

Some Observations on the Pronominal System of Portuguese*

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Abstract

I present a minimalist analysis of the pronominal system of Portuguese compatible with the claim that pronouns are underlying determiners (Postal 1969, Raposo 1973), including the nominative and dative forms. Whereas the form *o* is a «pure» determiner (a [+minimal, –maximal] projection), the nominative and dative pronouns will be analyzed as [+minimal, +maximal] projections with a nominal feature already «incorporated» in their grammatical feature matrix. I also argue that, under Postal's theory, the ungrammaticality of sentences with an accusative clitic pronoun in Colloquial Brazilian Portuguese cannot be due to a loss of that lexical item, since the item is well and alive as an article (including as head of accusative DPs). Rather, the difference will be tracked down to the fact that the form *ele* lost its inherent (nominative) Case (which it maintains in European Portuguese), which puts it in direct competition with the form *o*. Considerations of economy, in the sense of Chomsky (1995), play an important role in this account.

Key words: determiners, pronouns, Portuguese, syntax.

Resum

En aquest article presento una anàlisi minimista del sistema pronominal del portuguès que és compatible amb la proposta que els pronoms són determinants (Postal 1969, Raposo 1973), fins i tot les formes del nominatiu i les del datiu. Proposo que la forma *o* és un autèntic determinant (una projecció [+mínima, –màxima]), mentre que els pronoms nominatius i datius, pel contrari, s'han d'analitzar com projeccions [+mínimes, +màximes] que «incorporen» un tret nominal en la seva matriu de trets gramaticals. També considero que, d'acord amb l'anàlisi de Postal, la agramaticalitat de les oracions amb pronom clíctic acusatiu en el portuguès brasiler col·loquial no es pot atribuir a la pèrdua de l'element lèxic, ja que aquest element hi és present com a article

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definit (fins i tot com a nucli d'un DP acusatiu). La diferència respecte al portuguès europeu es troba en el fet que la forma *ele* ha perdut la seva marca inherent de Cas nominatiu, que en el portuguès europeu es manté, i això l'ha fet entrar en confrontació directa amb la forma *o*. Les qüestions que giren al voltant de la noció d'economia, en el sentit de Chomsky (1995), juguen un paper important en aquesta explicació.

Paraules clau: determinants, pronoms, portuguès, sintaxi.

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1. Introduction

In 1973, I wrote a paper proposing that there was one and only one form *o* 'the/him/it' (Spanish *lo*) in the lexicon of Portuguese, and that different derivational histories were responsible for its use as an article (1a), as a «demonstrative» (1b), or as a clitic (1c) (see Raposo 1973):¹

- (1) a. já li [o livro]
 already I.read the book]
- b. já li [o último do Blake e Mortimer]
 already I.read the last of.the Blake and Mortimer]
 'I already read the last one of Blake and Mortimer.'
- c. já o li
 already the.acc read

The proposal was based on Postal's (1969) theory that pronouns are underlying determiners, which seemed appealing enough for the form *o*, for obvious morphophonological reasons.² While I had a plausible story on the derivational relations bet-

1. I will use the form *o* as representative of the whole paradigm of definite determiners and accusative clitics (*o/a/os/as*; Spanish *lo/la/los/las*). Consistently with the basic idea just proposed, I will henceforth gloss this form as 'the', independently of its function, signalling its pronominal use by giving an indication of its Case (for example, 'the-acc'). I will also use *ele* 'he' as representative of the nominative paradigm and *lhe* 'him-dat' as representative of the dative paradigm. Henceforth, I use EP for European Portuguese, BP for Brazilian Portuguese, and simply «Portuguese» when general features of both dialects are under discussion.
2. A number of recent works has resurfaced the idea of «pronouns as determiners»; see Corver and Delfitto (1993) and Uriagereka (1995), who also cites work in progress by Esther Torrego. To the best of my knowledge, these works have not provided answers to some of the questions that I raise here; furthermore, my proposal of why determiners move to become «clitics» (see section 3.1) is

ween the three sentences of (1), I had much less to say about nominative and dative forms.³ In Romance, these forms can be used as pronouns, but not as articles, raising obvious problems for a full-fledged theory of pronouns as determiners:⁴

- (2) a. ele já resolveu o problema
 he already solved the problem
 b. *[ele professor] já resolveu o problema
 he professor already solved the problem

Conversely, given that *o*, as an article, can head DPs with any one of nominative, accusative or dative Case (see section 5), it was not clear at the time why it is restricted in its pronominal use to the accusative Case, as shown by the ungrammatical (3), with *o* used as a nominative subject (with an intended meaning equivalent to (2a)):

- (3) *já o resolveu o problema
 already the.nom solved the problem

Another important fact is that Colloquial Brazilian Portuguese is losing the pronominal use of *o* ((1c) is ungrammatical in that dialect), while maintaining the use of that form as an article.⁵ This is *prima facie* a very strong argument *against* my 1973 analysis; rather, it seems to call for an analysis in which we have two different homophonous forms.

In this work, I would like to come back to these problems, filling in some of the gaps, and quite likely leaving many others open for future research. I assume the Minimalist Program of Chomsky (1995), showing that it brings particularly simple solutions to some of the problems addressed; in particular, I show that economy considerations play a crucial role in accounting for phenomena involving lexical choice.

One important assumption that I make here is that *all* arguments are DPs. This implies by necessity that all arguments are headed by D, which may be phonetically unrealized (see Stowell 1989, Longobardi 1994, Raposo 1998). Note that this assumption logically *forces* us to the idea that pronouns are Ds, or form part of a complex D element. The thrust of this paper, then, can be seen in providing empirical and conceptual arguments that support this «brute force» conclusion.

quite different from that of the works just cited. I will not comment any further on these papers here. I return to the issue in work in preparation.

3. I assume in this work that the form *ele* that appears in prepositional contexts («strong *ele*») is to be distinguished from nominative *ele* and accusative *ele* of BP (see Cardinaletti and Starke 1994, Galves 1988). I will thus leave it aside in this work. This may be a mistake, though, evaluation of which I leave for future research.
4. In this paper, I use the term «determiner» to refer to the syntactic category of the forms under discussion, independently of their function; and I use the terms «pronoun» and «article» to refer to the surface functions performed by the determiner. Care should be taken with the terms «pronoun» and «pronominal», because I also propose that there are items that *do* belong underlyingly to this category (such as the null *pro* that appears inside DPs, or English *one*, for example). The distinction is made explicitly in the text when necessary.
5. See, among others, Galves (1989), Cyrino (1996), Kato (1991) and Nunes (1992).

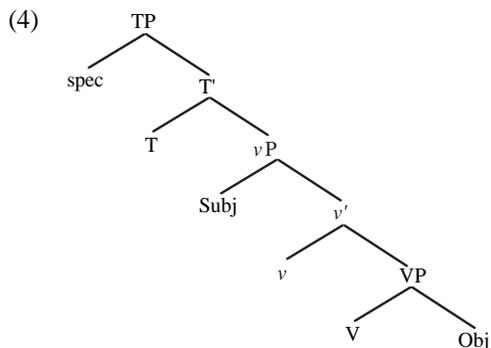
An important proviso is in order here. Although I will be discussing clitic pronouns and cliticization, I am *not* concerned in this work with the particular phenomenon of «enclisis» in EP.⁶ Thus, in order to avoid unnecessary confusion, I will only use examples with contexts of proclisis. With such a restriction, I hope that many, if not most, of my conclusions, will apply to Spanish as well (and also to other Romance languages, although, of course, caution is in order).

The paper is organized as follows. In section 2 I present the theoretical assumptions that are relevant here, especially those of checking theory and the role of the [\pm Intrinsic] distinction among formal features. In section 3, I discuss the hypothesis that pronouns are determiners based on the behavior of *o* 'the', and I suggest that (pronominal) clitic placement in Romance may be viewed as a case of «generalized pied-piping», whereby Move F (for feature checking) pied-pipes the category D for PF convergence. In section 4, I extend the theory of pronouns as determiners to the nominative and dative forms *ele* 'he' and *lhe* 'him-dat'. In section 5 I discuss why the form *o* 'the' cannot be used as a nominative or dative pronoun. In section 6, I propose that the descriptive account of section 5 can be derived from «economy considerations», in the technical sense of Chomsky (1995). In section 7, I discuss the claim that the (accusative) clitic pronoun *o* disappeared from Colloquial BP, showing that it cannot be maintained under Postal's theory of pronouns as determiners. I then show that the facts of BP can be explained from the properties of *ele* 'he' and considerations of economy. In section 8 I make some concluding remarks, and in the Appendix I discuss the concept of *numeration*, which is used in a central way in sections 6 and 7.

2. Some Minimalist Assumptions

2.1. Clausal Structure and Functional Categories

I will assume the clausal structure proposed in Chomsky (1995: ch.4, section 4.10), shown in (4), for a typical transitive clause with a subject and an object:



6. For discussion, see Martins (1994), Uriagereka (1995) and Raposo (1995, to appear a, b).

In this system, there are no Agr projections, and functional categories are allowed to have multiple specifiers. There is a non-substantive category v , immediately c-commanding the VP, configurationally contributing the external θ -role to an argument in its spec position. v has a strong [V] feature (I presume universally), forcing overt raising of the main verb to adjoin to v . Overt object shift (in languages such as Icelandic) is determined by a strong [D] feature of v (see Collins and Thráinsson 1996, Collins 1997) in very much the same way as movement of the external argument to [Spec, T] (to subject position) is determined by a strong [D] feature of T. I assume here that in Portuguese, v does not have a strong [D] feature, since there is no overt object shift in this language.⁷

2.2. Checking Theory and Types of Features

I basically assume the Checking Theory of Chomsky (1995). Lexical items in general (i.e. both substantive and non-substantive categories) consist of three distinct sets of features: P(honological) features, which are relevant only for PF; S(ematic) features, which play no role in the computation and are relevant only for the symbolic systems that interface with LF; and F(ormal) features, which play a role in the computation:⁸

(5) { {P-f}, {S-f}, {F-f} }

There are two crucial distinctions to be made within the set of formal features, that between [\pm Interpretable] features, and that between [\pm Intrinsic] features.⁹ The two typologies cross-cut each other. See (6) and (7):

- (6) [+Interpretable] categorial and ϕ -features of arguments
 [-Interpretable] Case-features; ϕ -features of predicates (V, A);
 strong features
- (7) [+Intrinsic] categorial features; [assign-Case]; [gender] of Nouns;
 strong features (?)
 [-Intrinsic] [Case] of arguments; [number] of Nouns;
 ϕ -features of predicates (V, A); [α Tense] of Verbs

The role played by the [\pm Interpretable] distinction in the mechanics of derivations is well-known. A [+Interpretable] feature must be present at LF for Full Interpretation and therefore does not need to be checked; however, it may enter

7. But see Costa (1998) and Bošković (1997), among others, for the contrary view. Maybe French, Italian and BP have some residual form of object shift at work in the syntax of some pronouns (see Cardinaletti and Starke 1994, among others). I omit from (4) a category C and a possible category F (or Σ) intermediate between C and T (see, e.g. Laka 1990, Raposo and Uriagereka 1996), since they play no role in this work.
8. The phonological set may be missing (as in pronominal empty categories), or the semantic set may be missing (as in expletives).
9. Chomsky (1995) calls the [-Intrinsic] features *optional*, a term which is misleading, since [-Intrinsic] features are clearly obligatory *in derivations*; for example, a Noun occurring in a particular derivation must have a [-Intrinsic] Case feature, otherwise the derivation crashes (because the [+Intrinsic] [assign-Case] feature of some functional category is not checked).

- (10) V, A: [ϕ -features] ([-Interpretable, -Intrinsic])
 v: [Assign-acc-Case] ([-Interpretable, +Intrinsic])
 [Strong [V]] ([-Interpretable, +Intrinsic])
 T: [Assign-nom-Case] ([-Interpretable, +Intrinsic])
 [strong [D]] ([-Interpretable, +Intrinsic])
 [Strong [V]] ([-Interpretable, +Intrinsic])

Arguments are also endowed with formal features:

- (11) *arguments*: [ϕ : gender, number, person] ([+Interpretable])
 [+Intr] [-Intr] [+Intr]
 [Case] ([-Interpretable, -Intrinsic])

Below, I make some specific proposals about the exact source of argumental features, and I also propose that certain pronouns are lexically marked for Case, i.e. that their Case feature is [+Intrinsic]. This proposal will be central in my account of the pronominal system of Portuguese.

2.4. Last Resort and Feature Checking

One idea that plays an important role in this work is that Romance cliticization is nothing but an overt reflex of feature checking (see section 3). I will assume the theory of feature checking of Chomsky (1995), especially the proposals of section 4, including the following definition (Chomsky 1995: 297):¹¹

- (12) K attracts F if F is the closest feature that can enter into a checking relation with a sublabel of K.

At LF, only the set of formal features of the head of an argument moves. Following Chomsky (1995), I will refer to this as FF[argument], for example FF[*livros*] in (8a).¹²

For concreteness, consider the main aspects of the derivation of a transitive sentence such as (13):

- (13) os operários construíram a casa
 the workers built the house

The numeration underlying this sentence is given in (14):¹³

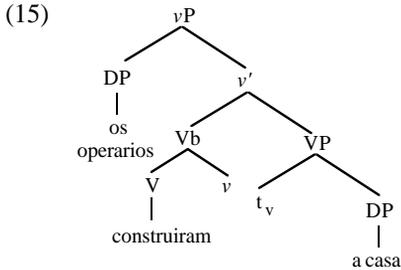
- (14) {(os,1), (a,1) (operários,1), (v,1) (T,1) (casa,1), (construíram,1)}

In (14), *casa* ‘house’ has the following formal features: {[acus, ϕ -O]}; *operários* ‘workers’ has the features {[nom, ϕ -S]} (« ϕ -O» and « ϕ -S» stand for «object ϕ -features» and «subject ϕ -features», respectively); *v* has {[assign-accus-Case]};

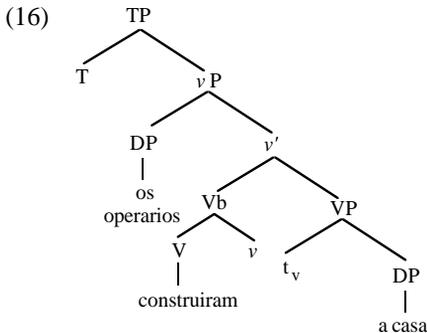
11. I assume that K ranges over (functional) heads, and call it the *target* of movement. For the definition of «sublabel of K» and others which are relevant here, see Chomsky (1995: 268ff).
 12. As pointed out to me by Jairo Nunes, in the covert component all phonological features will have been stripped away by Spell-Out, so that it is not clear whether a complete category is moving (minus its phonological set, by necessity) or just its formal features.
 13. I omit the category C, which is not relevant in this work.

and *construiram* ‘built’ has $\{\{\phi\text{-O}, \phi\text{-S}\}\}$ (both $[-\text{Interpretable}]$) and a Tense feature; finally, T has both a strong $[\text{V}]$ feature and a strong $[\text{D}]$ feature. Recall that some of these features (the $[-\text{Intrinsic}]$ ones) are added to the items by ADD as they enter the numeration (see above).

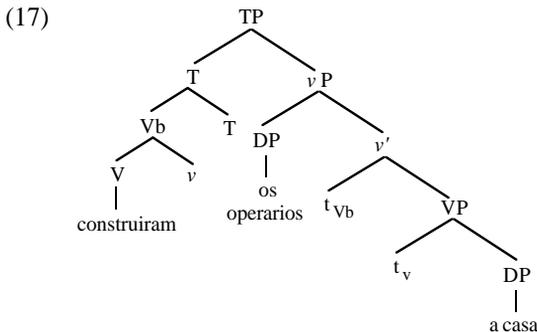
I now illustrate the derivation and checking relations of (13), starting at the point where $v\text{P}$ is constructed, and what remains in the numeration is T. In (15), V has raised to v , checking its strong V feature (the result is represented as Vb; I use informal tree notation and labeling for expository purposes).



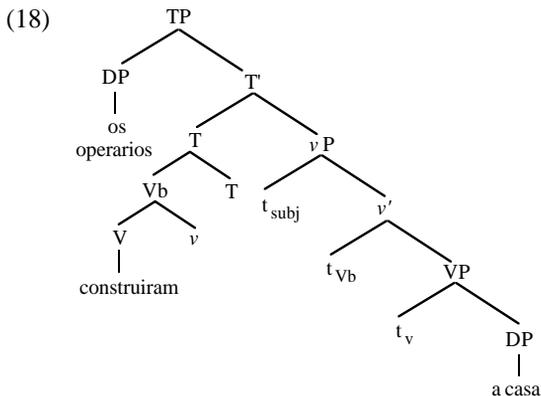
Next we Merge T to (15), deriving (16):



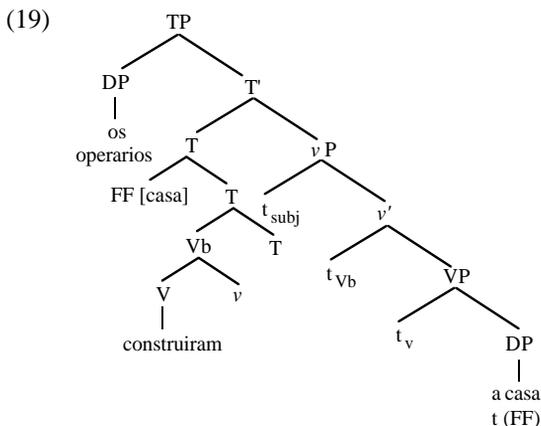
The next step is overt raising of Vb to T, where it checks the strong $[\text{V}]$ feature of T:



The external argument now moves overtly to [Spec, T], checking the strong [D] feature of T, the Case feature of T, the [-Interpretable] ϕ -S of the Verb and its own Case feature:



At this point, (18) enters into Spell-Out. Spell-Out creates a copy of (18) which enters into Morphology and Phonology, and strips away the set of phonological features from (18) itself, which continues into the covert component. Feature checking still requires raising of FF[*casa*], yielding (19), where the Case feature of *v*, the ϕ -O of the Verb and the object's own accusative Case are checked:¹⁴



14. Note that in a language with overt verb movement, Move FF[object] for feature checking *targets* *T*, not *V* or *v*, or their traces (Chomsky 1995: 360). The latter is in fact precluded by the two following conditions (Chomsky 1995: 304):

(i) Trace is immobile.

(ii) Only the head of a chain CH enters into the operation of Attract/Move.

The fact that the derivation of a transitive clause involves a step like (19) rather than a step that would adjoin FF[object] to the trace of *v* is crucial for an account that reduces cliticization to Move F (I return to this issue in work in preparation).

3. Cliticization as Move F

In this section, I suggest that cliticization in Portuguese (and more generally in Romance) can be reduced to the independent operation Move F. More specifically, cliticization is a case of Move F with a minimal «generalized pied-piping» to avoid crashing at PF. The argument works very well for accusative clitics, and it can be reasonably extended to dative clitics as well.¹⁵ In section 3.1, I give arguments that (accusative) clitic pronouns are determiners; in section 3.2, I show that it is FF[D] rather than FF[N] that is raised at LF for feature checking; in section 3.3, clitic placement is reduced to Move F; finally, in section 3.4, the proposal is extended to the dative form *lhe* ‘him-dat’.

3.1. Pronouns as Determiners

The basic idea is from Postal (1969):¹⁶

(20) Pronouns are underlying determiners.

Note first that, for Romance accusative clitics, Postal’s hypothesis receives striking support from their morpho-phonological similarity with plain determiners, as shown in the following paradigms:¹⁷

(21) a. eu não vi a criança
I not saw the child
‘I did not see the child.’

b. compré los libros
I.bought the books
‘I bought the books.’

(22) a. eu não a vi
I not the.acc saw

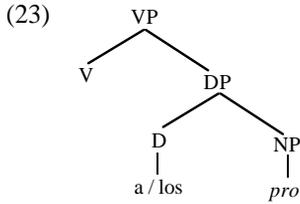
b. los compré
the.acc I.bought

I will thus assume, first, that in the underlying structure of (22), the DP object occupies the complement position inside VP; and second, that the complement of the determiner is an empty *pro*:

15. I have nothing to say about the so-called «prepositional» clitics of Romance, such as French *en* and *y*.

16. Most of the content of this section is an up-date of part of Raposo (1973). In Postal’s theory, determiners (including pronouns) have their source in underlying features of the Noun and are segmentally «derived» from these features. Here, I assume current X-bar proposals whereby D is an autonomous functional category selecting for a nominal projection (Abney 1987).

17. There are differences, as is well-known, such as Spanish *lo* vs. *él*. Note that historically, all the forms of the 3rd person pronominal paradigm are derived from different Cases of Latin *illum/illam/illud*. I discount such differences as *lo* vs. *él* as morpho-phonological accidents of this evolution (cf. Portuguese, where the form is the same).



Consider now (24)-(25):

- (24) eu não comprei [o boneco azul]
 I not bought the doll blue
 'I did not buy the blue doll.'
- (25) a. eu não comprei o azul, comprei o vermelho
 I not bought the blue I.bought the red
 'I did not buy the blue one, I bought the red one.'
- b. eu não comprei o das riscas amarelas
 I not bought the of.the stripes yellow
 'I did not buy the one with yellow stripes.'
- c. eu não comprei o (mesmo) (que tu compraste)
 I not bought the same that you bought
 'I did not buy the (same) one (that you bought).'

In (24), we have a full-fledged DP, with a lexical Noun as complement of the determiner (*boneco* 'doll'). In (25), the determiner (in a function traditionally called 'demonstrative article or pronoun') occurs with a null Noun, modified by different elements. As in the case of (23), I assume that this element is *pro*; the structure underlying (25) is thus (26):¹⁸

- (26) a. eu não comprei [o *pro* azul], (comprei [o *pro* vermelho])
 b. eu não comprei [o *pro* das riscas amarelas]
 c. eu não comprei [o (mesmo) *pro* (que tu compraste)]

Differently from (23), however, there are modifiers of different types within the DP: an adjective in (25a), a PP in (25b) and a relative clause preceded by the adverbial adjective *mesmo* in (25c) (either one can be left out). These elements all *follow* the determiner. If we omit the modifiers from (25), and everything else being equal, the resulting sentence is ungrammatical; instead of (27a), we have a structure with «cliticization», (27b):

18. Note that, given an appropriate discourse and/or pragmatic context, the content of this *pro* can be retrieved (for example, as *boneco* 'doll'), just like the content of the *pro* associated with a clitic (under the proposal in (23)) can be retrieved from previous discourse or from context.

- (27) a. *eu não comprei [o *pro*]
 I not bought the
 b. eu não *o* comprei
 I not the.acc bought

Within a full-fledged DP, a determiner can be *preceded* by a quantifier like *todos* ‘all’, as shown in (28):

- (28) eu não comprei [todos os bonecos]
 ‘I did not buy [all the dolls].’

In this case, however, a structure parallel to (26), with *pro* instead of a lexical Noun, is impossible; instead, we have a sentence with a clitic. This is shown in (29a-b), respectively:

- (29) a. *eu não comprei [todos os *pro*]
 I not bought all the.pl
 b. eu não *os* comprei [todos *pro*]
 I not the.acc bought all
 ‘I did not buy them all.’

These paradigms strongly suggest that what is at stake is a phonological property of *o*: *o* needs to lean on a following «strong» phonological item, and that item is missing in (27a) and (29a). In such cases, «cliticization» intervenes, and places the determiner in a context where it can attach to a rightwards phonological item: the verb, in (27b) and (29b).

These phenomena concerning *o* illustrate the type of dependency for which we usually use the concept *clitic*. More specifically, the form *o* is a *proclitic*: its *direction of attachment* is from left-to-right. That its direction of attachment is *not* from right-to-left is clearly shown by the fact that it can appear in the initial position of a sentence, heading a nominative DP:¹⁹

- (30) *o* livro é meu
 the book is mine

19. When we include in our data the special phenomenon of «syntactic enclisis» of EP, it appears as if *o* is an *enclitic* rather than a proclitic:

- (i) a. **o* vi ontem
 the.acc I.saw yesterday
 b. *vi-o* ontem
 I.saw.the.acc yesterday

The text account implies that the ungrammaticality of (ia) in EP is due to a factor independent of *o*. For discussion of this issue, see Raposo (to appear b).

I call this property of the form *o* Property P. I will assume that P is part of the lexical characterization of *o*; more specifically, that it belongs to the set of P(honological) features of *o*:²⁰

- (31) *Property [P]*
- a. the form *o* is phonologically dependent (it is a clitic);
 - b. its direction of attachment is left-to-right (it is a *proclitic*)

In the Minimalist model, if P is not satisfied at PF, the derivation crashes (at that level).²¹ This forces the determiner to move in Last Resort, in order to satisfy [P], so that the derivation converges at PF. In a minimalist spirit, this movement should be an operation as simple and minimal as possible. In the best case scenario, the overt operation in question should reduce to a form of «generalized pied-piping», resorting to some independently needed covert operation, which will thus apply before Spell-Out so that the derivation converges. Such an operation exists and has independent motivation: Move FF[object] for feature checking.

3.2. Where Are the Formal Features of an Argument?

One issue that is crucial in the attempt to reduce cliticization to Move F is the following: When FF[object] moves at LF, what is the category that moves, D or N? To put it differently: Which of D or N contains the formal features of an argument

20. Or it follows from listed phonological features. I encode it explicitly in the lexical entry of *o* largely for expository convenience. The issue of what makes a form phonologically «weak» is not a simple one. Note, for example, that the so-called indefinite determiner *um* ‘one’ is not «weak», since (i) is perfectly grammatical:

- (i) eu não vi um
‘I did not see one.’

I can only hope that phonological theory will have a principled way of distinguishing between *o* and *um*. One possibility is that the nasal feature of *um* might make it «heavier». I will not pursue this matter. (Note, incidentally, that (i) is trivially accounted for under Uriagereka’s (1995) theory of why clitics move, since it is not specific).

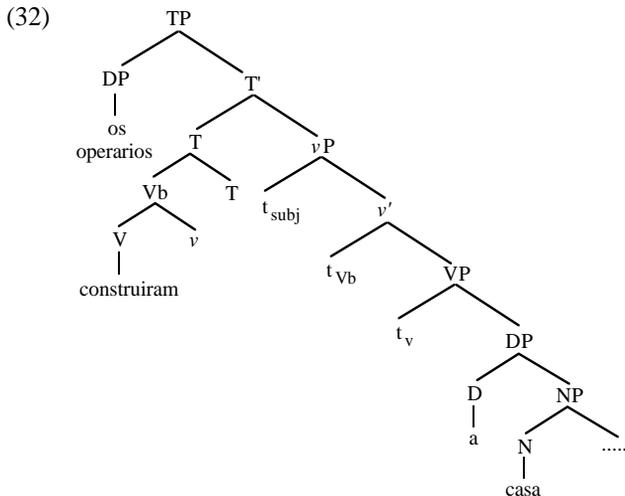
21. The assumption that PF is the level at which P must be satisfied may very well be an oversimplification, in light of the following paradigm:

- (i) a. *o* José não deu [o livro] [à Maria]
the José not gave the book to.the Maria
‘José did not give the book to Maria.’
- b. **o* José não deu [_{DP} *o pro*] [à Maria]
the José not gave the to.the Maria
- c. *o* José não *o* deu à Maria

The ungrammaticality of (ib) shows that P must be satisfied *within the projection of o itself* (within the DP that it heads). As Max Guimarães (p.c.) pointed out to me, this is not incompatible with the relevance of PF, if we assume that the major category boundaries define some sort of prosodic domain, and that Property P must be satisfied within such domains (see Barbosa 1996 and references therein). Alternatively, Property P must be satisfied at a hitherto unrecognized interface level at the output of Morphology, a level where categorial information is still present. For some thoughts concerning such an interface, see Chomsky (1995: 220). I will put aside these considerations here and continue to treat P as a property that must be satisfied at PF (I address these issues with more detail in work in preparation).

that undergo checking? If cliticization is Move F with overt «generalized pied-piping» of D, then it must be the case that FF[D] moves at LF for feature checking, not FF[N] (contrary to what was assumed in (19)).²² In this section, I will offer some arguments that suggest that this conclusion is correct.

Consider first the following conceptual argument. At the point where FF[object] is attracted to T, we have the following (simplified) structure ((32) is adapted from (18)):



Note now that *if* D has (some of the) features relevant for checking, the MLC forces raising of D rather than N, since D is closer to T than N (and has features that can be attracted, by hypothesis).²³ It is then sufficient to show that D has *at least one* of these features in order to establish that D moves to T at LF.²⁴

I would like to claim that the [+Interpretable] ϕ -features of an argument have their source in D, not in N. It follows that, if verbs in Romance are specified with (abstract) [-Interpretable] object ϕ -features that need to be checked, T attracts D, not N, by the MLC.²⁵

The ϕ -features which are relevant for verbal agreement are those of person and number. Consider first the [person] feature. The [person] feature is one of the inherent specifications for pronouns. Now, if pronouns are determiners (our hypothesis

22. Note that as far as the subject is concerned, what moves is indeed the category D (pied-piping the whole DP), overtly attracted by the strong [D] feature of T (the other features of the subject automatically entering in checking relations as free-riders).

23. Recall that LF feature checking of the object is in T.

24. It is not clear that FF[N] may not raise as well, even if FF[D] does, given the principles in fn. 14. If these principles apply as well to traces of formal features, then FF[N] is allowed to raise after raising of FF[D]. However, if there is N to D raising in Romance (see the text below), this point is moot.

25. See fn. 23. The assumption that the verb has [-Interpretable] object ϕ -features is far from obvious, given that these verbal ϕ -features are never morphologically realized. I ignore this problem here.

throughout this work), determiners will have a person specification too, by definition. Conceptually, this makes sense. If D is the category which is responsible for the referential and deictic properties of a nominal expression, it is a much more plausible candidate for the feature [person] than the Noun, given that [person] is a major deictic anchor of expressions.

It is often implicitly or explicitly suggested in the literature that Nouns are specified for 3rd person (see e.g. Chomsky 1995: 231). However, as noted by Postal (1969) (who attributes the original observation to Jespersen) Nouns can appear with first and second person pronouns/determiners, and this is not easy to reconcile with that proposal. Following Postal (1969), in Raposo (1973: 375ff), I gave the following sentences (slightly changed here) as an argument that first and second person «pronominal forms» are indeed underlying determiners, since they function as «articles» in «surface structure»:

- (33) a. nós estudantes temos os nossos direitos a defender
 we students have the our rights to defend
- b. tu João vem cá!
 you John come here
- c. vocês sargentos corram 30 kms sem parar
 you.pl sargents run 30 kms without stopping

In particular, I argued that the semantics of these sentences are not compatible with an underlying structure containing a (reduced) non-restrictive relative clause for the sequence *pronoun - noun* (see also Postal 1969: 218). If that is correct, Nouns cannot have a feature [3 person]: in (33), the feature [3 person] of the Noun would conflict with the features [1 person] and [2 person] in the determiners. The fact that Nouns occur with every determiner, irrespective of its person, suggests instead that they are not marked for such a feature.²⁶

Consider now the phenomenon of «agreement» of ϕ -features, and the assumption (accepted at least since Chomsky 1981) that verbal and adjectival agreement with an argument is to be explained by «Spec-Head Agreement». In the current minimalist model (Chomsky 1995: ch. 4) that process involves feature checking between the agreement features of the argument and the corresponding features of V or A. In that framework, no checking relations between [+Interpretable] features can be established. This implies that one of the two sets of ϕ -features, either that of V (A) or that of the argument (or both) are [-Interpretable]. It seems quite uncontroversial that the ϕ -features of the argument are interpreted. Therefore, it must be the case that the ϕ -features on V (A) are [-Interpretable].²⁷

Notice now that V and A have in common the property of being predicates, so that one might want to generalize the [-Interpretable] property of agreement features to predicates in general:

26. Nouns are also never morphologically marked for person (at least in the languages I am familiar with).

27. This is also a natural conclusion from a semantic point of view.

(34) The ϕ -features of a predicate are [–Interpretable].

Consider now the semantic status of Nouns. It is commonly assumed in semantic theory that Nouns are predicates, and that their contribution to the interpretation of a DP resides precisely in their predicative content. If (34) is the correct generalization, then the ϕ -features of Nouns are [–Interpretable].²⁸

One empirical argument for this conclusion comes from the Caipira dialect of BP spoken in the interior of the state of São Paulo.²⁹ In this dialect, the morphological manifestation of the ϕ -features of verbs and adjectives is quite impoverished, being mostly neutralized to 3rd person (in verbs) and to singular. One interesting fact is that within DP, the number feature of an argument is (minimally) required on D, but not on the Noun; in other words, if it occurs only once within DP, it must be manifested on D, as shown in (35):

- (35) a. os menino cantou
 the.pl child.sg sang.3sg
- b. *o meninos cantou
 the.sg child.pl sang.3sg

In (35), the noun is behaving like other verbal and adjectival predicates. It is plausible to assume that the principle governing ϕ -feature manifestation in the Caipira dialect is the following:

(36) [–Interpretable] ϕ -features may be morphologically unrealized.

If this is correct, we have one empirical argument for the conclusion that at least the number feature of Nouns is [–Interpretable].

I conclude, then, that the [+Interpretable] [number-person] features of an argument are located in D, not in N.³⁰ If this conclusion is correct, T covertly attracts FF[D] of an object for feature checking.

That still leaves us with the Case feature. I will not take any position here as to the source of the Case feature within DP. In section 5, I give a tentative argument suggesting that the source of the Case feature is N, but I am neutral as to whether this is *also* specified in D as D enters the numeration.³¹ What I want to show, howe-

28. Note that I am not counting Case among the ϕ -features. Semantically, the conclusion in the text seems to be plausible for [person] (see the discussion above) and for [number], a property which, if «referential», should be interpreted in the determiner. [Gender], however, seems to be an intrinsic property of Nouns.

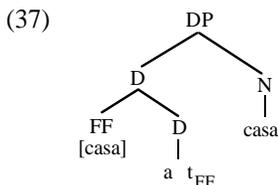
29. The same facts occur in other dialects of BP. See Scherre and Naro (1997).

30. One alternative analysis might invoke some abstract Agr node inside DP. This is not in the spirit of a parsimonious theory of functional categories such as that of Chomsky (1995: 4.10). Notice that if the [–Interpretable] ϕ -features of the Noun are checked against the [+Interpretable] ϕ -features of D (through N-to-D raising), this involves a departure from Chomsky's (1995: 282ff) claim that the features of the target are invariably [–Interpretable]. To the best of my knowledge, I can see no theoretical harm in that conclusion (note that what attracts FF[N] is the [–Interpretable] affixal feature of D). After checking of the N features, the [+Interpretable] features of D are still available for feature checking against T.

31. Although from a minimalist point of view, that should be barred, if the Case feature has its source in N.

ver, is that either solution is compatible not only with D being covertly attracted by T, but also with the stronger claim that *only* D is covertly attracted by T, once we assume that there is N raising to D at LF in Romance.

Suppose then, as suggested by Chomsky (1995: 364), following work of Longobardi (1994), that D has an affixal feature [N-] that requires raising of the categorial feature [N] of the Noun to adjoin to D. Raising of [N] automatically carries the whole set of formal features FF[N], including the Case feature, leaving a trace of FF[N] inside the Noun. In the derivation of (13) above, for example, FF[*casa*] adjoins to the determiner, leaving a trace inside the Noun *casa*, as shown in (37):

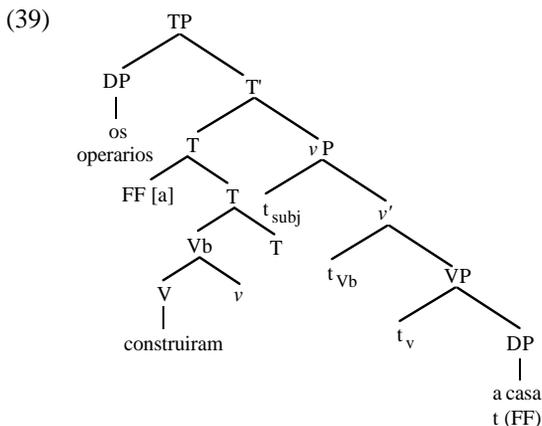


Chomsky (1995: 365) proposes the following principle:

(38) α can be attracted by K only if it contains no trace.

This implies that whatever features of N are relevant for checking against T must be pied-piped to T within the independently attracted Determiner. I thus conclude that, independently of the origin of the Case feature, the formal features of an argument that move covertly for feature checking are all within the category D, which is the only category attracted by T.

The last step of the derivation of (13) is thus (39) rather than (19):



3.3. Reducing Cliticization to Move F

I have shown that the category that is covertly attracted for feature checking is D. We can now close our case, and conclude that cliticization of *o* can be viewed as a

simple manifestation of Move F, with «generalized pied-piping» of the entire category, including its P(honological) features; in Chomsky's (1995: 262) terms, carrying «just enough material for (PF) convergence». This is explicitly stated in (40):

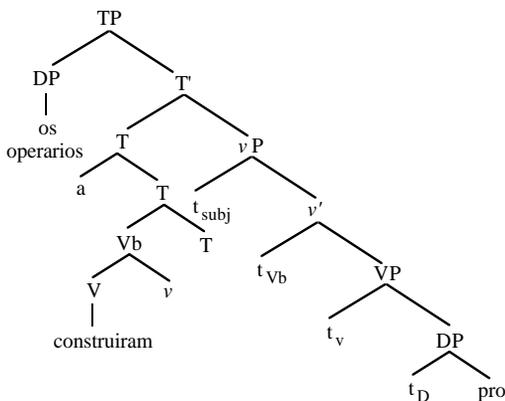
- (40) Clitic placement (of *o*) is Move F pied-piping the whole category *o* for PF convergence (i.e., to satisfy Property P).

The derivation of (41b), with a clitic, is thus similar to the derivation of (41a), with a plain direct object. In both, the determiner raises to the checking domain of T, for feature checking with the verb. The only difference is that the whole category is pied-piped in (41b), whereas only its formal features are in (41a). Compare their respective structures in (39) and (42):

- (41) a. os operários (não) construíram a casa
 the workers not built the house

- b. os operários (não) a construíram
 the workers not the.acc built

(42)



Note that Property P is satisfied by the output of Move. The determiner lands at the left edge of T, where it right-attaches to the verb, also adjoined within T.

One consequence of this analysis of clitic placement is that clitics in Romance do not target the verb directly, but rather T, which contains the sublabeled for object checking (see section 2.4, especially fn. 14). The idea that the clitic targets an inflectional node was proposed by Kayne (1991) but, to the best of my knowledge, it had to be stipulated in that framework. The result is entirely derived in the present account.

3.4. Extension of the Proposal to the Clitic *lhe*

This account can be extended to the dative pronoun *lhe* ‘him-dat’. That *lhe* is a clitic with a property similar to P (see (31)) is shown in (43):

- (43) a. *eu não dei o livro (a) *lhe*
 I not gave the book to him.dat
 b. eu não *lhe* dei o livro
 I not him.dat gave the book
 ‘I did not give him the book.’

I assume that *lhe* is also an underlying determiner, with a dative Case feature. I also assume that this Case is assigned by the verb, perhaps as an inherent Case; in other words, verbs that select for indirect objects have a [+Intrinsic, –Interpretable] [assign-dative-Case] feature that must be checked. Whatever the precise mechanics of this checking are, they involve the «intermediate» dummy preposition *a* ‘to’ in the case of a full-fledged argument:³²

- (44) eu não dei o livro *a* [o estudante]
 I not gave the book to the student

However, if *lhe* is a determiner with Property P, this particular derivation yields (43a), which crashes at PF; therefore, *lhe* cannot use the «prepositional *a* strategy» for Case checking; instead, it moves to the verb, where it checks directly its Case feature against that of the verb; and this movement must be overt, for the reasons just discussed (Property P).

4. *Lhe* and *ele* as Minimal-Maximal Determiners

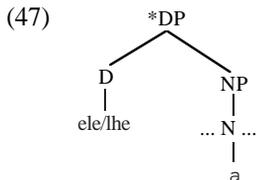
The idea that pronouns are underlying determiners is appealing for accusative clitics, since they clearly enter in paradigms where they function either as pronouns or as articles, and there is a plausible derivational connection between those paradigms. The idea, however, does not seem to extend easily to the nominative *ele* ‘he’ and the dative *lhe* ‘him-dat’. These do not present similar alternations, as shown in (45) and (46).³³

- (45) a. *ele* resolveu o problema
 he solved the problem
 b. eu não *lhe* dei o livro
 I not him.dat gave the book
- (46) a. *[*ele* professor] resolveu o problema
 he professor solved the problem
 b. *eu não dei o livro (a) [*lhe* professor]
 I not gave the book to him.dat professor

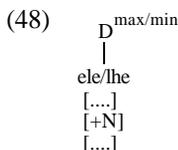
32. See Chomsky and Lasnik (1993) (Chomsky 1995: 113ff) for some observations concerning the largely unexplored issue of (inherent) Case checking through a «dummy» preposition.

33. Note that *lhe* in (46b) would satisfy Property P. The form *ele*, not being a clitic, is not subject to Property P.

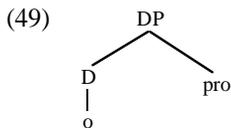
The basic selectional property of determiners, that of subcategorizing for a nominal projection, does not hold of *ele* and *lhe*. In other words, a structure like (47) is not available for these forms (α a lexical Noun):



What I would like to propose is that *ele* and *lhe* are «complex» determiners, meaning by that «intransitive» Ds which satisfy their selectional feature via a [+N] feature in their grammatical matrix rather than by merging with a categorially independent Noun. In other words, in terms of Chomsky's (1995) bare phrase structure theory, they are [+minimal, +maximal] projections rather than [+minimal, -maximal] projections like the «pure» determiners *lo/o*. Under this analysis, the structure of these forms is (48), where the superscripts are merely notational:³⁴



Thus, while *ele* or *lhe* are merged in argument positions as maximal projections, the «pure» determiner *o* is merged first with a nominal projection, which may be the empty category *pro*. The underlying structure for *o* as a pronoun is thus (49):



This analysis accounts in a straightforward way for the ungrammaticality of (46). Being intransitive [+minimal, +maximal] projections, the forms *ele*, *lhe* cannot be combined with an independent Noun: that derivation is simply impossible. Similarly, the following expressions, with modified pronouns, are also excluded, on the assumption that nominal modification requires a full categorial N and not just a feature (note that *lhe* in (50b) would satisfy Property P):³⁵

34. See Chomsky (1995: 249). Differently from Chomsky, though, I do not assume that this characterization is co-extensive with the notion of clitic.

35. A host of questions that I cannot address here arise, e.g., the impossibility as well of relative clause modification of these forms, and what this implies for the structure of relative clauses:

(i) a. *[*ele* que eu encontrei ontem] resolveu o problema
 he.nom that I met yesterday solved the problem

- (50) a. *[*ele* de matemática] resolveu o problema
 he of mathematics solved the problem
 b. *eu não dei o livro (a) [*lhe* de matemática]
 I not gave the book to him.dat of mathematics

In sum, *ele* and *lhe* can only be used in their pronominal function, never in their article function (including as a «demonstrative»). In order to generate convergent expressions equivalent to (46) and (50), the system has to resort to the pure determiner *o*:³⁶

- (51) a. [*o* professor] resolveu o problema
 the professor solved the problem
 b. eu não dei o livro a [*o* professor]
 I not gave the book to the professor]
- (52) a. [*o pro* de matemática] resolveu o problema
 the of mathematics solved the problem
 b. eu não dei o livro a [*o pro* de matemática]
 I not gave the book to the of mathematics

There is another property that *ele* and *lhe* have in common in EP, and which differentiates them from other determiners. Semantically, they favor a [+human] interpretation.³⁷ However, a positive or negative specification for the feature [human] is not a typical property of determiners. For example, none of the following determiners is required to occur with a noun so specified, as shown in (60).³⁸

- (53) a. o/este/esse/aquele/um rapaz
 the/this/this-that/that/one boy
 b. o/este/esse/aquele/um livro
 the/this/this-that/that/one book

These data suggest that «pure» determiners are not specified for the feature [human], even when they are clitics with a *pro* complement (pace Corver and Delfitto 1993); rather, the [human] specification of a DP has its source on the Noun.³⁹ As to *ele* and *lhe*, we can speculate that their preferred reading as [+human]

b. *eu não dei o livro (a) [*lhe* que eu encontrei ontem]
 I not gave the book to him.dat that I met yesterday

36. *pro* allows modification unproblematically. I will return to these derivations from an economy perspective in section 6.
 37. There is however a lot of idiolectal variation, especially concerning *ele*, as pointed out to me by Inês Duarte. The situation still seems to be different from BP, where *ele* has no semantic restrictions whatsoever along the [human] dimension (see Galves 1998). A similar lack of semantic restrictions applies to *pro* in EP.
 38. I give 'this-that' as the gloss of *esse*.
 39. Whatever process allows for the recovery of the content of *pro* in sentences like (25) and (27b) will also recover its [human] value. For example, even if discourse or pragmatic context is minimal, the selectional restrictions of the verb *comprar* 'to buy' will presumably impose a [-human,

has its source on the nominal feature that satisfies their selectional requirement (see (48) and preceding text; and fn. 37).

5. The Lexical Characterization of Determiners

Let us now address another issue concerning the distributional properties of determiners, that of the grammatical functions that they can fulfill in a clause. In EP, *ele* is exclusively nominative, and *lhe* is exclusively dative:⁴⁰

- (54) a. *ele* *saiu*
 he left
 b. **eu vi ele*
 I saw he
 c. **eu não dei o livro a ele*
 I not gave the book to he
- (55) a. *eu não lhe dei o livro*
 I not him.dat gave the book
 b. **não lhe saiu*
 not him.dat left
 c. **eu não lhe vi*
 I not him.dat saw

–abstract] reading on *pro*. This interpretive process presumably takes place at a level of representation that interfaces with LF. This is why Corver and Delfitto's (1993) proposal seems to me to be on the wrong track.

40. I am ignoring here BP (and Spanish) dialects where *lhe* can be used as a direct object, as well as dialects where accusative pronouns can be used as indirect objects. These would require a different lexical characterization of the forms under discussion, but no major changes of the principles guiding the analysis would be needed, as far as I can see (Ramos in preparation). For the status of (54b) in BP, see section 7. Note that a sentence similar to (54c) with clitic doubling is grammatical in EP (clitic doubling is very restricted in EP, being possible only when the doubled element is itself a pronoun):

- (i) *eu não lhe dei o livro a ele*
 I not to.him gave the book to him

A reviewer asked how the phenomenon of clitic doubling fits in the present analysis. Although I have not given much thought to this matter, I assume Uriagereka's (1995: 81) analysis (his structure (2a)), where the double is in [Spec, DP] headed by *lhe*. Notice that in my analysis the double (if it forms a single constituent with the clitic) *has to be* in [Spec, DP]; if it were a complement of D, Property P would be satisfied and there would be no need for cliticization of *lhe*. In addition, I assume that the preposition *a* in (i) is marking the doubled pronoun in [Spec, DP] rather than the whole DP; in this respect, note that the preposition must be present even if the doubled argument is an accusative direct object («Kayne's generalization»):

- (ii) *eu não o vi a ele*
 I not him.acc saw to him
 'I did not see him.'

This is a lexical property of these items; as such, it should be encoded in their lexical entries. I thus claim that *ele* and *lhe* have a [+Intrinsic] [nominative] and [dative] Case feature, respectively. This is represented in (56) and (57):⁴¹

(56) *ele* [D, -P, ϕ , nom]

(57) *lhe* [D, +P, ϕ , dat]

The form *o*, however, can be used with any structural Case (and also dative Case), as shown in (58):

(58) a. [*o* professor] não resolveu o problema [nom]
 the professor not solved the problem

b. eu não dei o livro a [*o* professor] [dat]
 I not gave the book to the professor]

c. eu não li [*o* livro] [acc]
 I not read the book

Clearly, it would be a mistake to assign to *o* an entry with an inherent Case feature (say, accusative, as is often proposed in analyses that do not assume Postal's theory). Rather, in light of (58), the correct lexical characterization of *o* seems to be (59), with *no* Case feature specified:

(59) *o* [D, +P, ϕ]

Notice that this state of affairs would follow trivially if «pure» determiners are simply not specified for a Case feature; in other words, if this feature is always contributed by the Noun which is the complement to the determiner. Under this view, *ele* and *lhe* have a Case feature because they already «incorporate» an abstract nominal feature, and that nominal feature is contributing a [+Intrinsic] Case feature. The form *o*, on the other hand, being a pure determiner, does not contribute a Case feature; and that feature is assigned to the Noun (or to *pro*) by ADD as it enters the numeration (see (9)).

Given this, however, the following question immediately arises: if the form *o* can be used as an article in nominative, dative and accusative DPs, why is its pronominal use restricted to accusative Case, as in (60)? What prevents it from being syntactically combined with a *pro* specified as [nominative] or [dative], as in (61a-b), which is intended to parallel (58a-b) in meaning?⁴²

41. For simplicity, I omit a codification of the phrase structure level status of these forms, and I encode the non-clitic status of *ele* as [-P].

42. Concerning (61a), I put aside the complex question of whether an external argument may or may not be a syntactic clitic. See Chomsky (1995: 362) for some suggestive remarks that it may not. This would rule out (61a) independently of the text considerations. For the sake of the argument here, I assume that it can.

- (60) eu não *o* li [acc]
 I not the.acc read
 'I did not read it.'
- (61) a. *não *o* resolveu o problema [nom]
 not the.nom solved the problem
 'He did not solve the problem.'
- b. *eu não *o* dei o livro [dat]
 I not the.dat gave the book
 'I did not give the book to him.'

The *Elsewhere Principle* (Kiparsky 1973, Lumsden 1992, Halle and Marantz 1993, among many others) has been extensively used in the literature to account for precisely the type of problem under discussion here. This principle states that the availability of a given lexical form blocks lexical access to an otherwise quasi-equivalent form, which, however, is not specified (or is underspecified) for a particular feature needed for the success of the derivation. The following version of the Elsewhere Principle is adapted from Lumsden (1992):

- (62) A form A that is specified for a relevant feature blocks a form B that is unspecified (or not-specified) for that feature.

Descriptively, (62) has the desired effect. In EP, *ele* and *lhe* are lexically specified with a [+inherent] nominative and dative Case feature, respectively; thus, if the derivation calls for nominative and dative Case, respectively, these forms will be «selected», rather than *o*, which has no lexical specification for Case; instead of (61a-b), we have (63):

- (63) a. *ele* não resolveu o problema
 he.nom not solved the problem
- b. eu não *lhe* dei o livro
 I not him.dat gave the book

Principle (62) (and the Elsewhere Principle in general), however, is somewhat stipulative. Furthermore, there is a redundancy in the way it applies to (61)/(63). Note that in addition to being inherently specified for a Case feature, the forms *ele* and *lhe* have a nominal feature that satisfies their selectional properties without the necessity of merging an independent Noun. A priori, thus, we do not know if (62) is sensitive to just one of these specifications, or to both; and in the former case, to which one.

I would thus like to propose that (62) can be motivated on plausible theoretical grounds; in particular, I claim that it can be derived from economy considerations; it will then be seen that (62) is sensitive to the specification of a Case feature in *ele* and *lhe* rather than to their nominal feature, under plausible assumptions concerning the elements and processes that fall under the scope of economy.

6. Deriving (62) from Economy Considerations

6.1. Grounding the Proposal

Let us consider more carefully the operation ADD (see section 2.1, especially (9) and its accompanying text); in particular, I am interested in the issue of whether it is subject to economy considerations.

Chomsky (1995: 226) suggests that whether or not an operation actually falls within the domain of convergence and economy depends on its status with respect to derivations. Those operations that are a defining property of derivations are «costless». These include Merge and Select (from the numeration into the derivation). Insufficient application of Merge, or a non-exhausted numeration, fail to produce a derivation. They are like logical deductions where a rule has been misapplied: no questions of convergence arise, and thus no questions of economy arise either, given the way economy depends on convergence in Chomsky's minimalist model. Chomsky's (1995) proposal is that the only operations that enter into considerations of economy are those associated with convergence conditions, such as Move.⁴³

From this perspective, forming the numeration appears to have the same status as Merge or Select: after all, if a numeration is not formed, we do not have a derivation at all: that seems to be the most basic of prerequisites. This in turn may follow from the core status of selectional properties in the «assemblage» of derivations (of Merge); it is their satisfaction that «creates» the derivation to start with, and if they are not satisfied, there simply is no derivation.

Note, however, that the same is not true of the operation ADD. This operation is not a defining property of derivations. If it is not applied where it should be, i.e. if it fails to assign some [–Intrinsic] formal feature to a lexical item, the derivation may still take place and reach LF, but with an ill-formed object that either causes the derivation to crash or allows it to converge with a deviant interpretation. For example, if in the derivation of (13) the accusative Case feature is not added to the Noun *casa* ‘house’ as it enters the numeration, the derivation reaches stage (18); at that point, the feature in the object that is attracted cannot be [Case], since this is missing; but the object has ϕ -features, which are attracted by the [–Interpretable] object ϕ -features of the verb, deriving (39). At LF, this derivation crashes because the [+Intrinsic] [assign-acc-Case] feature ν is not checked. In sum, from the point of view of derivations, ADD is associated with convergence, and should be included in the set of operations that are subject to economy conditions. Note that if this line of reasoning is on the right track, it forces us to include the formation of the numeration (especially ADD) within the set of derivational operations performed by C_{HL} .

This proposal about ADD can be used to place (62) on a less stipulative ground, and offers a principled solution to the problem of pronominal choice under discussion here. Suppose that the nominal feature that appears on *ele* and *lhe* is equivalent to *pro*, and that the items *o* and *ele*, and *o* and *lhe*, in (61) and (63), can be

43. For an extensive and illuminating discussion of these issues, see Nunes (to appear).

considered equivalent for the calculation of the computational cost associated with the derivations of these expressions, despite their different phonological form and their different internal complexity. This is basically the problem of how to characterize the numeration underlying the reference set whose members are compared for economy, which I put aside until the Appendix. I will also make the natural assumption that the lexicon is «costless», i.e. that the information encoded in lexical entries comes at no cost for the computation.

The choice of *o* for the numeration requires a further lexical choice of a nominal *pro* (and one more application of Merge) which is not necessary for *ele* and *lhe* (given my lexical characterization of these forms). However, given the crucial role of selection discussed above and its immunity from economy considerations, this should not matter for considerations of economy, since this *pro* satisfies a selectional property of *o*; in other words, the derivation of (61) is not less economical than the derivation of (63) *because* it requires selecting and merging an additional *pro*.

However, the fact that choice of *o* requires a further operation of ADDing a Case feature which is not required for *ele* or *lhe* should make a derivation with *o* more costly than a derivation with the other forms, everything else being equal. This is the idea that I explore in the remaining of this section.

6.2. A Concrete Implementation

Suppose then that we have the following economy condition on derivations (Kitahara 1997):

(64) Minimize the number of elementary operations necessary for convergence.

Compare the derivations of (61) and of (63). In the derivation of (61), there is one more elementary operation than in the derivation of (63), namely, the operation that adds the [-Intrinsic] Case feature (nominative and dative, respectively) to *pro*. This operation does not apply in (63), because the forms *ele* and *lhe* have a [+Intrinsic] Case feature (and this is costless, by hypothesis). Thus, according to condition (62), the derivation of (61) is blocked by the derivation of the more economical (63), with one operation fewer. The derivation of (60), on the other hand, converges as the most optimal one, since it does not have any competitor. The reason is that there is no lexically accusative form as an alternative for the unspecified form *o* (with *pro*).⁴⁴

44. In an earlier version of this paper, I speculated that the inherent Case feature of the forms *ele* and *lhe* might be linked to their specification as [+human]. In view of this, a reviewer asked why (ia) is not possible, where *o* stands for a *non-human* subject, presumably alongside an equally economic (and grammatical) (ib):

- (i) a. **não a é muito interessante, essa novela*
- b. *ela não é muito interessante, essa novela*
 ‘It is not very interesting, that novel.’

The rationale is that since the selected pronoun (either *a* or *ela*) is now not inherently associated with nominative Case (since the argument is [-human]), either one should be possible (equally

In light of this, consider again (51), repeated here as (65):

- (65) a. [*o* professor] resolveu o problema
 the professor solved the problem
 b. eu não dei o livro a [*o* professor]
 I not gave the book to the professor

We have seen above (section 4) that *ele* and *lhe* are precluded in these contexts, because there is no extra slot for the Noun, and the derivation simply cannot take place (see (46) and subsequent text). The system then is allowed to use *o* (plus *pro*), even though this implies an «extra» operation adding the [-Intrinsic] features nominative and dative, respectively.⁴⁵ This situation is partially parallel to a violation of Procrastinate in the presence of a strong feature. If Procrastinate is not violated, there is no convergent derivation, even though such a violation implies a more «costly» derivation. Likewise, in the case under discussion, if the pure determiner *o* (and *pro*) is not chosen in (65), there is simply no derivation; the form *o* is thus allowed, even though such a choice has an associated «extra» cost, that of an application of ADD.⁴⁶

7. The Status of *ele* and *o* in Brazilian Portuguese

In Standard (spoken) Colloquial BP, accusative clitic pronouns are excluded. The following sentence is ungrammatical in that dialect:

- (66) *eu não *o* encontrei no café
 I not the.acc found at.the coffee-shop

economical). Partly because of the facts reported in fn. 37 and partly because of the reviewer's comment, one may question the speculation that the inherent Case of *ele* and *lhe* is tied to their (preferred) human reading. On the other hand, the facts of BP seem to support such a link (see section 7). Be it as it may, note that even if these pronouns were equally unspecified for Case in the lexicon, the derivation of (ia) would still be less economical than the derivation of (ib): see section 7 on BP (especially (76) and accompanying text). Note also that the choices implicated in this paradigm are more complex than what I report (and deal with) in the text. In subject position, there is another competitor, namely null *pro*, which in fact «wins» over the nominative form; thus, (ii) is much more natural than (ib):

- (ii) *pro* não é muito interessante, essa novela.

I assume that something like the «Avoid Pronoun Principle» of Chomsky (1981) is at work here; the status of this principle in the grammar and with respect to economy is far from clear (to me at least), and I have nothing more to say about it here.

45. The same applies mutatis mutandis to (52). See section 4.

46. If the derivation that would otherwise lead to (46) is cancelled (rather than crashing), then the class of cancelled derivations is equivalent (from an economy point of view) to the class of crashed ones, otherwise the system could not start «all over again», leading to the convergent (65). This is contrary to Chomsky's (1995: 309) suggestion that the class of cancelled derivations is equivalent to the class of convergent ones. Chomsky's (1995: 234ff) treatment of strong features suggests the same conclusion.

Most analyses of the pronominal system of BP make the assumption that the clitic *o* is simply disappearing from that language (see the references of fn. 5). This solution, however, is not open to me, for obvious reasons: my major assumption is that there is only one form *o*, which functions as a pronoun or as an article according to the particulars of the derivation. Now, although that form is precluded in BP in pronominal derivations, it can occur as an article, heading DPs with either nominative, accusative or dative Case; and it can occur as a «demonstrative», with a modified *pro* (also associated to either Case):⁴⁷

- (67) a. *o* avião aterrizou
the airplane landed
- b. eu vi *o* avião
I saw the airplane
- c. eu dei o livro a/para *o* rapaz
I gave the book to/for the boy
- (68) [o carro vermelho] é lindo, mas [o *pro* amarelinho] é ainda mais lindo
'The red car is beautiful, but the yellow one is still more beautiful.'

I want to suggest that the key to this problem lies on the properties of the form *ele* in BP, rather than on any alleged change undergone by the form *o*. In fact, I claim that the form *o* has exactly the same properties in EP and in BP. The form *ele*, however, has changed; in particular, it has widened its range in several ways. One of these is that it can be either nominative, accusative or dative, as shown in (69):

- (69) a. *ele* não estava no café
he not was at.the coffee-shop
- b. eu não encontrei *ele* no café
I not met he at.the coffee-shop
- c. eu dei o livro a/para *ele*
I gave the book to/for he

47. For many speakers of BP, the «dummy» preposition *a* 'to' has been replaced by the «strong» preposition *para* 'for' as a dative Case marker. If this change means that the verb lost its capacity of assigning dative Case (see section 3.4) then we expect *lhe* 'him-dat' to become impossible as well, since the only possible derivation, yielding (i), crashes at PF (Property P of *lhe* is not satisfied):

- (i) *eu não dei o livro para *lhe*
I not gave the book for him.dat

The derivation yielding (ii) is not available as well, since, by hypothesis, the verb lacks an [assignative-Case] feature:

- (ii) eu não *lhe* dei o livro
I not him.dat gave the book

The form *lhe* is indeed (selectively) being lost in BP, although much less drastically than the pronominal use of *o*. If the speculative remarks above are correct, the prediction is that this should be the case mostly for speakers that have substituted *para* for *a*. See Ramos (in preparation) for an approach to these topics compatible with the assumptions of this work.

This suggests that *ele* in BP has lost the [+inherent] nominative Case feature that characterizes it in EP; its Case feature is now provided by the operation ADD as the item enters the numeration, and this can be freely nominative, accusative or dative. The two contrasting lexical entries for *ele* are given below (see fn. 41):

(70) *ele* in EP: [D, -P, ϕ , nom]

(71) *ele* in BP: [D, -P, ϕ]

Putting aside their phonological properties (including Property P) and their internal complexity («pure» D vs. «complex» D), a quick comparison of the lexical entry of *ele* in BP and that of *o* (repeated below) shows that they have become very similar:

(72) *o* (EP and BP): [D, +P, ϕ]

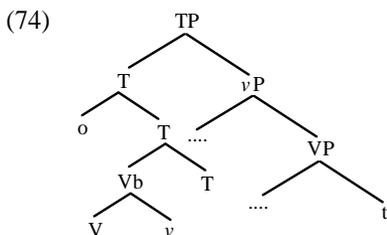
I will now show how the impossibility of (66) follows from economy considerations, given the similarity of the non-phonological features of *ele* and *o* in BP, in interaction with the mechanics of the computational system.

To see this, compare the derivations of (66) and (69b) in BP, (repeated below as (73)), assuming again that these derivations belong to the same reference set (see the Appendix for discussion):

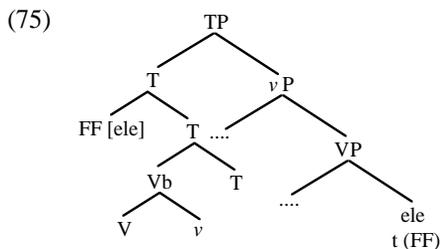
(73) a. **eu* não *o* encontrei no café
I not the.acc found at.the coffee-shop

b. *eu* não encontrei *ele* no café
I not found he at.the coffee-shop

Both derivations involve the same operation ADD, which assigns the [accusative] Case feature to the DP object. The derivation of (73a), however, crucially involves one *overt* application of Move, in violation of Procrastinate, in order to satisfy Property P of *o* (otherwise the derivation crashes at PF). The corresponding operation in the derivation of (73b), however, is trivially *covert*, since *ele* lacks Property P and therefore remains in situ at PF.⁴⁸ This is shown in (74) and (75), respectively:



48. This analysis is incompatible with the idea that accusative *ele* in BP is a «weak» pronoun (Cardinaletti and Starke 1994) that moves to [Spec, Agr_o] for accusative checking, as in Galves (1998).



The derivation that includes (74) is thus blocked by the more economical derivation that includes (75), which does not violate Procrastinate.⁴⁹ I conclude that the reason why (66) is ungrammatical in colloquial BP is due to economy considerations, and not to the disappearance of the (accusative) form *o*.

Summarizing, the real underlying change in this area of the syntax of BP is the lexical change undergone by the form *ele*, namely its loss of the [+inherent] Case feature [nominative]. Without a [+inherent] Case feature, *ele* is now in direct competition with *o*, both in subject and in object position. In both it is bound to win, because it lacks Property P. In object position, we have just seen that the lack of Property P enables *ele* to undergo checking without violating Procrastinate, contrary to *o*. In subject position, the account is slightly different, because EPP requires the external argument to move *overtly* in either case. But consider a derivation in which a «pronominal» DP headed by *o* moves to [Spec, T] for EPP:⁵⁰

(76) [_{TP} [_{DP} *o pro*] T ...

This derivation crashes, because Property P is not satisfied within the DP (see fn. 21). In turn, a derivation involving cliticization of *o* from subject position would again compete, and loose, with a derivation involving *ele*, which does not have to cliticize.

There is another dimension in which the BP form *ele* differs from the EP one (see Galves 1998 for discussion). In BP, *ele* is not at all semantically restricted, being able to refer freely to either [+human] or [-human] entities. In terms of the present analysis, this must be due to the fact that its nominal feature has become underspecified for the feature [human], just like *pro* is so underspecified in EP. Only further research can tell whether the loss of an inherent Case and the loss of a specification for the feature [human] are linked in some way.

8. Conclusion

I argued in this paper for a minimalist analysis of the pronominal system of Portuguese compatible with the claim that pronouns are underlying determiners,

49. See Kitahara (1997) and Nunes (to appear) for a discussion of Procrastinate and how to derive it from more elementary principles.

50. Notice that in BP *ele* is not «automatically» selected in subject position by the Elsewhere Principle (62) (contrary to EP), because it is unspecified for Case.

including the nominative and dative forms. Whereas the form *o* is a «pure» determiner, the nominative and dative pronouns were analyzed as [+minimal, +maximal] projections incorporating a nominal feature; this accounts for why they cannot be used as articles (and as «demonstratives»). I also argued that the ungrammaticality of (66) in Colloquial BP cannot be the consequence of the loss of the «accusative» pronoun *o* because the form is well and alive as an article (including as head of accusative DPs). The difference was tracked down to the loss of an inherent (nominative) Case by the form *ele*, with the consequence that this form now gets its Case through the operation ADD as it enters the numeration. This puts it in direct competition with the form *o*. In pronominal function, *o* always loses because of Property P, which forces a violation of Procrastinate, contrary to *ele*.

To conclude, I would like to make a few very general remarks. First, note that, in characterizing the differences between EP and BP, there was no appeal made to differences in the computational system C_{HL} itself. This was held to be invariant in both languages. Second, differences in the syntactic properties of the two dialects were analyzed as being a simple function of the different lexical properties of the functional word *ele*, ((70) vs. (71)), with the computational system reacting «blindly» to this difference. Economy conditions, as well as PF convergence considerations, were argued to play a major role in this «blind» reaction. Finally, there was no appeal at all to the notion of «parameter» as an independent concept of UG. Lexical properties of functional words interact with the principles of the computational system, period. Note that lexical differences of the sort analyzed here can always be encoded as independent «parameters»; the question, however, is whether there is any empirical or conceptual reason to do so. I, for one, don't see any. Consequently, and following the parsimonious approach to the theory of grammar advocated by the Minimalist Program, one might as well drop the notion of «parameter» as being just another «taxonomic artifact».⁵¹

My analysis also has potential implications for a theory of syntactic change, highlighting some of the ideas that have been proposed in the late period of the Principles and Parameters research model. Strictly speaking, there is no syntactic change. The principles of the computational system are inert, reacting blindly to the lexical properties of functional words like *ele*. The properties of these words do indeed change over time, and that is all there is. The subject matter of historical studies should thus be how and why these properties change, and how these changes interact with an inert computational system. If correct, my analysis of the pronominal system of Portuguese suggests that one source of historical change is the drift undergone by particular formal features between the status of [+Intrinsic] and [-Intrinsic]. But these are matters for future research.

51. The term can be used informally to refer to lexical properties of functional words and their permitted range of variation, but it does not play any real role in the theory of grammar.

Appendix: The Concept of the Numeration

Chomsky (1995) discusses the issue of how to characterize the set of derivations that are compared for the purpose of choosing the most economical one (the *reference set*). One of Chomsky's proposals is the following:

(77) The reference set is based on the same numeration.

The notion of numeration, in turn, is defined as in (78) (from Chomsky 1995: 225, with a slight change):

(78) *Numeration*

A numeration is a set of pairs (LI, *i*), where LI is an item of the lexicon and *i* is its index, understood to be the number of times that LI is selected from the lexicon.

Chomsky (1995: 236) also seems to (implicitly) assume that the [–Intrinsic] features of each LI are already part of the numeration, since he (explicitly) proposes that these features are «added [to each LI] by [the] step [that] form[s] a numeration» (p. 236) (material in square brackets is my responsibility).

Notice, however, that twice in this work I have compared derivations which, strictly speaking, do not have the same lexical items, i.e. that are not based in the same numeration as defined in (78): the derivation of (61) with that of (63) (*o* vs. *ele* and *o* vs. *lhe*, respectively) and the derivation of (73a) (*o*) with that of (73b) (*ele*). Since the problems are the same, I will illustrate them here with (73a-b). The different numerations of these examples are partially represented in (79):

- (79) a. Numeration underlying (73a): {(*o*, 1), (*pro*, 1), ...}
 b. Numeration underlying (73b): {(*ele*, 1), ...}

Clearly, if our analysis is to be maintained, Chomsky's view of the relationship between numerations and reference sets must be relaxed in some way (see Nakamura 1997 for a similar predicament). I will suggest one minimal adaptation of Chomsky's ideas that is compatible with my analysis.⁵²

The crucial observation is that the difference between (79a) and (79b) resides in the set of P(honological) features of the items in question. In particular, *o* and *ele* in (79) have the same set of formal and semantic features, including the accusative Case feature. One obvious way of relaxing the notion of Numeration is thus the following, which abstracts away from the P(honological) features.⁵³

52. For a different (and less restrictive, in my view) solution, see Nakamura (1997).

53. Note that the different value for Property P of *o* and *ele* is correctly abstracted away under the assumption that this is a P-feature.

(80) *Numeration*

A numeration is a set of pairs (LI, *i*), where LI is the set of {F-f, S-f} (see (5)) of an item of the lexicon and *i* is its index, understood to be the number of times that LI is selected from the lexicon.

A second problem has to do with the categorial status of the two items. *o* is a [+minimal, –maximal] D requiring an additional categorial N in the numeration with which it can Merge, while *ele* is a [+minimal, +maximal] D already with a nominal feature. Can this difference also be abstracted away? I tentatively suggest that the answer is positive. As I briefly discussed in section 6.1, suppose that the nominal feature that appears on *ele* and *lhe* is the equivalent of *pro*; we might then propose that these two elements count as «the same» as far as the reference set is concerned. If something along these lines is correct, (79a) and (79b) are indeed equivalent from the perspective of the reference set.⁵⁴

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54. One can think of other problems, such as the fact that ADD is an operation that *forms* the numeration, which itself is the base for the reference set; this implies that we are comparing derivations even before the base of the reference set is established. I will address this issue in work in preparation. This also highlights in a dramatic way the global nature of economy conditions under the approach that I have assumed here. See Kitahara (1997) and Collins (1997) for two quite different approaches to this topic.

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