

**From Intonational Phrase to Syntactic Phase:
the grammaticalization of enclisis in the history of Portuguese**

Abstract

In the history of European Portuguese, from the 16th to the 19th century, clitic-placement underwent significant changes, specifically with respect to the environments where enclisis obligatorily occurs. In this paper, we show how the architecture of grammar proposed in Distributed Morphology (Embick and Noyer, 2001, 2006) can shed a light on this change. We analyze enclisis as the result of post-syntactic rules and we argue that the change involved a shift in the operation which displaces the clitic from *Prosodic Inversion* to *Lowering*, accounting for the different environments where enclisis obligatorily occurs across time. Moreover, the employment of such a view of the architecture of grammar allows us to interpret this shift as a case of grammaticalization, thus broadening the treatment of this concept in the framework of Generative Grammar.

keywords: Enclisis; Grammaticalization; Distributed Morphology; Modern European Portuguese; Classical Portuguese;

1. Preliminary considerations

In Modern European Portuguese (henceforth EP), *enclisis* is obligatory in V1 constructions, and with topics, adjuncts and referential subjects preceding the verb in root affirmative sentences, as illustrated in (1-3).

- | | | |
|-----|----------------------------|--------------------|
| 1a. | Encontrei-o | ontem |
| | <i>I met-CL3sg</i> | <i>yesterday</i> |
| | I met him yesterday | |
| 1b. | * O encontrei | ontem |
| | <i>CL3sg I met</i> | <i>yesterday</i> |
| | I met him yesterday | |
| 2a. | Ontem, | encontrei-o |
| | <i>yesterday</i> | <i>I met-CL3sg</i> |

- Yesterday, I met **him**
- 2b. *Ontem, o encontrei
yesterday *CL3sg I met*
 Yesterday, I met him
- 3a. O Paulo falou-me
Det.3sg *Paul* *he spoke-CL1sg*
 Paulo spoke to me
- 3b. *O Paulo me falou
Det.3sg *Paul* *CL1sg he spoke*
 Paulo spoke to me

Proclisis is obligatory in all the other cases:

a) in negative clauses

- 4a. O Paulo não me fala
Det.3sg *Paul* *neg* *CL1sg he spoke*
- 4b. *O Paulo não fala-me
Det.3sg *Paul* *neg* *He spoke-CL1sg*
 Paulo does not speak to me

b) in subordinate clauses

- 5a. Todo mundo sabe que a viste
Everybody *knows* *COMP* *CL3sgfem you saw*
- 5b. * Todo mundo sabe que viste-a
Everybody *knows* *COMP* *you saw-CL3sgfem*
 Everybody knows that you saw her
- 6a. Se tu me tivesses dito...
if *you* *CL1sg have* *said*
- 6b. *Se tu tivesses-me dito...
if *you* *have-CL1sg* *said*

If you had said to me...

c) in clauses in which the preverbal phrase is a quantifier (7), a WH operator (8), a focalized phrase (9), or an adverb of a certain class (10):

7a. Alguém me chamou
somebody CL1sg called

7b. *Alguém chamou-me
somebody called-CL1sg
 Somebody called me

8a. Quem me chamou?
who CL1sg called

8b. *Quem chamou-me
who Called CL1sg
 Who called me?

9a. Só ele a entende
only 3PRO CL3sgfem understands

9b. *Só ele entende-a
only 3PRO Understands CL3sgfem
 Only he understands her

10a. eu (sempre, ainda, já) a encontrei no mercado
1PRO always, still, already CL3sgfem I met at-Det.3sg market

10b. *Eu (sempre, ainda, já) encontrei-a no mercado
1PRO always, still, already I met CL3sgfem at-Det.3sg market
 I (always, still, already) met her at the market

Barbosa (1995, 1996, 2000) was the first author to propose that Portuguese clitic placement is an epiphenomenon derived from the interaction between syntax and phonology. The author argues that all Portuguese enclitic constructions are V1 constructions. According to her, enclisis derives from the application of the Tobler-Mussafia Law, which bans unstressed words at the absolute beginning of sentences. Specifically, she argues that clitics are attached to the left edge of a verbal projection that she identifies as IP, but they are prohibited from appearing initially in

an Intonational Phrase.

This analysis is straightforward for (1) and (2), but (3) needs an auxiliary hypothesis. If enclisis with pre-verbal subjects is to be derived from the application of the Tobler-Mussafia law, these would not occupy a clause-internal position, but rather would be dislocated, like topics, thus establishing a new Intonational Phrase boundary. This is Barbosa's claim.

As shown by Galves, Britto and Paixão de Sousa (2005), in the language written in Portugal between the fifteenth and the eighteenth centuries, proclisis and enclisis are both found in sentences with referential subjects like (3). This variation is correlated with other factors, such as contrastive topicalization and constituent length, which are plausibly related to the issue of whether the initial phrase constitutes a separate Intonational Phrase. Therefore, there is evidence that in Classical Portuguese (henceforth CIP) enclisis is a V-1 phenomenon.

Galves and Sandalo (2004), however, argue that while Barbosa's analysis is basically correct for CIP, the modern language has undergone a subtle change. They claim that, since referential subjects now uniformly trigger enclisis under circumstances that cannot be based on prosodic differences, the domain of the initial position that bans clitics must have changed in Modern European Portuguese (EP). They propose that this was a shift from a phonological/prosodic (Intonational Phrase) to a syntactic domain: whereas in CIP clitics are prohibited from appearing initially in a Intonational Phrase, as Barbosa proposed for EP, in EP, they cannot be placed at the initial position of the first X-bar.

Anderson (2005:149) notes that there are various instances of syntactic and prosodic interactions in the history of clitic placement and says: "I simply note their [Galves and Sandalo 2004] proposal as potential evidence that such a historical change may be possible". It is important to highlight that if there has indeed been a shift from phonology to syntax, this shift may have involved grammaticalization. In this paper we shall revisit Galves e Sandalo's analysis in the framework of the Minimalist Program and Distributed Morphology to argue that grammaticalization is indeed the shift in the history of Portuguese clitic-placement.

The paper is organized as follows. In Section 2, we propose a new analysis for EP clitic-placement, adopting Barbosa (2008)'s idea that the domain of the restriction concerning the clitic is the CP phase (Chomsky 2000), but differing from her, with respect to the analysis of the derivation of the clause. In particular, we strongly argue against the claim that, in this language, subjects are external to CP. We base our analysis on the argument of Costa and Galves (2001) and Costa and Duarte (2003), who claim that the peculiarity of EP subjects is that they stay in the specifier of a head F to which the verb does not move. Moreover, following Barbosa (2008), we propose that clitics are adjoined to the projection of T in syntax. However, they must be lowered

to the verb post-syntactically when they are the highest activated head in the derivation. Section 3 presents the syntax of clitic-placement in Classical Portuguese. We bring evidence drawn from Galves Britto and Paixão de Sousa (2005) that, in this language, enclisis is produced when the verb is at the beginning of an Intonational Phrase. In Section 4, we argue that, in the history of Portuguese clitic-placement, enclisis has undergone a change from Prosodic Inversion to Morphological Lowering (Embick and Noyer 2001), and we propose that this change can be understood as a case of grammaticalization.

2. A new proposal for EP clitic placement

In a recent paper, published in 2008, Barbosa proposes that the relevant domain for clitic-placement in EP is the CP phase (Chomsky 2000). In the line of her previous work, she claims that the fact that enclisis is obligatory both when the verb is in first position and when it is preceded by a topic or by a referential subject (see 1-3 above) is due to the fact that pre-verbal subjects, just like topics, are external to CP in null subject languages, and therefore do not interfere with the placement of the clitic. In the same paper, the author argues that the rule responsible for enclisis, in the absence of any linguistic material preceding the verb inside CP, is “Local Dislocation”, which applies after linearization has taken place.

Here, we adopt two of the basic claims of Barbosa (2008). First, we agree that enclisis is the effect of the application of a rule of readjustment at the morphological level, and not the result of V-movement across the clitic (cf. a.o Raposo and Uriagereka 2005) . Second, we adopt the claim that in EP the CP phase is the relevant domain for the application of the rule of readjustment.

However, we crucially depart from Barbosa's analysis with respect to both the nature of the rule which places the clitic at the right of the verb and the characteristics of EP syntax that are at the origin of its peculiar clitic-placement.

In the remainder of this section, we shall first discuss the question of the position of pre-verbal subjects as a point of departure for the discussion of the structure of the clause. Then we shall discuss clitic-movement in EP. Finally, we shall return to the derivation of enclisis in this language in the framework of Distributed Morphology.

2.1 Pre-verbal subjects are not external to CP

As mentioned in the previous section, Barbosa (2008)'s analysis crucially depends on EP

subjects being external to CP. This claim has been repeatedly challenged by various authors. Here we review the arguments put forth by Costa (1998) and Costa and Duarte (2003). We then present evidence from the discussion of Rouveret (1981) and Zubizarreta (1982) on long extraction from the pre-verbal subject position in EP, and of Raposo and Uriagereka (1996) on SE constructions. Finally we consider further arguments based on the change from Classical to Modern European Portuguese.

Costa (1998) uses the contrast between configurations with multiple non-subject topics and configurations with one topic followed by a subject to prove that subjects and topics do not behave in the same manner in EP. He points out that multiple topicalization constructions are possible in EP, but that they are slightly marked and require intonational breaks between the topics, which explains the contrast of acceptability between (11) on the one hand and (12) and (13) on the other (the judgements are his):

- 11 Sobre o tempo falei com o Pedro
about Det.3sg whether I spoke with Det.3sg Peter
 About the weather (I) spoke to Pedro
- 12 ???Sobre o tempo, com o Pedro, falei
about Det.3sg whether with Det.3sg Peter I spoke
 About the weather, to Peter, (I) spoke
- 13 ?/??Com o Pedro, sobre o tempo, falei
with Det.3sg Peter about Det.3sg whether I spoke
 With Peter, about the weather, (I) spoke

The interesting point is that no such break is necessary between a preposed constituent and a subject in sentences like (14). Furthermore, inverting the order of the subject and the PP affects the acceptability of the sentence. (15) is thus much more marked than (14) and the topic must be repeated as an anaphoric DP in pre-verbal position, which identifies it as a hanging topic (16).

- 14 Com a Maria, o Pedro falou
with Det.sgfem Mary Det.sg Peter spoke
 With Maria, Pedro spoke
- 15 ?? O Paulo com a Maria falou rapidamente

Det.sg Paul with Det.sgfem Mary spoke quickly
 Paulo with Mary talked quickly

16 ?O Paulo com a Maria esse sacana falou rapidamente

Det.sg Paul with Det.sgfem Mary DEM jerk He spoke quickly
 Paulo with Mary that jerk talked quickly

Costa also argues that pre-verbal definite subjects in EP do not exhibit A-bar properties. His main point is that pre-verbal subjects do not produce minimality effects in WH constructions. In contrast with what happens in languages like Spanish (cf. Ordoñez and Treviño, 1995) and Greek (cf. Alexiadou and Agnastopoulou, 1996), the well-formedness of sentences like (17) and (18) show that pre-verbal subjects do not block A-bar extraction:

17 *esses livros o Paulo leu.*
DEmpl books Det.sg Paul He read
 these books Paulo read

18 *que livros o Paulo leu?*
which books Det.sg Paul He read
 which books Paulo read?

Costa and Duarte (2003) emphasize the same point, showing that in embedded interrogative clauses, subjects can occur between the WH phrase and the verb, but dislocated phrases cannot :

19 *Perguntei que livro o Paulo leu*
I asked which book Det.sg Paul He read
 (I) asked which book Pedro read

20 **Perguntei que livro, à Maria, lhe deram*
I asked which books to+Detfem Mary CL3dat they gave
 (I) asked which book, to Maria, her-dat (they) gave

The same pattern may be reproduced for relative clauses and infinitival complement clauses, as shown in (21), and (22):

21a	Já	li	o	livro	que	o	João	ofereceu	ontem	à	Maria	
	<i>already</i>	<i>I read</i>	<i>Artsg</i>	<i>book</i>	<i>COMP</i>	<i>Det.sg</i>	<i>John</i>	<i>he gave</i>	<i>yesterday</i>	<i>to+Detfem</i>	<i>Mary</i>	
b	*Já	li	o	livro	que,	à	Maria,	lhe	ofereceu	ontem	o	João
	<i>already</i>	<i>I read</i>	<i>Artsg</i>	<i>book</i>	<i>COMP</i>	<i>Detsg</i>	<i>John</i>	<i>CL3dat</i>	<i>he gave</i>	<i>yesterday</i>	<i>Detsg</i>	<i>John</i>

(I) already read the book that John gave to Mary yesterday.

22a	A	mãe	lamenta	os		miúdos	não	verem	o	espetáculo
	<i>Det.fem</i>	<i>mother</i>	<i>regrets</i>	<i>Det.sg</i>		<i>children</i>	<i>not</i>	<i>see-pl</i>	<i>Det.sg</i>	<i>show</i>
b	*A	mãe	lamenta	o	espetáculo,	não	o	verem	(os	miúdos)
	<i>Det.fem</i>	<i>mother</i>	<i>regrets</i>	<i>Det.sg</i>	<i>show</i>	<i>not</i>	<i>CL3sg</i>	<i>to see</i>	<i>Det.pl</i>	<i>children</i>

'The mother regrets that the children haven't seen the show.'

They conclude that clitic-left-dislocated XPs create topic islands for wh-movement, whereas preverbal subjects do not. This contrast remains unexplained under the analysis of Barbosa (1995) and Alexiadou and Anagnostopoulos (1998). These analyses, in fact, predict that preverbal subjects induce minimality effects, just as clitic-left-dislocated XPs do.

Another contrast between EP and the other Romance Null Subject Languages (NSLs) was also noticed by Rouveret (1980) and Zubizarreta (1982). They observed that, with respect to the WH-extraction from subject position, EP patterns not with Spanish and Italian, but with French and English. In the former languages, as proposed by Rizzi (1982), extraction is from the post-verbal subject position, and the trace is licensed independently of the selection properties of the main verb. In the latter, subjects move from the pre-verbal position, and the trace is dependent on the properties of Comp. The trace in subject position is licensed when Comp is selected by epistemic verbs, but not when it is selected by factive verbs, yielding the following well-known contrast in English (examples from Zubizarreta 1982):

23. Who do you believe made that noise?
24. *Who do you regret punished the children?

In Spanish no such difference exists, and subjects can be extracted from factive complement clauses:

- 25 Quien lamentas que no haya llamado?
quien regrets that not have called
Who do you regret that has not called?

In Portuguese, we find the same contrast between factive and epistemic verbs as in English or French (examples from Zubizarreta 1982):

26. Que rapazes acreditas que tenham gasto esse dinheiro?
Which children do you believe spent that money?
27. *Que meninos é que tu lamentas terem roubado aquela loja?
Which children do you regret have broken into that house?

Zubizarreta correlates this contrast with the fact that in Portuguese post-verbal subjects of non unaccusative verbs are obligatorily stressed. According to her, this shows that these subjects in EP undergo a rule of focalization, which blocks the application of WH-movement.

All these facts put together strongly suggest that there is something peculiar about EP when compared with the other Romance NSLs. Summing up, EP pre-verbal subjects behave differently from dislocated phrases and do not block A-bar-movement. Moreover, they seem to occupy an A-position, since there is evidence that subject WH-traces are licensed in pre-verbal position.

Another kind of evidence can be added to this argument. First, if all pre-verbal subjects are dislocated in EP, the explanation for the contrast observed by Raposo and Uriagereka (1996) is no longer valid. They show that pre-verbal subjects of indefinite SE- constructions behave as dislocated phrases, in contrast to what happens with other pre-verbal subjects:

28. a. Salsichas, o Nestor compra **ec** no talho Sanzot.
sausages, the Nestor buys at-the butcher-shop Sanzot
Sausages, Nestor buys at the Sanzot butcher-shop.
b. *Salsichas, **ec** sao compradas *t* no talho Sanzot.
sausages, are bought at-the butcher-shop Sanzot
Sausages, (they) are bought at the Sanzot butcher-shop.
c. *Salsichas, **ec** custam caro no talho Sanzot.
sausages, cost expensive at-the butcher-shop Sanzot

- Sausages, (they) are expensive at the Sanzot butcher-shop.
29. a. Vendem-se salsichas no talho Sanzot.
SE-sell-3pl sausages at-the butcher-shop Sanzot
 Someone or other sells sausages at the Sanzot butcher-shop.
- b. Salsichas, vendem-se **ec** no talho Sanzot.
sausages, SE-sell-3pl at-the butcher-shop Sanzot.
 Sausages, someone or other sells at the Sanzot butcher-shop.

The grammaticality of (29)b would indicate, according to Raposo and Uriagereka (1996), that the dislocated subject of SE passives does not necessarily locally bind a trace in (Spec, IP), but may be directly co-indexed with the object position. What is important for our discussion is that subjects of active and non-SE passive clauses, even when dislocated, move through a pre-verbal subject position, while subjects of a SE construction move directly from their VP internal position to a topic position. This analysis is reinforced by the fact that SE constructions lose their indefinite interpretation when they are embedded in a sentence initiated by a WH or affective phrase. According to the context of the sentence, this leads to ungrammaticality or to the loss of potential ambiguity:

30. Esses manuscritos mostraram-se ao papa
Those manuscripts SE showed-3pl to the pope
31. * A que papa os manuscritos se tinham mostrado
To which pope the manuscripts SE had shown
32. * A muita gente os manuscritos se tinham mostrado
To lot of people the manuscripts SE had shown
33. Os especialistas tinham-se consultado só depois da operação
The specialists SE had consulted only after the operation
 a) "the specialists had consulted each other only after the operation"
 b) "someone had consulted the specialists only after the operation"
34. Só depois da operação os especialistas se tinham consultado
 a) "only after the operation the specialists had consulted each other "
 b) * "only after the operation someone had consulted the specialists "

An analysis which assigns all pre-verbal subjects the same external position cannot apprehend the complex pattern described by Raposo and Uriagereka.

As a last piece of evidence, we present some data from the diachrony of Portuguese. Galves and Paixão de Sousa (2005) observed that up to 1700 the distribution of proclisis and enclisis in V-3 orders was similar to that found in V-2 orders; however, three patterns are found for proclisis (XXV, SXV and XSV), whereas XSV order was not found for enclisis.¹ After 1700, there was a decrease in V-3 structures with proclisis affecting all types of V-3 orders homogeneously. In contrast, the evolution of enclitic V3 is not homogeneous: both XXV and SXV became more frequent, while a new pattern emerges: XSV. This new pattern, absent during the preceding centuries, increased from 0,6% of the total data² in 1700-1750 to 1,2% in 1750-1800, reaching 2,7 % in 1800-1850.

In other words, after the beginning of the 18th century we observe not only an increase in the percentage of enclitic V-3 constructions (consistent with what happens in V-2 structures), but also the emergence of a new pattern, in which the subject appears between the initial topic and the verb. This shows that the increase in enclisis is accompanied by a change affecting subject position. We return to this point later.

Costa (1998) and Costa and Duarte (2003) (see also Costa and Galves 2000) argue that the peculiarities of EP order can be derived from the fact that the verb undergoes a short movement to T, whereas the subject raises to Spec/Agr.³ The main arguments for this claim are based on the position of adverbs, mainly the fact that a IP adverb can occur between the subject and the verb even when the subject is not a topic:

35 O João provavelmente virá
The John probably will come
 John will probably come

36 Ninguém provavelmente virá
Nobody probably will come
 Nobody probably will come.

A very similar analysis is found in Rouveret (1999) and Shlonsky (2004). Rouveret argues, mainly on the basis of the position of adverbs like ‘provavelmente’ and ‘quase’, that tensed verbs and their subjects do not stand in a spec/head agreement. He proposes that subjects are in the specifier of a functional category he calls W, which takes TP as its complement. According to the same analysis, tensed verbs do not raise higher than T. An important aspect of this approach is

that Spec/W is a A-position. Shlonsky (2004) also provides several empirical arguments for a low position of the verb in EP. He mentions for instance that, in contrast to Italian ‘quasi’, which follows the verb (cf. Cinque, 1999), Portuguese ‘quase’ precedes the verb. He quotes Costa (1999) who shows that the perfect auxiliary ‘ter’ occurs below ‘já’, whereas in Italian, according to Cinque, the auxiliary ‘avere’ raise above ‘gia’. He next establishes a correlation between the position of the finite flexion and the fact that the perfect auxiliary in EP is ‘ter’ and not ‘haver’. An important point about ‘ter’ is that, in contrast with ‘avoir’ in French or ‘avere’ in Italian, it licenses VP-ellipsis (cf. Martins, 2005; Rouveret, 1999), as ‘have’ in English, as exemplified below (Op. cit., ex. 18, p. 337):⁴

37. * Gianni ha comprato I romanzi di Faulkner e Pietro ha anche

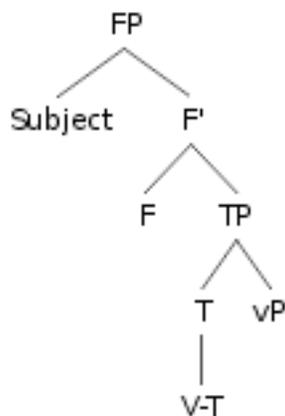
Jean a acheté les romans de Faulkner et Pierre a aussi

O João tem comprado as novelas de Faulkner e o Pedro também tem

John has bought the novels of Faulkner and Peter has also/also has

In the remainder of this paper we adopt this line of analysis as the basis of our account of clitic-placement in EP. In the spirit of Chomsky (1994), we do not call the higher functional IP category AGR, but simply F.⁵ The crucial point is that F is part of the IP layer, and its specifier is a A-position. What we intend to mean is that EP instantiates a split INFL system, with the verb in the lowest head and the subject in the highest, as represented in (38):

38. Structure of the clause in EP



2.2 The position and displacement of the clitic

The analyses of enclisis in EP can be divided in three types, according to the category whose properties are assumed to be at the origin of enclitic structures:

- Tense (Rouveret, 1999)
- A category higher than Tense: F (Uriagereka, 1995; Raposo and Uriagereka, 2005), Sigma (Martins, 1994; Costa and Martins 2003; Martins 2005)
- The clitic itself (Barbosa, 1996, 2000, 2008; Duarte and Matos, 1995, 2000, 2005; Galves and Sandalo, 2004; Ouhalla, 2005)

We adopt the third line of proposals, assuming that the languages that have enclisis in tensed sentences have a clitic-first restriction of some type. It must be noted that the two other approaches amount to considering enclisis as an epiphenomenon: clitic placement is the result of syntactic derivations driven by the necessities of other functional elements of the clause. In Uriagereka, (1995) and Raposo and Uriagereka, (2005), enclisis is produced by the movement of V to F, to satisfy the morphological properties of strong F. In Costa and Martins (2003), enclisis is forced by the necessity of Sigma to be adjacent to V (the preverbal clitic would interrupt the Sigma-V contiguity). In Rouveret (1999), enclisis is blocked when Tense is selected by features in C.

Although Duarte and Matos (1995, 2000, 2005)'s analysis does not derive enclisis from a restriction on clitic-first, it gives a central role to the fact that "EP clitics are more affix-like than other Romance clitics". This point will also play an important role in our analysis, as will become clear below.

Another important difference among analyses is the nature of the rule that creates the V-cl configuration. Following the seminal analysis of Kayne (1991), many approaches concerning EP or other languages (see for instance Cardinaletti and Roberts, 1991/1999) were based on the claim that enclisis is produced by V-movement across the category hosting the clitic.⁶ Recently, a post-syntactic derivation, by which the clitic is moved onto the right of the verb, was made possible by the theoretical framework of Distributed Morphology (Embick and Noyer, 2001, 2006). This new approach has both an empirical and theoretical appeal. On one hand, it allows us to unify the analysis of clitic placement in terms of a restriction on first position clitics, and to account for the difference among languages in terms of the domain in which such a restriction applies. On the other hand, it allows us to restrict movement in syntax to feature checking (or valuation) without further stipulation. If enclisis is produced by V-movement, we must stipulate some reason why the verb should move to the category hosting the clitic in some contexts and not in others. Moreover, if enclisis is produced by V-movement across the clitic, we expect changes in the relative position of the verb and adverbs, which do not occur.⁷ The following examples, from

Rouveret (1999, p. 647), show that the position of the verb does not change according to whether the clitic is *pré* or post verbal.

39. O João provavelmente deu esse livro à Maria ontem.
The John probably gave this book to Mary yesterday

John probably gave this book to Mary yesterday.

40. Eu digo que o João provavelmente deu esse livro à Maria ontem.
I say/claim that the John probably gave this book to Mary yesterday

I claim that John probably gave this book to Mary yesterday

41. O João provavelmente deu-o à Maria ontem.
the John probably gave-CL-acc to Mary yesterday

John probably gave it o Mary yesterday

42. Eu digo que o João provavelmente o deu à Maria ontem.
I say/claim that the John Probably CL-acc gave to Mary yesterday

I claim that John probably gave it to Mary yesterday

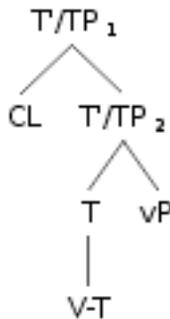
Note that independently of the nature of the process that puts the clitic on the right of the verb, it depends on the existence, at some point of the syntactic derivation, of a structure in which the clitic is higher than the verb. Shlonsky (2004), emphasizes this point when he claims that “enclisis is possible in GALPORT (note of the authors: Galician and Portuguese) because the functional heads associated with finite morphology are lower than the cliticization site.” (op. cit., p.333). The idea, also found in other terms in Rouveret’s and Duarte and Mattos analyses, is that the languages that have enclisis in tensed clauses are the one in which the clitic does not interfere in the checking of the features of the tense morphology, either because those are checked before the clitic is affixed to the verb, or because the clitic, for some reason, is transparent for this relation.

Shlonsky argues at length that the head that hosts the clitic in Galician and Portuguese cannot be part of the C layer, as argued by many authors. One class of arguments has to do with the position of pre-verbal subjects and adverbs, which would also sit in the CP layer in enclitic clauses, since they precede the verb. The fact that the order between subject, verb and adverb is the same in enclitic and proclitic clauses, as well as in clauses without clitics, already pointed out by Rouveret (1999) strongly disfavors this hypothesis. The other evidence presented by Shlonsky concerns clauses whose periphery is unable to host wh-words, topics, foci and fronted elements in general but nevertheless display obligatory enclisis:

- 43a. Eu ouvi a Maria falar-lhe.
 I heard the Mary speak-CL-dat
 I heard Mary speak to him
- 43b. *Eu ouvi a Maria lhe falar
- 44 *Eu ouvi, esta menina, a Maria falar-lhe
 I heard this girl the Mary speak-CL-dat
 I heard, this girl, Mary speak to him

Shlonsky therefore argues that the cliticization site in GALPORT is “a functional head internal to IP”.⁸ However, if the clitic occupies an independent head, we expect some phrase to be able to intervene between the clitic and the verb in proclitic clauses, displaying the so-called interpolation phenomenon. Interpolation exists in Galician but not in Standard EP. In order to reconcile this fact with the analysis of enclisis presented above, we shall adopt Barbosa (2008)’s hypothesis that, in syntax, EP clitics are adjoined to the projection of T as represented below:⁹

45. The syntactic position of clitics in EP clause

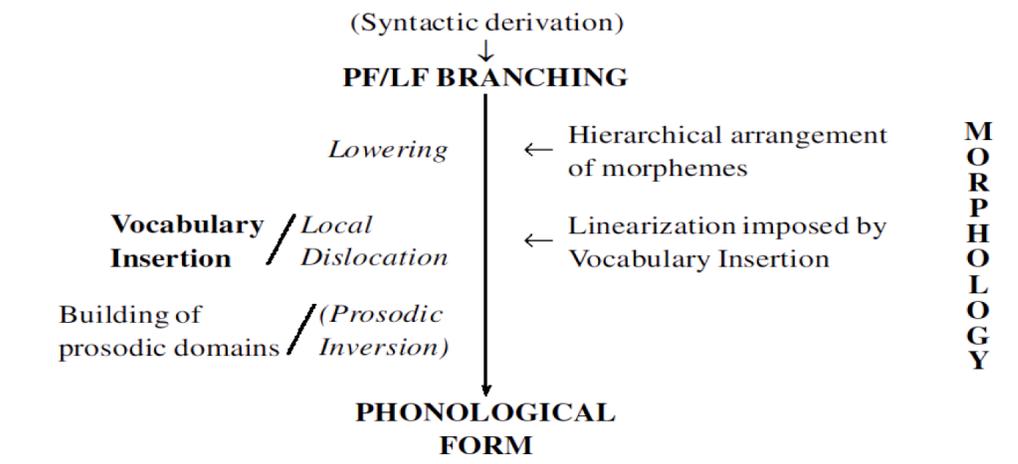


The basis of Barbosa’s proposal is the claim that the clitic and the verb do not constitute a M-word in Syntax in EP, in contrast with other Romance languages like Spanish or Italian.¹⁰ We will see below that this hypothesis correlates nicely with the different way proclitic and enclitic pronouns prosodize in this language (Vigário, 2003). We will now discuss the nature of the operation that produces enclisis from (46) in the framework of Distributed Morphology.

According to Distributed Morphology (DM), “elements bound to others on the surface have heterogeneous histories” (Embick and Noyer, 2001, p.560). Embick and Noyer (2001) develop a theory of movement operations that occur after syntactic derivation in the PF component. Their proposal is an extension of what has been called Morphological Merger in Marantz (1984). According to Embick and Noyer, there are at least two types of morphological mergers: *Lowering* and *Local Dislocation*. *Lowering* is a right dislocation process in which a head

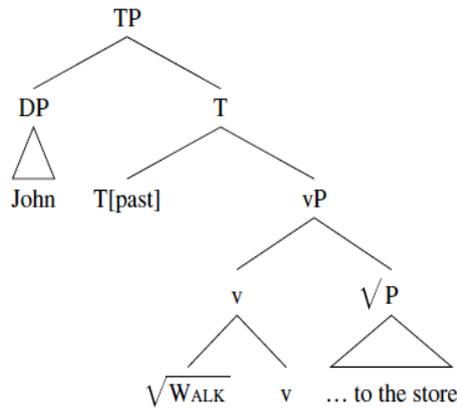
lowers to another head.¹¹ The two heads need not be linearly adjacent. Therefore, *Lowering* is potentially non-local. It is only necessary for it to occur before linearization so that syntactic structure is visible and intervening XPs can be skipped. Since it occurs before linearization, syntactic hierarchy is visible. On the other hand, *Local dislocation* occurs after linearization, and, in this case, the relevant relation is not hierarchical structure but rather linear precedence and adjacency. The respective place of the two rules in the architecture of Morphology is shown in (46), from Embick and Noyer (2001).

46. The architecture of Morphology in the DM framework.



According to the authors, in English, tense lowers to V, head to head. Thus, an adverb can be skipped, but not a head, like a negative marker (cf. John walked to the store and John did not walk to the store).

47. Lowering



However, in the case of superlatives in English, the rule is sensitive to the size of the host (bigger vs. more extensive). Therefore, linearization and vocabulary insertion must have happened before the merger process happens, so that the phonological form of the word can be accessible.

The distribution of enclisis and proclisis in EP evidences the sensitiveness of clitic placement to hierarchical structure and not only to linear precedence. In effect, although referential subjects linearly precede the verb, they do not count for clitic placement. In the previous section, we have argued that this could not be explained by assigning pre-verbal subjects a peripheral position, since their syntactic behavior evidences that they occupy an A-position. We therefore argue that the data above is simply accounted for if the process that displaces the clitic has access to the syntactic configuration. This process must therefore be Lowering. We come back below to the morphological evidence of the affixation of the clitic to the verb.

Barbosa (2008) also assumes that enclisis is a result of merger. However, she argues that the rule responsible for enclisis is Local Dislocation. She claims that the ban on first position clitics is derived from a restriction that prevents the clitic from remaining in this position when there is no linguistic material on its left. According to her, local dislocation is applied only when the clitic is the first element phonologically visible in CP. When this happens, she proposes that Local Dislocation applies, as represented in (48).

48.

$$\text{cl}^*[_T \text{V}+\text{T}] \rightarrow [[_T \text{V}+\text{T}] \text{cl}]$$

This analysis faces both empirical and theoretical problems. We have commented at length the question of subjects. The obligatory enclisis, when the verb is preceded by a referential

subject, shows that not all preceding material provides an adequate host for the clitic. And this is a problem for a proposal based on Local Dislocation. As we already saw above, in order to account for this problem, Barbosa argues that the subject is outside of the CP phase, against much empirical evidence reviewed above.

Second, this analysis needs two principles of explanation. The first is the linear restriction on clitic first in the CP phase that forces Local Dislocation to apply. The second is a prosodic filter that forces the affixation of the clitic onto the right of the verb. This means that Local Dislocation must look at the prosodic phrasing to work. Nevertheless, if one assumes Embick & Noyers's grammar architecture, Prosody follows Local Dislocation in the derivation. Therefore, Prosody is not accessible when Local Dislocation applies.

Finally, the main argument provided by Barbosa to support Local Dislocation is that the allomorphic forms of enclitic pronouns are sensitive to the verbal endings (-o when the verb ends in vowel, -lo when it ends in -r or -s and -no when it ends in a nasal consonant), which would indicate that the process applies after vocabulary insertion. But this cannot be taken as evidence that the rule that lowers the clitic applies after vocabulary insertion, since these alternations can be considered to be instances of allomorphic variation. (cf. Vigário 1999). This means that what applies after vocabulary insertion are the phonological rules responsible for allomorphic variation, not necessarily the rule that lowers the clitic.

Lowering faces none of these problems. The subject does not intervene because, as we shall see in the next session, the process applies when the clitic is in the first head of CP, independently of whether a subject is present or not in the specifier of FP. We are therefore not obliged to assume the ad-hoc claim that the subject is outside CP. Moreover, our proposal straightforwardly accounts for the fact that the clitic appears on the right side of the verb. This is a consequence of Lowering, since head-to-head in Morphology is a mirror image of head-to-head in syntax.

We will now consider the context in which Lowering applies in EP.

2.3 The nature of the restriction on clitic first

As we have already seen, EP is not an isolated case of language that displays proclisis/enclisis alternation in tensed clauses (cf. Shlonsky, 2004; Ouhalla, 2005). Ouhalla (2005) describes a very similar pattern in some dialects of Berber, the main difference being that the class of clitics is wider in Berber than in EP. He argues that the right formulation of the constraint that prevents the placement of clitics in first position of some domain is (op. cit., p. 619):

49. “CL cannot be the first head constituent in the minimal domain (CP, DP, or PP) that includes it.”

Given our representation in (45), the notion of first head constituent needs some specification. First, we propose to re-formulate it in terms of c-command: the first head of a domain D is the one that is not c-commanded by any other head in D. Note that it is not the case in (46), since T is c-commanded by F. Furthermore, if CP is projected, T is also c-commanded by C. We propose to define the first head of a domain D as the head that is not c-commanded by any distinct head in D. Since T and F are part of a split Infl, we assume that they are not distinct. It is natural to propose that root declarative C is not distinct either.

Understanding the notion of first head in terms of c-command allows us to account for an apparent counter-example to the proposals that explain the phenomenon of enclisis on the basis of the syntactic structure, illustrated in (50):

50. O João deu-te um livro?

* O João te deu um livro?

This obligatory enclisis in yes-no questions seems to raise a serious question to analyses that make a correlation between obligatory enclisis and the lack of features in C.¹² Since in (50), the sentence is interpreted both semantically and phonetically as a question, we can infer that a WH-feature is indeed present in Comp. The fact that it is not morphologically expressed cannot be taken as a reason to not interfere on clitic-placement, since in the Distributed Morphology framework we are adopting, the syntax manipulates formal features only. Such features have no morphological expression before Vocabulary Insertion, which takes place at the same time as linearization. The crucial point is that, after vocabulary insertion and linearization, there is no more hierarchical structure, but only linear order. If clitic placement is sensitive to vocabulary insertion, this means that it is also sensitive to linear order and not to syntactic hierarchy. Up to now, we have been arguing that the constraint on clitic placement in EP is indeed syntactic in nature. The obligatory enclisis in (50) therefore seems to lead us to a contradiction. But a solution to this apparent contradiction comes from Sportiche (1998)’s argumentation on yes-no question in French. Sportiche (*op. cit.* pp 408-409) argues that in sentences like (50) or the French equivalent, the whole IP is in the specifier of the C head that hosts the WH-feature, as represented in (51) – adapted to Portuguese from Sportiche’s French example:

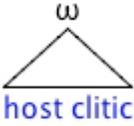
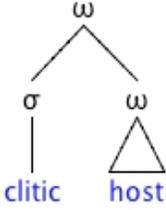
51. [CP [IP O João deu-te um livro]_i [Q] [t_i]]

Given representation (51), enclisis in (50) is straightforwardly accounted for if we understand “first head constituent” in Ouhalla’s constraint in terms of c-command. In (51), the clitic is not c-commanded by Q in Comp, since it is in the specifier of Comp.

We will now briefly review the cases in which proclisis is obligatory, in order to show that in all of them, the clitic is c-commanded by some distinct head.

Embedded contexts,¹³ and clauses in which wh-operators and focalized phrases precede the verb (cf. 5, 6, 8 and 9 above), are obvious cases in which Comp has features of its own, distinct from T. As for quantified phrases (7), we will assume that they also occupy the specifier of FocP, even when they are subjects. In this case, a head higher than T and distinct from it is activated, so that the clitic does not occupy the higher head of the clause in the sense defined above. The effect of negation (cf. 4) is straightforwardly derived from the projection of a Neg head between T and F. The only remaining case is that of the class of adverbs that forces proclisis (cf. 10). These are aspectual adverbs generally analyzed as adjoined to T. It is interesting to note that, they behave like heads: in particular, in contrast with other adverbs, they do not accept modifiers (although they can be modifiers of other adverbs). We conclude from this special behavior that they are both heads and maximal projections. They therefore adjoin to the projection of TP as a head. As such they prevent the clitic from occupying the first position in CP. By contrast the other adverbs adjoin to the clause as maximal projection and do not count for clitic-placement.

To conclude, it is worth noting an important feature of the analysis proposed here, which constitutes one of the main advantages of it over purely syntactic analyses. Duarte and Mattos (1995) emphatically claim that “EP clitics are one step further in the Jerspersenian cycle” than those of other Romance languages “that is, EP clitics are more affix-like than other Romance clitics”. Leaving aside until the last section of this paper the question of the change from clitic to affix, what we want to emphasize now is that, using the Distributed Morphology model, we straightforwardly derive the affix-like nature of enclitic clitics, without having to claim that clitic pronouns are affixes in all their occurrences in EP. Here, the important point to raise, is that proclitic clitics are not affix-like. Vigário (2003) convincingly shows that from a prosodic point of view, whereas post-verbal pronominal clitics are *incorporated* into the preceding prosodic word, pre-verbal clitics (as any proclitic word) are *adjoined* to the following prosodic word, as represented in (52) a and b respectively.

52 a - Post-verbal clitics	52 b - Pre-verbal clitics
	

The empirical argument for the representation of enclisis as 52a is found in the following paradigm, where 0/[j] denote the sandhi phenomena at the boundaries of the words:

- 46
- | | | |
|--------------------------|--------|------------------------------|
| a. <i>pele alva</i> | 0/#[j] | pale skin |
| b. <i>bebe agora</i> | 0/#[j] | (he) drinks now |
| c. <i>pede-o já</i> | *0/[j] | (he) already asks it |
| d. <i>mede-a depois</i> | *0/[j] | (he) measures it later |
| e. <i>peço-te agora</i> | 0/#[j] | (he) asks you now |
| f. <i>disse-me ontem</i> | 0/#[j] | (he) said it to me yesterday |

a. and *b.* show that the final unstressed *e* of a word is deleted when followed by another vowel, whereas *c.* and *d.* show that such a deletion does not occur when the *e* is followed by an enclitic pronoun. This reveals that when the verb is followed by a pronominal clitic, its final vowel no longer behaves as a prosodic word ending. But, as shown by *e.* and *f.*, the enclitic pronoun does behave like the final vowel of a verb, since it is deleted when followed by a vowel. *c-f* therefore evidence the fact that the clitic is part of the preceding prosodic word. In other words, the word boundary is not located between the verb and the clitic, but after the clitic.

The difference between 52 a and b is straightforwardly derived from the analysis proposed here. (52b) represents the phonological side of the syntactic structure in (45). In other words, there is no need of the application of a post-syntactic process to derive the final position of pre-verbal clitics. Once they are adjoined to I' by syntactic movement, they can be prosodically interpreted as adjoined to the following word (the verb). By contrast, enclisis is produced by a post-syntactic rule, which merges/incorporates the clitic to the verb. This turns the clitic into a morphological affix.¹⁴

In conclusion, the difference between affix and clitic is not a syntactic but a morphological

one. We come back to this question later. From a purely syntactic point of view, pronominal clitics are just one category, D or pure phi-features, according to the different analyses. Distributed Morphology allows us to derive post-syntactically their possible morphological differences according whether they occupy a pré or post-verbal position. We shall argue below that it also enable us to distinguish affix-like clitics from clitic-like pronouns in post-verbal position.

2.4 Interim summary: comparison of analyses

First, we are not committed to the assignment of a position radically external to the clause for pre-verbal subjects, in contradiction to the much empirical evidence that there is a position internal to the clause available for them.

Second, the derivation we propose encounters fewer theoretical problems and requires fewer auxiliary hypotheses than do those proposed by other authors, as summarized below:

- a) It is not necessary to assume two different possible positions for the verb. In Raposo and Uriagereka (2005)'s analysis, the verb can be in T or in F. On the basis of the hypothesis that V and D features are separated in the Infl layer in EP, V never raises higher than T.
- b) There is no need for an assumption that V raises in order to fulfill the requirements of another category. Our analysis therefore obeys one of the first economy conditions proposed by Chomsky in the Minimalist framework: Greed (cf. Chomsky 1994).
- c) The contexts in which proclisis is obligatory are straightforwardly derived, with no additional problem in accounting for the cases in which the subject occurs between the verb and the element yielding proclisis.
- d) The Distributed Morphology framework provides a more articulated view of the interface between Syntax, Morphology, and Prosody. The rule of Lowering applies at a time when the syntactic structure is still visible for morphological readjustments, at a time when no linearity considerations are at stake. In previous approaches, linearity conditions already applied at a time when syntactic rules were still active. The analysis based on Distributed Morphology thus meets the minimalist requirements in a much more satisfactory way.¹⁵
- e) Finally, this analysis paves the way for more than one derivation of enclisis. The DM framework offers other possible derivations for the order V-cl, since more than one readjustment rule is available. We now return to clitic-placement in CIP and the change from CIP to EP.

3. Classical Portuguese: another kind of enclisis

Enclisis in Classical Portuguese is different from enclisis in EP. Galves et al (2005) show that in this language, there is quite a bit of evidence that the restriction on clitic-placement is not syntactic, but intonational.

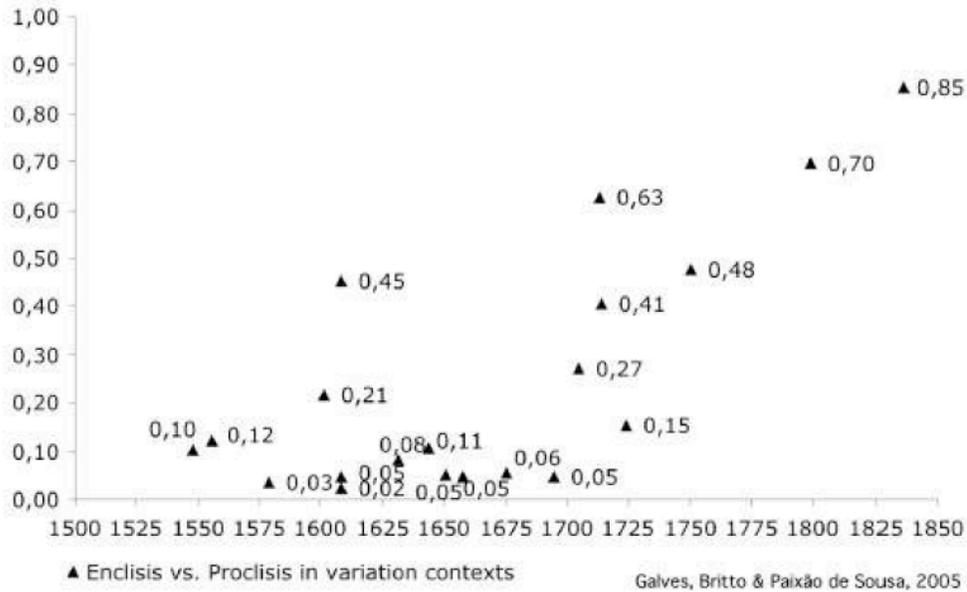
To begin with, in contrast with what happens in EP, *only when the verb is in absolute first position is enclisis categorical*. In sentences like (53) and (54), where a phrase - including a non-quantified subject - immediately precedes the verb, we find variation between enclisis and proclisis, as illustrated below with examples from the Sermons of Padre Antonio Vieira (born in 1608):

53. As outras profecias cumprem-**se** a seu tempo
The other prophecies achieve-SELF ("are achieved") in their time
The other prophecies are achieved in their time.
54. Estes thesouros, pois, que agora estão cerrados, **se** abrirão a seu tempo
These treasures, therefore, that now are closed, SELF-will-open ("will be opened") in their time
These treasures, therefore, that are now closed, will be opened in their time.

Moreover, proclisis is much more frequent than enclisis in classical texts. Figure 1, from Galves et al (2005) shows the variation between enclisis and proclisis in V>1 sentences in texts from authors born between 1541 and 1836.¹⁶ It is important to note that this variation does not affect the cases of obligatory proclisis defined above for EP, which have remained constant throughout the history of Portuguese. Therefore, contexts such as those illustrated in (4)-(11) are not taken into consideration in this graph.

In Figure 1, we can see that up to 1700, enclisis was a marginal choice. For all the texts except one, proclisis appeared at least 80% of the time, whereas the large majority evidenced less than 10% of enclisis. We find one exception in Padre Antonio Vieira, who uses enclisis almost 45% of the time.¹⁷

Figure 1: Enclisis/proclisis alternation in variation contexts



This fact was noted by Martins (1994), who used it as evidence that Vieira was already a speaker of EP, so that the change from CIP to EP had already taken place by the beginning of the 17th century. But Figure 1 clearly shows that his is an isolated case. Moreover, Vieira himself, in his letters, is as proclitic as his Contemporaries (2% in Figure 1). Therefore it is not Vieira himself who is an exception, but Vieira's Sermons. This apparent contradiction in Vieira's writing provides an important key for the understanding of the variation between enclisis and proclisis in CIP. In effect, it turns out that in *all* of the cases of enclisis with pre-verbal subjects, the subject is clearly a contrastive topic, presented in opposition to another term, as exemplified in (55-56) (cf. Galves 2002).

55. Elles conheciam-se, como homens, Christo conhecia-os, como Deus.

They knew-themselves, as men, Christ knew-CL3pl, as God

They knew themselves, as men, Christ knew them, as God.

56. As outras profecias cumprem-se a seu tempo, esta do dia do Juizo tem o seu cumprimento antes de tempo;

The other prophecies achieve-SELF ("are achieved") at their time, this one of the Final Judgement has its achievement before its time

The other prophecies are achieved at their time; this one of the Final Judgement has its achievement before time.

Note that in both (55) and (56), the contrast is expressed not only by the subjects but also by the rest of the sentence: *as men/as god, at their time/ before its time*.

Galves et al (2005) conclude that, taken together, these facts support the claim that in CIP, enclisis is a V-1 phenomenon, due to the so-called Tobler-Mussafia Law, which prevents clitic elements from occurring at the beginning of an Intonational Phrase. Pre-verbal phrases with enclisis do indeed stand outside the boundaries of the clause in an external topic position. This is stylistically marked, and the normal pattern, when the verb is not in the first position, is for proclisis to be used. Since the variation we observe affects all kinds of pre-verbal phrases (see Galves et al for more details), we can infer that there is in CIP an internal pre-verbal position, which is available for both subjects and non-subjects, like in V2 languages. But there is also an external topic position, which is a marked option.¹⁸

A further argument for this analysis is found in another context of variation: when an adverbial clause immediately precedes the verb, as illustrated in the following sentences:

57. Par os começar a render, amimou-**os** com donativos, (A. Barros, 1675)
To them-begin to tame, pleased-CL3pl with gifts
To begin to tame them, they pleased them with gifts.
58. Vendo-o um Cónego no adro daquela antiga Sé, **lhe** disse: (A. Barros, 1675)
Seeing-him a canon in the square of that ancient church CL3sg-said:
As a canon saw him in the square of that ancient church, he told him:

This context provides an interesting way of testing the effect of the Tobler-Mussafia law.¹⁹ In effect, one would expect longer pre-verbal clauses to be more likely to correspond to autonomous intonational phrases, in which case the verb would be the first element of the intonational contour of the main clause. Galves et al measured the length of pre-verbal clauses in terms of the number of words. The results are shown in Table 1:

Table 1: The effect of the length of pre-verbal dependent clauses on clitic-placement in authors born in the 16th-19th centuries

Size of fronted embedded clause (in phonological words)	16 th			17 th			18 th			19 th		
	P	E	% E	P	E	% E	P	E	% E	P	E	% E
1-4 w	68	29	0,30	38	35	0,48	12	35	0,74	0	10	1,00
5-8 w	33	18	0,35	27	28	0,51	16	31	0,66	0	4	1,00
9+ w	8	9	0,53	10	25	0,71	15	15	0,50	0	0	-
	109	56		75	88		43	81		0	14	

This table shows that the frequency of enclisis increases when the pre-verbal clause is long (more than nine words), pointing to a correlation between the length of the pre-verbal clause and the position of the clitic. The interesting thing is that this correlation ceases to exist by the 18th century on.

Summing up, the evolution of clitic-placement during the 16th to the 19th century provides evidence of changes affecting not only proclisis, which became impossible in contexts previously permitting variation, but also enclisis, which was no longer sensitive to intonational boundaries. Moreover, a preverbal subject could now appear between the verb and a topic phrase, as seen in Section II above.²⁰

On the other hand, additional empirical evidence corroborates the claim that clitic placement is not sensitive to CP boundaries in CIP. As illustrated in (59), the lexical complementizer *que* can be deleted in this language. In this case, the clitic categorically remains in proclitic position:

59. e o dizia por mil bocas [_{CP} o tinham feito. (A. de Barros, 1775)

And it-told by thousand mouths it-had done

And he told it through thousand of mouths that he had done it

We have argued that the rule responsible for enclisis in EP is Lowering, given that this is sensitive to the syntactic structure. In CIP, however, we have shown that clitic placement is not sensitive to syntactic structure but rather to intonational boundaries. This suggests that enclisis is derived after the building of prosodic domains, at the lowest level of the PF branch of the grammar (Embick and Noyer, 2001). We therefore conclude that the rule responsible for it is Prosodic Inversion.²¹ According to Embick and Noyer, “Prosodic Inversion, defined by Halpern (1992b) as operating in terms of prosodic subcategorization, would only apply to sentence-

peripheral elements. That is, if a clitic has a dependency that is purely prosodic, it would, all other things being equal, simply lean on a host rather than undergoing Merger.” (op. cit. p. 565, Footnote 6)

From this point of view, clitics in CIP would have a purely prosodic dependency since they are displaced from their initial position in IntP and simply lean on a prosodic word as an enclitic element rather than undergoing merger. This hypothesis would predict that in CIP V-cl would not function as a morphological unit as it does in EP. In particular, we would not expect the same prosodic asymmetry between enclitic and proclitic pronouns as we found in EP. If the enclitic pronoun does not merge with the verb, we predict that the junction processes between the verbal stem and the clitic would be of the type encountered between different words. This would mean that no asymmetry would be expected to exist between proclitic and enclitic pronouns.²²

4. Is the change from CIP to EP grammaticalization?

As already mentioned, Duarte and Mattos (1995) note that “assuming the Jespersenian cycle ... EP clitics are one step further .. that is, EP-clitics are more affix-like”. Duarte and Matos (2000) put the same idea in a slightly different way: “EP clitics entered a diachronic process leading to their reanalysis as affix-like elements” (op. cit. p. 129). To further support this claim, they mention the fact that Portuguese children acquiring EP as well as teen-agers and young people over-generalize enclisis, using it in contexts of obligatory proclisis in adult grammar like negative and interrogative root clauses and embedded clauses.

The change from clitic to affix is one of the stages of the cycle of grammaticalization, which is traditionally represented in the following way (cf. Hopper and Traugott, 2003):

60. Lexical item >> functional item >>clitic >>derivational affix

Here we have analyzed this change as a shift in the post-lexical rule that displaces the clitic from the left to the right of the verb. We have argued that whereas in Classical Portuguese the rule was Prosodic Inversion, in EP it is Lowering. The DM architecture of Morphology (cf. 46) provides us with a formal way of formulating this change as a case of grammaticalization since Lowering has access to syntactic structure, and Prosodic Inversion does not. In this sense affixes are more grammatical than clitics. (Note that, crucially, the notion of clitic here refers to a morpho-phonological entity and not to a syntactic one.) In this section, we will discuss the interest of this approach for the understanding of the process of grammaticalization in the framework of Generative Grammar.

Roberts and Roussou (2003) derive grammaticalization from a theory of acquisition by which, in the absence of robust evidence of the setting of a parameter, learners fix it to its unmarked value. According to them, grammaticalization results from the choice of the simpler representation compatible with the input. In a nutshell, this amounts to choose Merge over Move, and reinterpret lexical categories as functional ones. R&M illustrate this process with many examples involving the reinterpretation of lexical categories as C, T or D.

In their approach, the directionality of grammaticalization is derived from the fact that syntactic change is driven by the opacity of the data, and the move to unmarked representations. This is due to the fact that the “learning device is computationally conservative in that it has a built-in preference for relatively simple representations” (op. cit. p.15). Given F* a functional category that needs to be lexicalized, the authors define a markedness hierarchy for parameters values, (where > means ‘more marked than’):

$$F^*_{\text{Move/Merge}} > F^*_{\text{Move}} > F^*_{\text{Merge}} > F$$

The authors discuss one case of change from enclitic to affix.: the development of affixal agreement from enclitic subjects. They interpret it as a change from $F^*_{\text{Move/Merge}}$ to F^*_{Move} , because the affix is reanalyzed as part of the moved element and no more constitutes an independent item to which the moved element adjoins.

Could we analyze the change undergone by the clitics of Portuguese along the lines suggested by Roberts and Roussou, for subject agreement? We see three problems for the hypothesis that enclitic object clitics are lexical affixes. The first one is that it would amount to a strong pre-syntactically asymmetry between proclitic and enclitic pronouns. If enclitic pronouns enter the derivation inside a word, it is not clear how their relationship with an argumental position is to be recovered. In any cases, it will be different from the way proclitic clitics are interpreted. The second problem is that we would need two different lexical entries for clitics, one in which they are spelled independently and one in which they are affixed to verbs. Finally, the third problem is that enclitic clitics do not display the phonological properties of lexical affixes. Vigário (1999, 2003) argues at length that enclitic clitics can only be analyzed as post-lexical affixes since the phonological rules that apply to them are different from the phonological rules that apply internally to words.

In this paper, we have proposed an alternative approach, within the model of Distributed Morphology. In this framework, the difference between clitics and affixes is a post-syntactic one. However, the architecture of the post-syntactic component, which impose ordering to the rules,

suggests an additional formalization of the notion of grammaticalization,. Lowering applies before Linearization, and has therefore access to syntactic structures. In contrast, Local Dislocation applies after Linearization and Vocabulary Insertion, therefore losing syntactic information. Finally, Prosodic Inversion is sensitive to prosodic boundaries. Morphological processes are thus located on a scale from more to less grammatical. Lowering is a rule which still accesses the hierarchical structure built by the syntactic component. Local Dislocation and Prosodic Inversion no longer have access to this structure, since they occur after linearization. The latter is much more informed by the phonology since it depends on the building of prosodic domains. With Lowering we are still in Syntax, but with Prosodic Inversion, we are already in Phonology. Therefore, we can say that a change from Prosodic Inversion to Lowering is indeed an instance of grammaticalization. The shift from the classical view to this proposal is a shift from product to process. From the point of view of the process, as seen in the DM framework, we have a path of grammaticalization of the following form:

61. Prosodic Inversion >> Local Dislocation >> Lowering

It is outside the scope of this paper to fully compare our approach to Roberts and Roussou's. We will only emphasize that they are likely to be complementary in most of the cases. In effect, the traditional schema of grammaticalization includes two main moments (cf. the discussion in Faarlund, 2008). The first and more crucial one has to do with a change in categorization accompanied by semantic bleaching. The second consists of further steps of phonological dependency and reduction. Roberts and Roussou propose a generativist analysis of the first moment in terms of the emergence of new functional words from lexical words. In their approach, grammaticalization is associated with structural simplification, which they argue is a natural mechanism of change. Here we have considered the next steps, involving further phonological dependency. We have shown that the framework of Distributed Morphology, which proposes a view of Grammar Architecture that models the articulation between Syntax, Morphology and Phonology, allows us to define a path of grammaticalization in terms of whether the rules responsible for the movement of morphemes access syntactic structures or not. We can therefore integrate the steps of the traditional approach remaining outside the model of Roberts and Roussou into the generative model. The analysis proposed here broadens the treatment of the notion of grammaticalization in the framework of Generative Grammar.

One question remains, still. Assuming grammaticalization as a directional process²³ can we derive directionality from the analysis proposed here?²⁴ From Roberts and Roussou's point of

view, we can do so if we show that the process of grammaticalization we have been argued for is associated with the emergence of a simpler representation for a given construction. Since we are in the post-syntactic component of the Grammar, simplicity cannot mean the same as it means in Roberts and Roussou's analysis. However, Farluund (2008) offers an analysis very close in spirit to Roberts and Roussou's. Like them, he assumes a mentalist view of grammaticalization by which the cline above derives from general principles of the acquisition process. According to his analysis, the change from word to clitic to affix corresponds to "boundary reduction", and "in terms of acquisition and reanalysis, this means that the child misses some of the boundary cues, and interprets the input string in terms as having a weaker boundary (fewer slashes, stronger cohesion) at a certain point." (op. cit., p.236) It is very likely that the change from CIP enclisis to EP enclisis involves such a simplification since the prosodic boundary between the verb and the clitic in CIP is no more present in EP, where the clitic is incorporated into the prosodic word that contains the verb. From this point of view, the change can be represented in the following way, where # means prosodic word boundary

(1) Verb#cl#>>> (2)Verb cl#

(2) is simpler than (1) in the sense it has less boundaries. If our analysis is on the right track, this means that the closer the post-syntactic rule is to Syntax, the simpler will the representations be, where simple means less boundaries.

5. Concluding remarks

In this paper, we have provided empirical evidence that the operation responsible for enclisis in CIP is sensitive to the boundary of IntPhr, and we have suggested that the operation displacing the clitic is *Prosodic Inversion*. However, in EP, we have argued that enclisis is the product of *Lowering*, a rule of morphological merger that is applied before linearization takes place.

The history of Portuguese, therefore, provides us with a case of change in clitic-placement that corresponds to a grammaticalization process, in the sense that the relevant domain for enclisis was prosodic in CIP and became syntactic in EP. The Distributed Morphology model offers a nice framework for this analysis, since it proposes two kinds of morphological readjustment rules, ordered with respect to each other, only the first of them being sensitive to syntactic hierarchy. The analysis proposed is also consistent with Roberts and Roussou (2003)'s

approach that derives grammaticalization from a general tendency for the learning child to select simpler structures. According to our proposal, and in agreement with Askedaal's analysis of the grammaticalization step from clitic to affix, what gets simpler in the change from ClP enclisis to EP enclisis is the internal structure of the prosodic word verb+cl. In the absence of evidence that the placement of the clitic depends on the presence of a prosodic boundary at the left of the verb, children prefer to choose the derivation by which the clitic is merged to the verb, which yields the simpler word. In the history of Portuguese, the increase of pre-verbal subjects occurred in texts of authors born in the first half of the eighteenth centuries (cf. Paixão de Sousa, 2004; Galves and al. 2005; Galves and Paixão de Sousa, 2010) must have been associated with the loss of the perception of the presence of a prosodic boundary between pre-verbal subjects and verbs bearing enclitic pronouns, opening the way to the reanalysis of those pronouns as affixes.

¹ Galves and Paixão de Sousa report one case of XSV with enclisis before 1700. However, the sentence was misanalysed due to the modern punctuation of the edition used. Once the original punctuation was recuperated, it was easy to see that it was not a case of a V-3 sentence, but rather of V-2 sentence, in which the relevant NP was not the subject of the main verb, but rather the subject of the pre-verbal adjoined clause.

² The total data are all the non-dependent clauses with clitics in the corpus considered.

³ Rouveret (1999) makes a similar claim (cf. below).

⁴ Shlonsky elaborates on Zagona (1988)'s analysis to derive this difference from the fact that both in English and in Portuguese, auxiliaries do not move as high as their French and Italian counterparts.

⁵ For a defense of Agr as a functional category, cf. Roberts and Roussou (2003, p.176).

⁶ Not all the syntactic analyses of enclisis, however, assume verb-movement across the clitic, see Rouveret, 1999, Nash and Rouveret, 2002, Duarte and Matos (1995, 2000, 2005).

⁷ Besides the question of order, the derivation of enclisis via movement of V across the clitic encounters several problems. One of them is that we would expect the existence of the reverse image of interpolation, i.e. some constituent appearing between the verb and the clitic on its right. This has never been reported for any language, to our knowledge. On the contrary, clitics on the right of the verb are normally much closer to the verb, from a morphological point of view (see Benincà and Cinque 1993), than clitics preceding the verb. Another problem is the definition of the contexts in which the verb raises across the clitic. Crucially this never happens when the pre-verbal phrase is operator-like, since in those cases, proclisis is obligatory (see examples 7-10). But at the same time, it is with this kind of phrases that Verb Movement seems to occur in EP :

a. Muito whisky bebeu o Capitão,

Much whisky drank the captain 'Much whisky did the captain drink!'

b. O que fez o João

What did John 'What did John do?'

Crucially, in these cases, a clitic pronoun would never be enclitic. This is contrary to the prediction made by the derivation of enclisis by the movement of the verb across the clitic.

⁸ Interpolation does exist in dialectal Portuguese (Magro, 2008). Some authors claim that interpolation of the negation exists in Standard EP. We disagree with this claim. According to us, the fact that some speakers find it natural can be traced back to their dialectal origin or to their familiarity with literature, which displays a frequent use of it up to the 19th century (cf. Namiuti, 2008).

⁹ According to Magro (2008), in a revised version of their 2003, 2004 papers, Costa and Martins also assume that clitics are adjoined to TP in syntax.

¹⁰ Barbosa claims that the difference in the way clitics adjoin to T is at the origin of the difference between EP and the other Romance languages. This, in turn, could be correlated with the fact that T has no EPP features attracting the subject, as represented in (38). We do not pursue this matter here. We also leave open the issue of knowing whether

the constraint on first position in CP derives from this configuration or is independent from it.

¹¹ One of the most important generalizations in linguistic theory is the observation by Baker (1985) that syntactic and morphological orderings stand in a symmetrical relation. Baker (1985) argued that the Mirror Principle is the result of the strict locality of head movement, an instance of Relativized Minimality (Rizzi, 1990). Thus, in raising operations, the dislocation of *x* and *y* to Z° can only take place in a roll-up fashion where *y* first attaches to *x*, yielding [*x-y*], which afterwards attached to *z*, yielding the morphological order *x-y-z*. DM proposes that head to head movement in Morphology is lowering (not raising). Lowering is a type may of Merger as well, but downwards, occurring after syntax proper but before Vocabulary Insertion. In this case, *x* and *y* movement to Z° yield [*y-x*] and then the order *z-y-x*.

¹²

We thank an anonymous reviewer for pointing out this important issue to us.

¹³

Vigário and Frota (1998) claim that enclisis is possible in subordinate clauses when the functional category that yields proclisis is separated from the verb by an Intonational Phrase boundary. According to them, this would be a case of 'weight effect' on syntactic structures. However, it must be noted that this phenomenon is restricted to the complement of epistemic verbs, and only occurs with verbs in the indicative mood. This is very much reminiscent of the cases of CP-recursion which license V2 in embedded clauses in some Germanic languages (cf. Kroch and Iatridou, 1992). If it is indeed a case of CP recursion, our analysis straightforwardly applies to this case, since the proclitic pronoun would stand in the first head of (the second) CP, violating (49). It is interesting to note that enclisis in dependent clause also marginally exists in Old Portuguese (cf. Ribeiro, 2009) and in Classical Portuguese (cf. Araujo-Lopes, 2010). In other Iberian dialects, it is more frequent or even obligatory (cf. Fernandez-Rubiera, 2009). Finally, it is also obligatory with indicative mood in Cypriot Greek and in some varieties of Berber. Shlonsky (2004) interprets these differences in Rizzi's left periphery model and argues that proclisis arises when Fin is activated, whereas enclisis corresponds to structures in which the complementizer is in Force. Within this model, we would have to claim that FinP is the domain in which (49 applies), and that, in the case some phrase is projected between the complementizer (Force) and the verb, the [+selected] feature of the matrix verb is not transmitted to Fin, which therefore becomes non-distinct from T. For an alternative analysis in Rizzi's framework, see Fernandez-Rubiera (2009).

¹⁴

Vigário argues that it is a post-lexical affix. We will come back later to this point.

¹⁵

An anonymous reviewer points out that the extrinsic ordering of rules supposed by Distributed Morphology is not minimalist in spirit. However, one could argue that such an ordering is conceptually necessary since Morphology applies both before and after Linearization. The morphological rules sensitive to the syntactic structure must therefore apply before the rules that are sensitive to linear order. Finally, there is a third kind of rules that apply after prosodic domains were built up.

¹⁶

The data are drawn from the Tycho Brahe Corpus cf. <http://www.tycho.iel.unicamp.br/~tycho/corpus>.

¹⁷

The dots in the graph correspond to the date of birth of the authors. The entire Corpus includes the following:

Diogo do Couto (1542-1606), *Décadas* - 47,448 words; Luis de Sousa (1556-1632), *A vida de Frei Bertolameu dos Mártires* - 53,928 words; Francisco Rodrigues Lobo (1579-1621), *Corte na aldeia e noites de inverno* - 52,429 words; Padre Manuel da Costa (1601-1667), *A arte de furto*, 52,867 words; Antonio Vieira (1608-1697), *Letters*, 57,088 words, and *Sermons*, 53,855 words; Francisco Manuel de Mello (1608-1666), *Cartas Familiares*, 58,070 words; Frei Francisco das Chagas (1631-1682), *Cartas Espirituais*, 54,445 words; Manuel Bernardes (1644-1710), *Nova Floresta*, 52,374; José Cunha Brochado (1651-1735), *Letters*, 35,058 words; Maria do Céu (1658-1753), *Relação da Vida e Morte da Serva de Deos a Venerável Madre Elenna da Crus*, 27,410 words; André de Barros (1675-1754), *A vida do Padre Antonio Vieira*, 52,055 words; Alexandre Gusmão (1695-?), *Cartas*, 32,433 words; Matias Aires (1705-1763), *Reflexões sobre a vaidade dos homens*, 56,479 words; Luis Antonio Verney (1713-1792), *Verdadeiro método de estudar*, 49,335 words; Antonio da Costa (1714-?), *Cartas do Abade Antonio da Costa*, 27,096 words; Correia Garção (1724-1772), *Dissertações*, 24,924 words; Marquesa de Alorna (1750-1839), *Letters*, 49,512 words; Almeida Garrett (1799-1854), *Viagens na minha terra*, 51,784 words; Ramalho Ortigão (1836-1915), *Cartas a Emilia*, 32,441 words.

¹⁸

Galves et al. (2005) do not provide an articulated analysis of the clause in CIP. They only assume that there are two topic positions in this language, one internal (the V2 topic) and the other external. They then assume that contrastive topics are in the external topic position, while continuing topics are in the internal position. In the framework of the left-periphery cartography, this analysis finds a more natural basis and encounters independent justification from other languages. On the basis of discursive, prosodic and syntactic analysis of Italian and German, Frascarelli and Hinterhoelzl (2007) assign a special position to contrastive topics in the following hierarchy for topic and focus constituents in the CP system: [ShiftP [+aboutness] [ContrP [FocP [FamP* [IP . This proposal is fairly coherent with Galves et al.'s approach, since it locates contrastive topics in a high portion of the CP layer. In contrast, familiar topics occupy the lowest position in the hierarchy, below foci. Frascarelli and Hinterhoelzl also find that "As for boundary tones, the intonational contours illustrate that shifting topics as well as contrastive ones are always marked by a final lowering which typically signals the end of a prosodic phrase with a declarative illocutionary force.

In general, F0 resetting and rhythmic/tonal breaks show the presence of an intonational phrase boundary between the topic and the rest of the sentence.”

¹⁹ Note that the distribution of enclisis and proclisis is quite different in this case. A great variation is observed between authors, although in general, enclisis is much more frequent.

²⁰ It is beyond the scope of the present paper to offer a full account of the derivation of clitic-placement in CIP. As a first approximation, it seems to be true that this is the phase of the language in which the clitic and the verb were more closely related. The only instance of interpolation we find is with the negation element *NÃO*. Interestingly, this occurred in any context in which the order CL-V did not put the clitic in absolute first position. After the change to EP, interpolation was no longer allowed in non-dependent clauses, and included other elements such as pronouns and certain adverbs. As Magro (2008) pointed out, the interpolation found in many 19th century writers parallels the one observed in modern Portuguese dialects. Interpolation in CIP can be described as the simple inversion of CL and NEG in the category hosting both the clitic and the verb (cf. Namiuti, 2008)

²¹ Although the extent to which Local Dislocation and Prosodic Inversion are distinct devices in the mapping to PF remains controversial, we follow Embick and Noyer (2001) in assuming that Prosodic Inversion differs from Local Dislocation in that the elements that it affects are prosodic categories rather than morphological ones.

²² This is obviously almost impossible to confirm empirically, since we do not have access to the phonetic implementation of the written texts of this period. However, such a situation is shown in Brazilian Portuguese, in which there is no phonological process that differentiates the boundary between a prosodic word and a clitic from the boundary between two prosodic words, as illustrated below.

- a. *pele alva* #0/[j]
- b. *bebe agora* #0/[j]
- c. *pede-o já* #0/[j]
- d. *mede-a depois* #0/[j]
- e. *peço-te agora* #0/[j]
- f. *disse-me ontem* #0/[j]

Moreover Simioni (2008) argues that, in Brazilian Portuguese, clitics behave neither as pre-tonic syllables in the case of proclisis nor as post-tonic syllables in the case of enclisis, and she concludes that, in this language, there is no distinction between proclisis and enclisis in terms of prosodic structure. This is, therefore, a case of a variety of Portuguese in which clitics never undergo Merger.

²³ For some possible counterexamples, see Askedaal (2008), Faarlund (2008) and Janda (2001).

²⁴ It has recently been claimed by Pancheva (2005) that the history of clitics does not obligatorily follow an unidirectional grammaticalization path. Studying the history of clitic placement in Bulgarian, she argues that in Old Bulgarian, clitics were post-verbal, changing to second-position clitics in Middle Bulgarian, and eventually evolving as pre-verbal clitics in Modern Bulgarian. According to this author, the change from Old to Middle Bulgarian provides empirical evidence that affix-like clitics can become independent clitics, in contradiction to the common claim that being an affix is a step forward along the path of grammaticalization. Since, on the basis of her analysis, inverse evolution is found in the history of Bulgarian, it seems that we have empirical evidence that so-called “de-grammaticalization” is indeed possible and there is therefore no directionality of changes.

From the point of view of the schema above, the crucial point is the nature of the post-syntactic processes applying to clitics. As far as Old Bulgarian is concerned, Pancheva claims that clitics were moved in syntax to T, which was final, and the verb was moved to a head adjacent to T. She concludes: “ Given this adjacency, and given that the clitic’s phonological dependency was to the left, the clitic formed a prosodic word with the verb, surfacing as verbal enclitic, without the need for any PF readjustment.” (op. Cit. p.107) . On the basis of this analysis, we can question the affix-like status of the clitics in Old Bulgarian. Pancheva gives no independent empirical arguments to support her claim. As for Middle Bulgarian, which reveals second position clitics, she argues that there is indeed a readjustment rule based on enclitic requirements that displaces the clitic to the right of the verb. She suggests that this rule is Prosodic Inversion. According to this author, the change from Old to Middle Bulgarian involved the change from T-final to T-initial, which yielded a reanalysis of the clitic as adjoined to the left of TP. Since clitics continue to need a phonological host on their left, Prosodic Inversion applies when no constituent is moved higher than the clitic in Syntax. Finally, in Modern Bulgarian, clitics are always adjacent to the verb, but they continue to be constrained by a non-clause-initial requirement. Pancheva argues that this requirement is no more due to a property of the clitics themselves but rather to the application of the Tobler Mussafia Law, which prevents non stressed elements to occur in the first position of an Intonational Phrase. From this point of view, it must be noted that clitic placement in Modern Bulgarian looks very much like clitic placement in CIP: clitics are proclitic, but cannot occupy the absolute initial position in a sentence.

Assuming Pancheva’s description on one hand, and our proposal for the formalization of the notion of grammaticalization within the framework of Distributed Morphology on the other, the evolution of clitic-placement in Bulgarian does not provide a counterexample for the unidirectionality of grammaticalization. In effect, the steps in the prosodization of the clitic to the right of the verb can be represented in the following way:

no readjustment >> 2. prosodic inversion (to the first word) >> 3. prosodic inversion (to the verb)

Neither grammaticalization nor de-grammaticalization are involved in this path. The changes in clitic placement are due to syntactic changes deriving from changes in functional head features. The shift from 1. to 2. derives from the shift from T-final to T-initial, and the shift from 2 to 3 from the loss of the possibility of multiple adjunction to TP.

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