentences with a possessive / cause relation in a unified way.

We see that the alternation between causative – inchoative / non-causative is complex. In order to explain the transitive / causative variant, a little *v* / light verb layer is introduced during the syntactic derivation and three movements are involved. But a question justifies: is the little *v* / the light verb layer inserted during the derivation, or does it exist already at deep structure?

We see that only an experienced NP can be omitted (see 231a, b), the causer cannot (231c).

(231)

a. Fashengle chehuo

occurred traffic-accident

‘A traffic accident occurred ’

b. Ta fashengle chehuo

he occurred traffic-accident

‘A traffic accident occurred to him’

c* Dawu fashengle chehuo

mist occurred traffic-accident

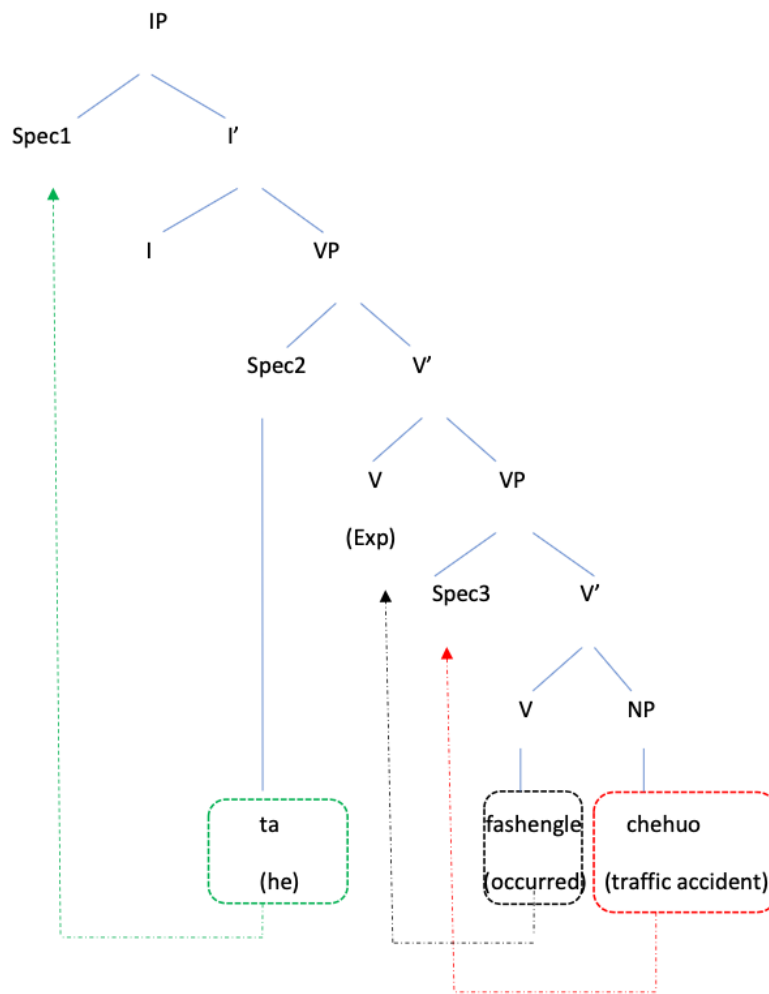
‘Mist caused the traffic accident to occur’

The ungrammatical (231c) gives a cue for the explanation for ‘V+NP’ construction. The experiencer may be used (231b), but not a causer (231c)., which shows that ‘fashengle chehuo’ (occurred traffic accident) may not be the original form. By contrast, there is an experiencer NP occupying the [Spec IP] position that may be null, so that the causer could not be added. The movements inside of this sentence are similar to (231) and are described in (232).

(232) Ta fashengle chehuo

he occurred traffic-accident

‘A traffic accident occurred to him.’



Let us consider sentence (231b), whose structure is (232), that corresponds to a NP1+V+NP pattern. Mandarin Chinese is a null subject language; in this case, the spec position of IP / TP can be null. The sentence (231) may correspond to its original form, with an experiencer occupying the spec position of little v / light verb. This pronoun can be omitted in Spec position. The verb '*fashengle*' still moves to a light verb layer. And the NP '*chehuo*' moves to Spec3. Since the spec2 is occupied by the pronoun 'ta', the verb is not able to rise more. Through this process, the sentence finally presents the surface structure (231a).

Summarizing: the VP layer exists since the beginning and an experiencer, not a causer, may occupy the spec of this layer, with verbs like *occur* in Mandarin Chinese.

Through this analysis, in V S construction in Mandarin Chinese, the subject-verb inversion is the result of the omission of an experiencer (as a pronoun or not) occupying the Spec1 position. And the little v / light verb layer is there to facilitate the unaccusative verb to climb.²⁰

In the next section, we will try to apply the same approach to BP.

4.3.3. Unaccusative Construction and the Light Verb in Brazilian Portuguese

In the last section, we have argued in favor of a little v / light verb solution in order to explain not only the false free subject-verb inversion of Mandarin Chinese with unaccusative verbs (of the type of *occur*), but also the possibility in this language of an experiencer NP in pre-verbal position, in the spec of the extra verb layer.

We have also used this idea to explain the causative/non-causative alternation in Mandarin Chinese: in the causative construction, there is an extra functional verb position to accommodate the cause argument.

In this section, we are going to revisit BP to verify if some of these ideas can be applied to this language.

²⁰ This treatment is similar to the notion of Applicative head, which licenses an experiencer, not a causer, with certain unaccusative verbs.

First, it is necessary to note that the notion of light verb is justified in syntax by two orders of reasons: in some languages, there are light verbs, that is, verbs with a poor lexical meaning where the main predicate is the deverbal nominal with which they combine. Also, many phenomena justify the existence of a functional verbal category, which, besides other reasons, is responsible for accusative case checking.

BP and EP have light verbs, see examples in (233). The light verbs are not the true predicates, being the most important *dar*, *fazer*, and *ter*. Those light verbs select their nominal constituent in order to form the full predicate of the sentence.

(233)

a. Os miúdos deram animação à festa. (=animaram a festa)

These kids give-past-3rd-pl excitement to the party

‘These kids cheered the party up.’

b. Os alunos fizeram um resumo da lição. (=resumiram a lição)

These students do-past-3rd-pl one summary of the lesson

‘These students summarized the lesson.’

(Gonçalves & Raposo, 2013, p. 1215)

In fact, these light verbs can be full verbs as well, with their whole meaning, being interpreted as material transference, material creation and possession (Gonçalves & Raposo, 2013, p. 1215). See examples in (234).

(234).

a. O Pedro deu um livro à Ana.

The Pedro gave a book to Ana

‘Pedro gave a book to Ana.’

b. O carpinteiro fez um brinquedo.

The carpenter made a toy

‘The carpenter made a toy.’

c. O Pedro tem um iate.

the Pedro has-3rd-sg a yacht

‘Pedro has a yacht.’

Thus, light verbs do exist in Portuguese (both in EP and in BP), which gives the justification for an extra verbal (abstract) layer (independently of the details of the analysis).

Having this in consideration, let us come back to unaccusative constructions in BP. Let us consider the examples in (235):

(235)

Chegou muitas cartas.

arrived many cards

‘There arrived many cards.’

Observing the example in (235), we see that in Portuguese, especially in BP, “subject-verb inversion” allows a loose agreement, causing sentences like (235) to be acceptable. Some linguists tried to link this phenomenon to existential sentences in English, a non-NSL (see *There are cats in this house*, *There arrived some men*). Kato (2002) claims that when the agreement system ceased to be pronominal, agreement affixes can no longer

appear as independent items in the numeration. (236) are the examples given by Kato (2002), where different subject pronouns are related to the same verb agreement.

(236)

a. O João, ele é meu amigo.

the John he is my friend

John, he is my friend.

b. Você, cê é meu amigo

you, you are my friend

You, you are my friend.

In Kato's argument, the crucial premise for the proposition is the absence of pronominal agreement system illustrated in (236). However, EP may also have different pronouns (the second person *você* and the third person *ele* and *ela*, as in (237a) and (237b) for the same verb agreement), as we have seen in different parts of this thesis.

(237).

a. Ele é o meu amigo.

he is DET my friend

'He is my friend.'

b. Você é o meu amigo.

you are DET my friend

'You are my friend.'

Also it must be noticed that BP is a language with a poor morphological agreement system.

See the following table (Duarte,1995): the table shows that there is a reduction of the inflectional system of the Indicative Present of *cantar* 'to sing' and that in BP there are, in fact, three grammars in competition (cf. also chap 1):

Table 5: Reduction conjugation system of BP

Person	Number	Paradigm 1 (5 forms)	Paradigm2 (4 forms)	Paradigm 3 (3 forms)
1st	sing.	cant-o	cant-o	cant-o
2nd direct	sing.	canta-s	-----	-----
2nd indirect	sing.	canta-0	canta-0	canta-0
3rd	sing.	canta-0	canta-0	canta-0
1st	Plural	canta-mos	canta-mos	canta-0
2nd direct	Plural	canta-is	-----	-----
2nd indirect	Plural	canta-m	canta-m	canta-m
3rd	Plural	canta-m	canta-m	canta-m

As for the forma *canta*, it can be used with three different pronouns:

(238)

(a) você canta

you sing-Pres-2sg

‘you sing.’

(b) ele canta

He sing-Pres-3sg

‘he sings’

(c) a gente canta

DET people sing-Pres-3sg

‘People sing.’

As for the Indicative Present of irregular verbs like *ser* ‘to be’, the agreement system of BP and EP is shown in table (6) and we see that it is rather complex:

Table 6: Comparison of ‘*ser*’ conjugation between BP and EP

(to be)		BP (<i>ser</i>)	EP
1 st sg	Eu	Sou	Sou
2 nd sg (informal)	Tu	-	És
2 nd sg (formal)	Você	É	É
3 rd sg	Ele/Ela	É	É
1 st pl	Nós	Somos	Somos
2 nd pl	Vocês	São	São
3 rd pl	Eles/Elas	São	São

Table 6 shows that it is difficult to speak about ‘poor’ agreement in BP in certain situations, and ‘rich’ agreement in EP, since BP is ‘rich’ in morphological agreement system when it is compared with Mandarin Chinese.

In this respect, Kato (2002) is probably not right when she argues that the unaccusative construction of BP is similar to the existential construction of English.

However, the difference in agreement between (235a) and (235b) must be emphasized. And, if we assume that the same basic syntactic structure is shared by the two sentences in (239), it is a challenge to explain why no agreement can be found in (239b).

(239)

a. Muitas cartas chegaram.

many-pl cards arrived-3rd-pl

‘Many cards have arrived.’

b. Chegou muitas cartas.

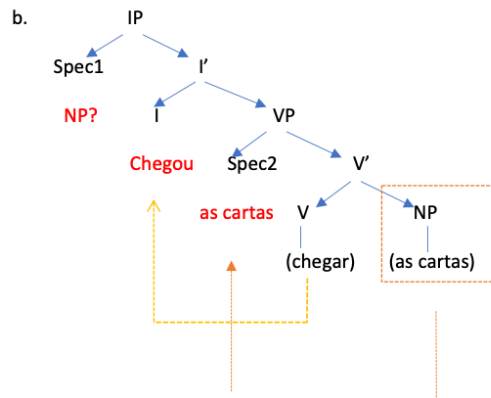
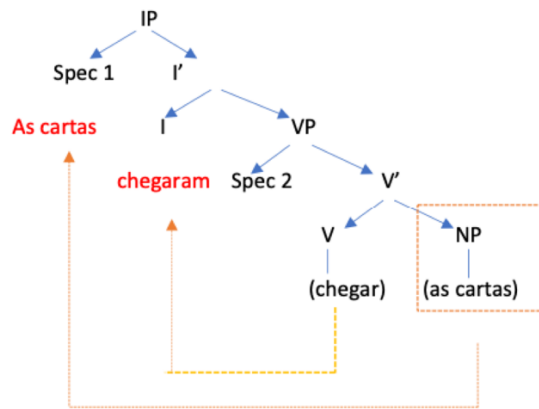
arrived-3rd-sg many-pl cards

‘There arrived many cards.’

As an unaccusative verb, ‘*chegar*’ selects its argument ‘*as cartas*’, and then NP moves to Spec2, because the position is not filled by any constituent (see the structure in (240)). The verb ‘*chegar*’ moves to I/T to acquire agreement of person, number and tense. Due to the fact that Spec1 can be null (BP also allows a null subject position), how can ‘*chegar*’ finally get the past tense third person singular form?

(240)

a.



If we assume that the phenomena in (239) are due to the inexistence of an existential pronoun, then the sentence would be grammatical when the subject position is filled by an existential pronoun / adverb like *aqui*. So, the sentence (241a) should be considered grammatical, similarly to (241b)

(241)

a. *?Aqui chegou muitas cartas.

Here arrived many cards

‘Many letters arrived here.’

b. Aqui vende bala.

Here sells bullets

‘Here, they sell bullets.’

Surprisingly, when the Spec1 is occupied by ‘*aqui*’ (here) in (241a), the sentence is ungrammatical or less acceptable in BP. But (241b) is grammatical. So, (241a) is not an existential construction since the subject cannot be filled with any existential pronoun / adverb. Thus, the syntax of the sentence should be reanalyzed.

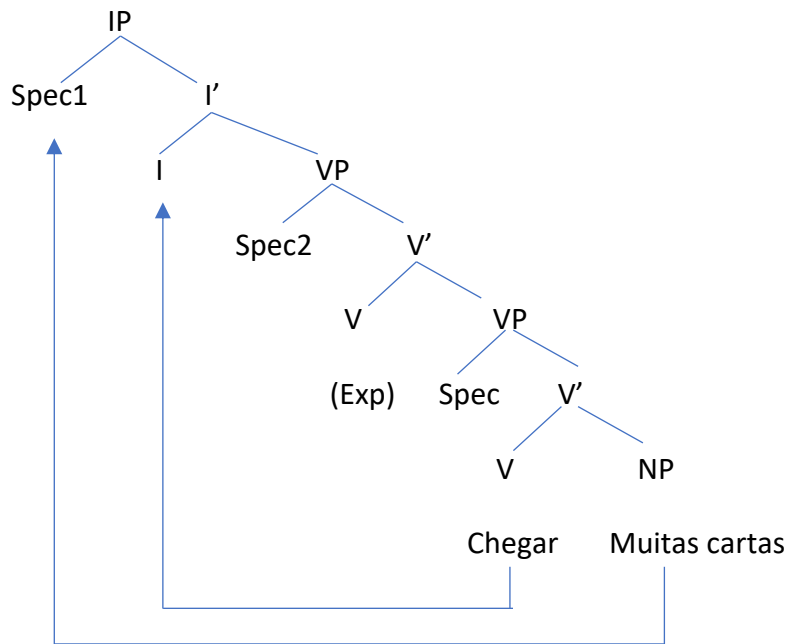
Apart from the proposal of the inexistence of an existential pronoun (adverb, there is another explanation for the phenomenon of (239): a null expletive can occupy the Spec 1 position. But this proposal also goes against (241a).

As mentioned before, as for ‘subject doubling’ and ‘null subjects’, BP and Mandarin Chinese do share many similarities. The proposal we are going to make is that in the two languages there are reasons to argue for an extra verb layer, the light verb layer and two different spec positions.

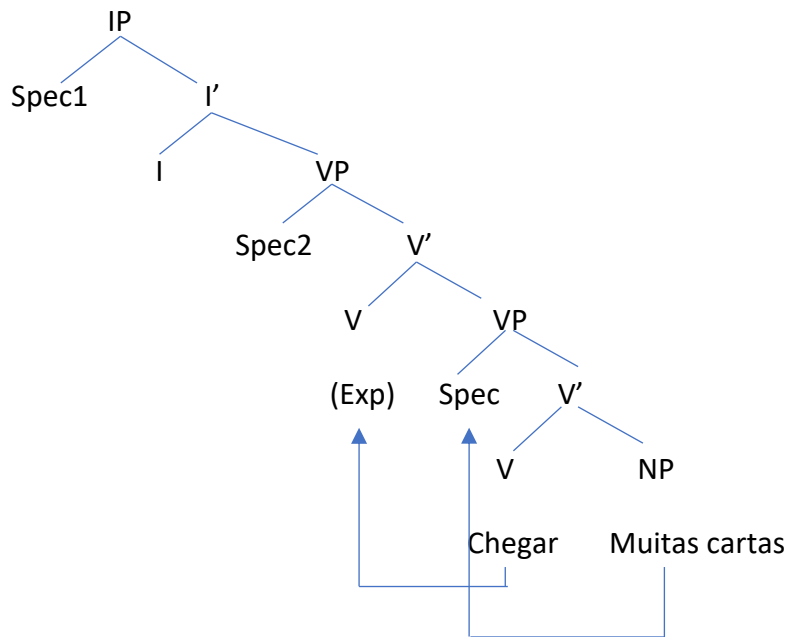
The verb ‘*chegar*’ in (239a) moves to the top I/T position, and a strong link is built between NP ‘*muitas cartas*’ and ‘*chegar*’. However, ‘*chegar*’ only rises once to the light verb / little v layer in (239b), the link is therefore weakened, and only the tense feature is verified in this layer. Theso-called ‘subject-verb inversion’ is then the result of only one-step verb raising, a short verb movement to an intermediate verb layer. To satisfy EPP, the null position is occupied by a null expletive, lightly linked with the light verb layer, which finally causes (239b) be grammatical.

(242)

a.



b



4.3.4. Conclusions

In this chapter, we have related the null subject nature of a language with word order in the sentence, in particular with “subject-verb inversion”.

In the first moment, we have seen that “subject-verb inversion” may be the result of verb movement to I / T, being the subject projected in the spec position of VP (with unergative verbs) and in an internal argument position (with unaccusative verbs), where nominative case is assigned in some way.

“Subject-verb inversion” was related to the null subject nature of a language at least since Rizzi (1982), for Italian, because only NSL have the possibility to have *pro* in subject position.

We have discussed the possibility of explaining the pre-verbal position of the subject by left dislocation. But the traditional left dislocation is problematic when it is used to explain the linguistic phenomena of BP and Mandarin Chinese, since both allow only referential subjects being dislocated. But when the double subject phenomenon is studied, we see that this structure is commonly found in both BP and Mandarin Chinese, suggesting that both languages should be considered as a whole or as the same group.

Unaccusative sentences in Mandarin Chinese were studied because they give rise to three types of structures: NP+V, NP1+V+NP2, and V+NP. The study of this alternation gave us the occasion to formulate a hypothesis: Mandarin Chinese may have a little v / light verb layer, whose spec may be occupied by a NP experiencer. This idea was used for a new syntactic analysis of causative-inchoative alternation in Mandarin Chinese. In these circumstances, the so-called subject-verb free inversion in Mandarin Chinese is, in fact, an obligatory inversion in Mandarin Chinese, the result of a short verb movement.

After that, we have extended this idea to BP. No matter in Mandarin Chinese or in BP, the syntactic structure of unaccusative verbs but also causative – inchoative / unaccusative alternation verbs should contain a little v / light verb layer to accommodate not only the verb but crucially a NP in spec position of this verb functional

category. In this way, the presence of an NP in the sentence-initial position may be explained.

In a variety like BP, the order NP-V is related to strong verb agreement and the order V S is often related to loose agreement. We have argued that this loose agreement is the result of a short verb movement to an intermediate verb layer.

We have seen that the richness of morphological system should not be considered as a parameter for both BP and Mandarin Chinese: subjects may be null in certain conditions. The nature of the verb triggers a short movement, so that, under some conditions, the inversion of subject and verb is not allowed, in other situations, it is authorized through a short movement, a movement to a VP layer²¹.

²¹ Chapter 4 analyses unaccusative verbs that can co-occur with (probably non-argumental) datives in Mandarin Chinese. Portuguese also has a similar construction: *Ao João morreu(-lhe) o pai*. Although not explored in this thesis, this phenomenon is apparently related to the positive setting of the Null Subject Parameter, since it does not exist in languages with a negative setting; see John's father died (English); *Le père de Jean est décédé* (French). Perhaps the subject position (Spec, IP) can be occupied by datives in null subject languages under certain conditions.

Conclusions

To conclude this thesis, it is necessary to come back to the main research questions raised at the beginning of this work. We remind that the main aim was to discuss the properties of NSLs, to recategorize types of NSLs, to study the similarities and differences between EP, BP, and Mandarin Chinese. Thus, centring on these questions, each chapter progressively studies these topics.

Chapter 1 discusses the theories related to NSLs. As presented in this chapter, we see that NSLs share common syntactic similarities, which are included in the classic cluster proposed by Rizzi (1982). Research has shown that there are four major types of NLS, including consistent, partial, expletive, and radical, with EP, BP, German and Mandarin Chinese being correspondent examples. After comparing the properties of classic NSLs (1.3.2.2), we verified that in partial and radical NSLs there are overlapping properties, which inspired the whole production of this thesis.

In Chapter 2, the basic notion of null subject and the general phenomena that characterize EP, BP and Mandarin Chinese were presented. Starting from the cluster of properties of NSLs, we have tried to find examples and properties of these three languages. First, a silent referential definite subject can be commonly found in all three languages. Second, the free subject-verb inversion was tested in consistent NSLs; the inversion is still possible but may not be free in partial NSL and in radical NSL, an issue that has been studied in detail in Chapter 4. When it comes to “complementizer-trace effect”, this can only be tested in languages with obvious complementizers, like in EP. Since Mandarin Chinese hardly uses complementizers, in this dissertation this topic was not studied in detail. We leave it for future research.

For null and overt subject pronouns in embedded clauses, mainly in complement clauses, the overt subject expressed by a personal pronoun in the embedded clause is preferably

interpreted in EP as non-coreferential with the matrix subject, while BP and Mandarin Chinese allow that an overt personal pronoun have both co-referential and disjoint interpretations. If *pro* (the null embedded subject) occurs in partial NSL or in radical NSL, its antecedent should be the subject of the immediately higher clause. If an overt pronominal subject occurs in partial and radical NSLs, the reference can be based on a long-distance discourse relation.

To identify the major differences between consistent and non-consistent NSLs, Chapter 3 compares the nature of pronouns in the three languages. Following the research conducted by Duarte (1995), Duarte (2012) and Cyrino, Duarte & Kato (2000), we saw that a referentiality hierarchy of subjects influences the null subject possibility in NSLs. Highly referential pronouns tend to be phonetically realized, take 1st and 2nd pronouns for example, while low referential pronouns tend to be null, as generic pronouns. For both BP and Mandarin Chinese, low referential pronouns, as generic pronouns, tend to be null. However, for 1st and 2nd pronouns, there is a divergence.

Moreover, it was found that both BP and Chinese have experienced a tendency of losing the strong agreement verbal property, which provides evidence that both languages may share the same property of having *pro* as the null subject. One hypothesis is that it is the transformation stage that causes the differences existing between Mandarin Chinese and BP, which left to be furtherly studied.

Subject-verb inversion in the three languages was discussed in Chapter 4, with different types of verbs being studied. EP allows for both accusative and unaccusative structures with subject-verb inversion, but BP and Mandarin only allow the VS order with unaccusatives. Apart from these, EP accepts both narrow and broad scope of focus, while BP and Mandarin Chinese prefer VS in a broad scope. Apart from types of verbs. Mandarin Chinese and BP allow for VS in unaccusative construction when there is a focus interpretation, being highly influenced by its discourse-oriented property.

As for the syntactic movement occurred in subject-verb inversion of BP and Mandarin, it is the light verb layer that unifies the treatment. With the introduction of a light verb layer in Mandarin Chinese, it is not hard to understand three constructions, including NP+V, NP1+V+NP2, and V+NP. As for BP, since the poor morphological agreement is hard to be tested when it is compared with Mandarin Chinese, the light verb layer can also provide a clear syntactic movement in unaccusative constructions in BP. After verb raising to a light verb layer, the agreement between the subject and the verb is weakened. Thus, null expletive subject in sentence-initial position links to a light verb layer in order to render a sentence like ‘Chegou muitas cartas’ grammatical.

To conclude, Table (7) illustrates similarities between BP and Chinese, as it was presented in this thesis.

(7)

Properties	BP	Chinese
(i)	Person restrictions on “omission” of a specific subject pronouns. The more referential the pronouns are, the less tendency to be null.	Person restrictions on “omission” of a specific subject pronouns. The more referential the pronouns are, the less tendency to be null.
(ii)	Not necessarily very rich agreement inflection on the verb;	No agreement inflection on the verb;
(iii)	3rd person null subjects can have an indefinite interpretation without the need for a special marker;	3rd person null subjects can have an indefinite interpretation without the need for a special marker;

(iv)	Allow overt subject pronouns with no interpretative difference in complex sentences	Allow overt subject pronouns with no interpretative difference in complex sentences
(v)	Subject-Verb inversion is limited: For narrow focus: Inversion is ungrammatical; For broad focus: : Inversion is possible in BP, mainly with unaccusative verbs.	Subject-Verb inversion is limited: For narrow focus: Inversion is ungrammatical; For broad focus: : Inversion is possible in MC, mainly with unaccusative verbs.

Due to these similarities, it is reasonable to assume that NSLs should be grouped into only two types: Consistent NSL, with EP being one representative example, the other one is Partial NSL, with BP and Mandarin Chinese as examples. Partial NSLs share some similar properties with consistent NSLs. But for subject-verb inversion construction, it can be seen that limited conditions can be applied to BP and Mandarin, take unaccusative construction for example.

The main idea of this dissertation is the proposal of a reclassification of NSLs. Still, there are many differences between BP and Mandarin Chinese, which need to be further studied. This reclassification is a new research direction for all linguists in order to reconsider the relationship between partial NSL and radical NSL, since this was initially proposed by Barbosa.

In the past, one impressive assertion was made by one of my master's professors. He started his first lesson with one comment: 'Mandarin Chinese is other language.' Even though this sentence can be regarded largely as a joke in that lesson, this sentence finally triggered all my following studies, focusing on the connection between Mandarin Chinese and other languages. With respect to null subjects, we can see the link between BP and Mandarin Chinese. Apart from the topics covered in this thesis there are still

many issues that need to be investigated, such as the null object, which is an issue tightly related to NSLs, in particular Mandarin Chinese. Besides, other typological relationships between Mandarin Chinese and other languages should be delved into in future studies, which justifies Mandarin Chinese not to be regarded as 'other language' anymore.

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