

Infinitival Complements of Perception and Causative Verbs: A Case Study on Agreement and Intervention Effects in English and European Portuguese

**NORBERT HORNSTEIN
ANA MARIA MARTINS
JAIRO NUNES**

Abstract

This paper discusses perception and causative verbs in English and European Portuguese within Chomsky's (2000, 2001) Agree framework and provides an answer for the old riddle of why these verbs appear to select for different infinitival complements in their active and passive forms. Assuming that infinitival clauses are Case-bearing projections (Raposo 1987; Nunes 1995), the paper proposes that in active structures, the infinitival head and the embedded subject can both agree with the matrix light verb and so "share" the accusative Case it licenses. In passive structures, on the other hand, the intervening ϕ -features of the participial head block the agreement between the finite T and the infinitival head, which will then be licensed only if preposition insertion is sanctioned as a last resort repair strategy.

Introduction

In this paper we revisit an old puzzle of Modern English grammar (see e.g. Zagana 1988, Lightfoot 1991), namely, the fact that the active forms of perception and causative verbs take bare infinitives for complements, while their passive counterparts appear to select for prepositional infinitives, as illustrated in (1) and (2).

- (1) a. John saw/heard/made her hit Fred.
b. *John saw/heard/made her to hit Fred.
- (2) a. *She was seen/heard/made hit Fred.
b. She was seen/heard/made to hit Fred.

The puzzle may be summarized as follows: if the matrix verbs in (1a) Case-mark the embedded subject, as indicated by the accusative morphology on the pronoun, then we should get passive constructions like (2a), contrary to fact. Conversely, if the passive constructions in (2b) are licit, we should expect their active counterparts in (1b) to be licit as well, again an incorrect prediction. The pattern in (1)-(2) thus contrasts with standard instances of ECM constructions,

where passivization of the ECM verb does not change the type of infinitival it takes, as shown in (3).

- (3) a. John considers her to be a genius.
 b. She was considered to be a genius.

We will compare the English pattern in (1) and (2) with the corresponding cases in European Portuguese in (4) and (5) below, with uninflected and inflected infinitivals, and propose that in both languages, the head of the infinitival clause selected by perception and causative verbs is a Case-bearing element that needs to have its Case-feature valued in the course of the derivation. Adopting Chomsky's (2000, 2001) Agree-based framework, we argue that the Case-features of the infinitival head and the embedded subject can both be valued by the same probe in active but not in passive constructions, due to their different structural configurations.

(4) *European Portuguese:*

- a. O João viu/ouviu/deixou-os entrar na sala.
the João saw/heard/let CL.3PL.ACC enter-INF in-the room
 'João saw/heard/let them enter the room'
- b. *Eles foram vistos/ouvidos/deixados entrar na sala.
they were seen/heard/let enter-INF in-the room
 'They were seen/heard/allowed to enter the room'

(5) *(Nonstandard) European Portuguese:*

- a. O João viu/ouviu/deixou-os entrarem na sala.
the João saw/heard/let CL.3PL.ACC enter-INF-3PL in-the room
 'João saw/heard/let them enter the room'
- b. *Eles foram vistos/ouvidos/deixados entrarem na sala.
they were seen/heard/let enter-INF-3PL in-the room
 'They were seen/heard/allowed to enter the room'

In addition to handling the paradigm in (1)-(2)/(4)-(5), the proposal to be developed below will shed some light on additional idiosyncrasies of the active versions of these constructions such as: (i) the lack of wide scope for the embedded subject, as illustrated in (6a), in contrast to the embedded subject of ECM constructions (cf. (6b)); (ii) the dialectal variation in European Portuguese regarding the acceptability of (5a); and (iii) the agreement restrictions in the dialects that allow (5a), as illustrated in (7).

- (6) a. Someone saw everyone leave. [∃ > ∀; *∀ > ∃]
 b. Someone expects everyone to leave. [∃ > ∀; ∀ > ∃]
- (7) *(Nonstandard) European Portuguese:*
 *O João viu/ouviu/deixou-te entras na sala.
the João saw/heard/let CL.2SG.ACC enter-INF-2SG in-the room
 ‘João saw/heard/let them enter the room’

The paper is organized as follows. Section 1 outlines the empirical bounds of this study, by distinguishing the constructions above from superficially similar constructions both in English and Portuguese. Section 2 spells out some specific assumptions we will be making regarding the feature composition of infinitival heads and the derivation of passives. Section 3 presents the analysis proper and section 4 discusses some of its consequences for the analysis of inflected infinitival complements in European Portuguese. A brief conclusion is then presented in section 5.

1 Different Types of Infinitival Complements

Both English and Portuguese have interfering factors that may at first sight render perception and causative constructions involving infinitival complements quite intractable. The fact of the matter is that in both languages there exist different types of infinitival clauses with different syntactic and semantic properties and a given verb may subcategorize for more than one type of infinitival. Take the contrasts in (8) and (9), for instance.

- (8) a. *I saw John know French.
 b. John was seen to know French.
- (9) a. *I heard John have an accent.
 b. John was heard to have an accent.

(8a) and (9a) appear to be at odds with (1a), for the matrix verb seems unable to Case-mark the embedded subject.

Upon close inspection, there is however a difference between (1a), on the one hand, and (8a) and (9a), on the other, which suggests that they are indeed two different constructions. In the former, the matrix verb selects for an eventive predicate, whereas in the latter, it selects for a proposition. The grammatical passive versions of (8a) and (9a) given in (8b) and (9b), for instance, have an epistemic reading that can be paraphrased roughly as in (10a) and (10b), respectively.

- (10) a. It was known that John knew French.
 b. It was known that John had an accent.

By contrast, the epistemic reading is never available in the active sentences where a perception verb takes a bare infinitive as complement. A sentence such as (11) below, for instance, cannot be paraphrased as ‘It was known/believed (by a witness) that she hit Fred’. Similarly, a continuation such as *but nobody knew about it* may be felicitously added to (11), but not to (8b) or (9b). That is, the infinitival in (11) expresses an event and not a proposition.

- (11) A witness saw/heard her hit Fred.

Given this difference in meaning, it wouldn’t be surprising if *see* and *hear* selected different kinds of projections in (1a)/(2b)/(11) and (8a-b)/(9a-b). Suppose for the sake of the argument that the eventive reading is associated with TP (a bare infinitival, putting (2b) aside for the moment), whereas the propositional/epistemic reading is associated with CP (a *to*-infinitival). If so, the unacceptability of (8a) and (9a) should be attributed to the fact that their embedded predicates are not eventive; hence, a TP infinitival is excluded. In turn, the unacceptability of (12) below can be accounted for if the matrix verb cannot check the Case-feature of the embedded subject across both CP and TP.

- (12) a. *I saw John to know French.
 b. *I heard John to have an accent.

In other words, under the propositional/epistemic reading, *see* and *hear* behave like the *wager*-class of verbs (for relevant discussion, see e.g. Postal, 1974; Kayne, 1984; Pesetsky, 1995; Bošković, 1997) in allowing passivization of embedded subjects, despite being unable to Case-mark them, as illustrated in (13).¹

- (13) a. *John wager Peter to be crazy.
 b. Peter was wagered to be crazy.

¹ Notice also that, like the *wager*-class of verbs, *see* and *hear* license the embedded subject if it undergoes *wh*-movement, as shown in (i).

- (i) a. Who does John wager Peter to be crazy?
 b. Who did you see to know French?
 c. Who did you hear to have an accent?

Likewise, perception verbs selecting infinitival complements in European Portuguese allow an epistemic reading if the infinitives are prepositional, but not if they are bare, as illustrated in (14) below with the noneventive predicate *adorar* ‘adore’. The difference with respect to English is that the embedded subject can be licensed even if it doesn’t undergo *wh*-movement (see fn. 1), as seen in (14b).

- (14) a. *Eu vi o João adorar camarões.
I saw the João adore-INF shrimps
- b. Eu vi o João a adorar camarões.
I saw the João to adore-INF shrimps
 ‘I saw/witnessed that João loves shrimps’
- c. O João foi visto a adorar camarões.
the João was seen to adore-INF shrimps
 ‘It was seen/witnessed that John loves shrimps’

We will not pursue this comparison any further. For our purposes, it suffices to say that the contrasts seen in (8), (9), and (14a)/(14c) are unrelated to the ones seen in (1) and (2), which are the topic of this paper, and hence will not be our concern here. Also outside the scope of this paper are infinitival constructions like the following in European Portuguese:

- (15) a. O João viu tu saíres /nós sairmos.
the João saw you-SG-NOM leave-INF-2SG/we.NOM leave-INF-1PL
 ‘João saw you/us leave’
- b. O João viu-te /nos a sair
the João saw-CL.2SG.ACC/CL.1PL.ACC to leave-INF
- c. O João viu-te /nos a saíres /sairmos.
the João saw-CL.2SG.ACC/CL.1PL.ACC to leave-INF-2SG/leave-INF-1PL
 ‘João saw you/us leaving’

(15a) involves a standard inflected infinitival clause where the subject is assigned nominative Case clause-internally. As for constructions such as (15b) and (15c), which are parallel to (14b), Raposo (1989) has argued that they involve a complex structure where the perception verb selects for a PP small clause headed by the preposition *a* ‘to’, which is a marker of progressive aspect (see also Barbosa and Cochofel, forthcoming for relevant discussion). This preposition in turn selects for an infinitival clause (inflected or uninflected) whose subject is controlled by the subject of the PP small clause. Assuming that this analysis is essentially correct, the matrix verb in (15b) and (15c) Case-marks the subject of the small clause (the accusative clitics in (15b) and (15c)), rather than the subject of the infinitival clause. And again, this is different from what happens in (1)-(2)/(4)-(5).

In sum, this paper will specifically focus on a particular class of infinitival complements of perception and causative verbs, namely, the one in which the embedded subject is Case marked by the matrix verb, as in (16), and the preposition preceding the infinitival (if present) is not contentful, as in (17). Other cases of infinitival constructions such as the ones in (15) will be occasionally discussed only when they may shed some light on the analysis of (16) and (17).

- (16) a. John saw/heard/made her hit Fred.
 b. *European Portuguese:*
 O João viu/ouviu/deixou-os entrar(%em) na sala.
the João saw/heard/let CL.3PL.ACC enter-INF(-3PL) in-the room
 ‘João saw/heard/let them enter the room’

- (17) They were made to leave.

2 Background assumptions

2.1 Infinitives as Case-bearing Projections Raposo (1987) argues that Portuguese infinitival clauses behave like nominal projections with respect to the Case Filter in that they can only appear in positions where Case can be licensed,² as illustrated in (18).

- (18) a. o rapaz receia [chumbar o exame]
the boy fears fail-INF the exam
 ‘The boy fears failing the exam’
 b. o receio *(de) [chumbar o exame]
the fear of fail-INF the exam
 ‘the fear of failing the exam’
 c. o rapaz está receoso *(de) [chumbar o exame]
the boy is fearful of fail-INF the exam
 ‘the boy is fearful of failing the exam’

In (18a), the infinitival clause can arguably be Case-marked by the verb *recear* ‘fear’, whereas the infinitival complement of its cognate noun in (18b) or its cognate adjective in (18c) requires the insertion of the dummy preposition *de* in order to be Case-marked.

Nunes (1995) extended Raposo’s proposal to English infinitivals, based on their diachronic changes. As argued by Lightfoot (1979), infinitives were nominal projections in Old English. In fact, before the phonological weakening of its

² This is also the behavior of English nominal gerunds (see Reuland 1983, among others, for relevant discussion). We leave a detailed comparison between infinitives and gerunds in terms of their Case-properties and ϕ -feature specification to another occasion.

inflectional endings, English had an overt infinitival morpheme, *-an*, which surfaced as *-anne* or *-enne* when preceded by *to*, exhibiting inflection for the dative Case assigned by *to* (see Callaway, 1913). Nunes’s proposal was that the infinitival morpheme became phonetically null in Modern English but retained its nominal properties. Accordingly, *to* was analyzed as a dummy Case-marker used as a last resort strategy to license the infinitival projection.

Following the gist of Nunes’s proposal but reinterpreting it within the Agree-system, we will assume that the head of the infinitival TP under investigation (see section 2) has Case and a defective set of uninterpretable ϕ -features. The question is how “incomplete” this set should be.

Under the assumption that Case-valuation is the reflex of ϕ -checking with a probe with a “complete” ϕ -set (see Chomsky, 2000, 2001), the ϕ -set of an infinitival T head should not be empty; otherwise, its Case feature wouldn’t be valued. In Chomsky’s system, the feature *person* endows a given probe with Case-valuation properties; hence, finite T can value a given Case feature (as nominative), but a participial head, which does not have a person feature, can’t. Thus, the infinitival T under discussion should not have a person feature; recall that the subject of the infinitival clause is not Case-marked by the infinitival head but by a higher probe. As for gender, there is no evidence in either European Portuguese or English that such a feature may be associated with T; in other words, a “complete” ϕ -set for T in these languages arguably involves just person and number. Once person and gender are excluded, only number remains. Thus, we will assume from now on that the feature matrix of the infinitival head of the English and European Portuguese constructions in question involves EPP, Case, and number.

2.2 Derivation of Passives under Agree Given that we are primarily interested in the apparent different properties of perception and causative verbs in their active and passive forms, let us examine the relevant details of the derivation of passives that we will be assuming in this paper. Take the derivation of the sentence in (19), for instance, whose first steps are represented in (20) (with English words for convenience).

- (19) As meninas foram vistas.
the girls were seen-FEM-PL
 ‘The girls were seen’

- (20) a. [_{PartP} -en_{[G:u]/[N:u]/[Case:u]} [_{VP} see [_{the girls}]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}]]
 b. [_{PartP} -en_{[G:FEM]/[N:PL]/[Case:u]} [_{VP} see [_{the girls}]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}]]

In (20a), the participial head (*-en*) has unvalued gender, number, and Case features and the object has an unvalued Case-feature.³ Agreement between these two elements values the gender and number features of *-en*, as seen in (20b), leaving their Case-features untouched. Recall that Case valuation occurs under agreement with a “complete” ϕ -set, that is, with a ϕ -set containing a [-interpretable] person feature, and the participial head in (20) does not have this feature. Further computations then introduce the finite T in the structure, as represented in (21).

(21) [TP T_{[P:u]/[N:u]/EPP} [VP be [PartP -en_{[G:FEM]/[N:PL]/[Case:u]} [VP see [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}]]]]

(21) presents two kinds of problems. The first one concerns minimality: how can T agree with the object skipping the intervening participial head? The second problem relates to the fact that there is no one-to-one correlation between Case-assigners and Caseless elements, for there is just a single Case assigner (T) and two elements in need of Case valuation (the object and the participial head). With respect to the first problem, Chomsky (2001:17) suggests that intervention is nullified if the intervening element does not match all the features of the probe. In the case of (21), the unvalued person feature of T does not find a matching feature in the participial head, allowing T to probe further down and enter into an agreement relation with the object, which does have a person feature.⁴

As for the second problem, it only arises under one potential continuation of (21), namely, when T enters into an agreement relation with the object first, as illustrated in (22).

(22) [TP T_{[P:3]/[N:PL]/EPP} [VP be [PartP -en_{[G:FEM]/[N:PL]/[Case:u]} [VP see [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:NOM]}]]]]

The problem with (22) is that the Case-feature of *-en* was left unvalued and the derivation should crash. Crucially, T cannot participate in another agreeing relation once it has all of its ϕ -features valued.

³ It is immaterial for the current discussion if the incomplete ϕ -set found in passives is to be associated with a defective light verb or with the Participial head. For purposes of exposition, we will assume the latter.

⁴ Actually, the minimality problem potentially arises only if the participial head in (21) does not have an EPP feature. If the participial head had an EPP feature, the object would move to its Spec, falling within its minimal domain; hence, the moved object and *-en* would count as equidistant (see Chomsky, 1995) from a higher probe and there should be no intervention effects. Given that this additional EPP feature on the participial head has no consequences for the cases discussed here, we will ignore it in the following discussion for purposes of simplification.

There is however a convergent continuation for (21). Notice that T can enter into an agreement relation with the participial head *before* it enters into an agreement relation with *the girls*, as illustrated in (23).

- (23) a. [TP T_{[P:u]/[N:PL]/EPP} [VP be [PartP -en_{[G:FEM]/[N:PL]/[Case:NOM]} [VP see [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}]]]]
 b. [TP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:NOM]} [T' T_{[P:3]/[N:PL]/~~EPP~~} [VP be [PartP -en_{[G:FEM]/[N:PL]/[Case:NOM]} [VP see t]]]]]

In (23a), T agrees with *-en* in number and, given that T has a complete ϕ -set, the Case of *-en* is valued as nominative.⁵ However, T is still active due to its unvalued person feature. It can then enter into an agreement relation with the object and attract it to its Spec, as shown in (23b), and all of the unvalued features are appropriately valued.

Given this general background, let's now get back to the puzzles regarding the infinitival complements of perception and causative verbs.

3 ϕ -completeness and Intervention Effects

Let's start by considering the relevant steps of the derivation of active sentences such as (24), for instance.

- (24) I saw Mary leave.

After the infinitival TP in (25a) below is assembled, the infinitival T probes its domain and enters into an agreement relation with *Mary*, attracting it to its Spec to check the EPP, as shown in (25b). This agreement relation allows T to have its number feature valued, but the Case-features of both elements remain unvalued, for their ϕ -sets do not contain a [-interpretable] person feature.

⁵ Here we are departing from Chomsky's (2001) specific analysis of agreement between a Case valuing probe and the participial head. For Chomsky, feature valuation is subject to a maximization principle according to which "if local (P, G) [(Probe, Goal); NH, AMM, & JN] match and are active, their uninterpretable features must be eliminated at once, as fully as possible; partial elimination of features under Match, followed by elimination of the residue under more remote Match, is not an option" (p. 15). Thus, under this proposal, the number feature of T should not be valued in (23a), but only when T enters into an agreement relation with the object in (23b).

It seems to us that such maximization principle is however at odds with the assumption that Case valuation is to be understood as a reflex of agreement between ϕ -sets. It is not obvious how *-en* in (23a) can have its Case-feature valued without additional provisos, if in practice no agreement between T and *-en* takes place. We will therefore proceed with our discussion under the assumption that Case-valuation is a by-product of ϕ -feature valuation, with no resort to Chomsky's maximization principle.

- (25) a. [TP T_{[N:u]/[Case:u]/EPP} [VP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:u]} leave]]
 b. [TP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:u]} [T' T_{[N:SG]/[Case:u]/~~EPP~~} [VP t leave]]]

The next relevant step involves the introduction of the light verb into the picture, as shown in (26).

- (26) [_{VP} v_{[P:u]/[N:u]} saw [TP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:u]} [T' T_{[N:SG]/[Case:u]/~~EPP~~} [_{VP} t leave]]]]

In (26), *Mary* and the infinitival T are equidistant (see Chomsky 1995) from *v*; hence, either element could enter into a checking relation with the light verb (see fn. 4). However, if *v* enters into an agreement relation with *Mary* first, yielding (27), the derivation crashes because *v* is no longer active for purposes of agreement and the infinitival head will not have its Case-feature checked.

- (27) [_{VP} v_{[P:S]/[N:SG]} saw [TP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:ACC]} [T' T_{[N:SG]/[Case:u]/~~EPP~~} [_{VP} t leave]]]]

By contrast, if *v* in (26) agrees with the infinitival T head first, as shown in (28a) below, the derivation can converge. In (28a), T has its Case feature valued as accusative in virtue of valuing the number feature of *v*. Recall that T had its number feature valued earlier (cf. (25b)) and, therefore, is able to value an unvalued number feature under Agree. Crucially, the person-feature of *v* in (28a) has not been checked yet, and an additional agreement relation with *Mary* is permitted, as shown in (28b), and all unvalued features get finally valued.

- (28) a. [_{VP} v_{[P:u]/[N:SG]} saw [TP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:u]} [T' T_{[N:SG]/[Case:ACC]/~~EPP~~} [_{VP} t leave]]]]
 b. [_{VP} v_{[P:3]/[N:SG]} saw [TP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:ACC]} [T' T_{[N:SG]/[Case:ACC]/~~EPP~~} [_{VP} t leave]]]]

Suggestive evidence for our proposal that the embedded subject actually agrees with the infinitival head is provided by the paradigms in (29) and (30).

- (29) a. Someone saw everyone leave. [E > V; *V > E]
 b. Someone expects everyone left. [E > V; *V > E]
 c. Someone expects everyone to leave. [E > V; V > E]

- (30) a. ??John saw t_i arrive [a big man from Holland]_i
 b. *John said t_i arrived [a big man from Holland]_i
 c. John expects t_i to arrive [a big man from Holland]_i

(29) and (30) show that the embedded subjects of perception and causative infinitival constructions pattern like the embedded subjects of finite complements and not like the embedded subjects of standard ECM constructions. Thus, it is unable to take scope over the matrix subject (cf. 28a)) or undergo Heavy NP Shift (cf. (30a)). Under our approach, the similarity of the infinitives in (29a) and (30a) with finite rather than infinitival ECM clauses falls into place, if agreement with T plays a role in blocking QR out of TP and Heavy NP Shift from [Spec, TP]. Hence, the embedded subjects of (29a)/(30a) and (29b)/(30b) pattern alike in being sensitive to the restriction imposed by agreement.⁶

However, the infinitival agreement found in perception and causative constructions is much more meager than the one found in finite clauses. Thus, if a given phenomenon depends on whether the agreement in question is “complete” (that is, involving the feature person), we should not be surprised to encounter instances where the embedded subjects of these clauses will not pattern alike. This is the case of reflexive subjects, for instance. As illustrated in (31), this time the opposition is between infinitival clauses, on the one hand, and finite clauses, on the other.

- (31) a. Mary saw herself leave.
 b. *Mary said herself left.
 c. Mary expected herself to leave.

Sentences such as (32) below in French (from Woolford, 1999) independently show that “incomplete” (participial) agreement can be compatible with reflexives (for relevant discussion, see Kayne 1989; Rizzi 1990; Woolford, 1999; and Hornstein, 2001, among others). As proposed above, the infinitival T head of perception and causative constructions is “incomplete” in that it is only associated with a number feature. Thus, the infinitival agreement in (31a) should behave like the participial agreement in (32) in being oblivious to the presence of reflexives, which is indeed the case.

⁶ Interestingly, the fact that perception and causative verbs allow ACD, as illustrated in (i), but not “long distance” QR or Heavy NP Shift, as seen in (29a) and (30a), casts doubts on analyses that tie the availability of ACD to QR (see May 1985, for instance) or to Heavy NP Shift (see Fox 2002, for instance).

- (i) I saw everyone that you did arrive.

- (32) Cécile *s’était décrit-e* comme chaotique.
Cecile REFL-was described-FEM as chaotic
 ‘Cecile described herself as chaotic’

It is beyond the scope of this paper to provide a specific analysis of the role of agreement in disallowing certain phenomena and not others. For our purposes, it suffices to point out that our proposal predicts that the infinitival complement of perception and causative verbs will pattern like finite complement clauses when the relevant blocking effect affects both “complete” and “incomplete” agreement, and with ECM infinitival complements when the blocking is specifically affected by “complete” agreement. The double behavior of embedded subjects of perception and causative constructions witnessed in (29)-(31), argues in favor of a version of the approach pursued here.

To summarize, the structural configuration in (26) is such that it allows the embedded subject and the infinitival head to “share” the accusative Case licensed by the matrix light verb.⁷ This being so, consider the unacceptable passive sentences in (33) below, where the embedded subject moves and the infinitival T head stays behind, or in (34), where the whole TP moves to the matrix subject position. Why are these sentences unacceptable? In other words, why can’t the embedded subject and the infinitival head also “share” the nominative Case licensed by the matrix T?⁸

⁷ There is a second possible analysis that we would like to mention here, though we will not pursue it. The other option is to suppose that the Case marked small clause naked infinitive complement allows Case marking of its subject *internal* to the small clause. This sort of Case marking has been proposed for Basque by Ortiz de Urbina (1989) (see also Martins, 2001) and is plausibly active in English *Acc-ing* gerunds where a Case marked gerund can assign accusative case to its subject. The main difference between naked infinitives and gerunds on this view is that the former *must* bear case while the latter may bear it. Developing the details of this sort of approach, however, lies beyond the scope of this paper.

⁸ It’s worth observing that the infinitival clauses under study are subject to tight selectional restrictions. For instance, they cannot involve auxiliaries or function as an external argument, as respectively illustrated in (i) below. However, the problem in (33) and (34) has nothing to do with selection. The infinitival clause in these sentences does not involve auxiliaries and is the internal argument of *see*, which is a member of the restricted class of verbs that may subcategorize for a bare infinitival. The fact that *see* appears in its passive form does not change the selection requirements for its complement.

- (i) a. *I saw [John have left]/[John be leaving]
 b. *[Mary leave] will make John cry

Furthermore, (ii) below shows that the problem with (33) and (34) cannot be attributed to some incompatibility between the infinitival morpheme and nominative Case either. The matrix ECM verb can assign accusative to the moved TP in (ii), but the result is also ungrammatical.

- (33) a. *Mary was seen leave.
 b. *As meninas foram vistas sair.
the girls were seen-FEM-PL leave-INF
 ‘The girls were seen to leave’
- (34) a. *Mary leave was seen.
 b. *As meninas sair foi visto /foram vistas.
the girls leave-INF was seen-DFLT / were seen-FEM-PL
 ‘The girls were seen to leave’

Let’s take a closer look at the derivation of the Portuguese example in (33b), given that its morphological aspects are more transparent. The computations within the infinitival TP are identical to the ones involved in the derivation of active sentences. That is, the infinitival head in (35a) below (English words used for convenience) agrees with *the girls* and has its number feature valued, as shown in (35b), but no Case-valuation takes place.

- (35) a. [TP T_{[N:u]/[Case:u]/EPP} [VP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]} leave]]
 b. [TP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]} [T’ T_{[N:PL]/[Case:u]/~~EPP~~} [VP t leave]]]

Consider now the step after the participial head is introduced in the derivation, as shown in (36).

- (36) [PartP -en_{[G:u]/[N:u]/[Case:u]} [VP see [TP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}
 [T’ T_{[N:PL]/[Case:u]/~~EPP~~} [VP t leave]]]]]

As in the active construction discussed earlier, the embedded subject and the infinitival T in (36) are equidistant from the participial head. Thus, if *-en* agrees with T first, it will have only its number feature valued, as shown in (37a) below, but it will still be active to agree with *the girls* and have its gender feature valued, as shown in (37b). On the other hand, if *-en* agrees first with *the girls*, it will have its gender and number features both valued, yielding (37b), and no further agreement with the infinitival head will be licensed. Either way, the resulting structure is the one in (37b), where no Case feature has been valued yet.

- (37) a. [PartP -en_{[G:u]/[N:PL]/[Case:u]} [VP see [TP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}
 [T’ T_{[N:PL]/[Case:u]/~~EPP~~} [VP t leave]]]]]
 b. [PartP -en_{[G:FEM]/[N:PL]/[Case:u]} [VP see [TP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]}
 [T’ T_{[N:PL]/[Case:u]/~~EPP~~} [VP t leave]]]]]

-
- (ii) *I believe [[Mary leave]_i to have been seen t_i]]

Further computations then introduce a finite T into the structure, as shown in (38).

- (38) [TP T_{[P:u]/[N:u]/EPP} [VP be [PartP -en_{[G:FEM]/[N:PL]/[Case:u]} [VP see
 [TP [the girls]_{[P:3]/[G:FEM]/[N:PL]/[Case:u]} [T' T_{[N:PL]/[Case:u]/~~EPP~~} [VP t leave]]]]]]]]

In (38), there are three elements that need to value their Case-features (the infinitival head, the participial head, and *the girls*) and only one Case-checker (the finite T). As seen above, if the finite T agrees with DP first, it will have all of its features valued and will become inactive and unable to value the Case features of the participial and the infinitival heads. So, it should agree with these heads first. However, T can't really reach the infinitival head, due to the intervention of *-en*. Recall that *-en* doesn't block agreement between a finite T and an internal argument in standard passive constructions because there's one feature of T that is not matched by *-en*, namely, person; thus, T is allowed to probe further down the structure in search for a matching person feature (see section 2.2). But in (38), the finite T cannot skip *-en* to agree in number with the infinitival head, for the *-en* does have a matching number feature. In other words, once intervention is relativized with respect to the features involved, T can't ignore the matching number feature of *-en*. In turn, once the matrix T cannot agree with the infinitival head, the Case-feature of the latter will remain unvalued, causing the derivation to crash; hence the unacceptability of sentences such as the ones in (33). Similar considerations apply to the derivation of the sentences in (34).⁹

Evidence that the problem in (33) has to do with the licensing of the infinitival head is the fact that if the embedded clause involves a progressive gerund, the corresponding sentences are acceptable in both English and Portuguese, as illustrated in (39).

- (39) a. Mary was seen leaving.
 b. As meninas foram vistas saindo.
the girls were seen-FEM-PL leave-GER
 'The girls were seen leaving'

The crucial difference here is that the progressive projection is not nominal and does not have a Case feature to be valued. Thus, the derivation of the sentences in (39) does not substantially differ from the derivation of the standard passives discussed in section 2.2.

⁹ Actually, the lack of agreement between the matrix T and the infinitival morpheme in (34) may have a further consequence. In addition to inducing a Case Filter violation like the one seen in (33), it should also prevent the matrix T from attracting the infinitival TP to its Spec. If so, the sentences in (34) can't even be derived.

Independent evidence for the proposed intervention of the participial head with respect to the infinitival head is in turn provided by Portuguese dialects in which adjunct clauses allow both inflected and uninflected infinitivals if the verb is active, as shown in (40), but only inflected infinitivals if the verb is passivized, as shown in (41) (see Nunes and Raposo 1998).

- (40) a. Nós entrámos na sala depois de cumprimentar o director.
we entered in-the room after of greet-INF the director
 b. Nós entrámos na sala depois de cumprimentarmos o director.
we entered in-the room after of greet-INF-1Plthe director
 ‘We entered the room after greeting the director’
- (41) a. %Nós entrámos na sala depois de ser convidados.
we entered in-the room after of be-INF invite-PPLE-MASC-PL
 b. Nós entrámos na sala depois de sermos convidados.
we entered in-the room after of be-INF-1PL invite-PPLE-MASC-PL
 ‘We entered the room after being invited’

Martins, Nunes, and Raposo (2005) argue that in the dialects where the contrast in (41) holds, the T head of uninflected infinitivals has only a number feature in its ϕ -set. If so, the derivation of (41a) involves a step similar to the one in (38), but with the reverse distribution of features. That is, in this case it is the T head with a number feature that is the probe, as represented in (42).

- (42) $[_{TP} T_{[N:u]/EPP} [_{VP} be [_{PartP} -en_{[G:MASC.]/[N:PL]/[Case:u]} [_{VP} V pro_{[P:1]/[G:MASC.]/[N:PL]/[Case:u]}]]]]]$

Similarly to what happens in (38), T in (42) can’t agree with the internal argument skipping the intervening participial head, for the latter also has a matching number feature. Failure to agree with the internal argument then causes the derivation to crash because the EPP feature of the infinitival head is not checked; hence the unacceptability of (41a) in the relevant dialects. By contrast, the derivation of (41b) can converge because inflected infinitivals are arguably associated with a complete ϕ -set, as represented in (43) below. That is, the person feature of the T head in (43) allows it to probe beyond the participial head and agree with the internal argument, attracting it to its specifier and checking the EPP (see Martins, Nunes, and Raposo (2005) for further discussion).

- (43) $[_{TP} T_{[P:u]/[N:PL]/EPP} [_{VP} be [_{PartP} -en_{[G:MASC.]/[N:PL]/[Case:NOM]} [_{VP} V pro_{[P:1]/[G:MASC.]/[N:PL]/[Case:u]}]]]]]$

Going back to the ungrammatical passive versions of perception and causative verbs in (33), English has a “repair strategy” to circumvent the Case Filter violation discussed above, as shown in (44) below.¹⁰ In other words, given that the finite T in (45) can’t value the Case-feature of the infinitival T, a process of *to*-insertion is triggered to adequately license it (see Nunes, 1995).

- (44) a. *Mary was seen leave.
 b. Mary was seen to leave.

- (45) [TP T_{[P:u]/[N:u]/EPP} [VP be [PartP -en_{[G:FEM]/[N:SG]/[Case:u]} [VP see
 [TP Mary_{[P:3]/[G:FEM]/[N:SG]/[Case:u]} [T' T_{[N:SG]/[Case:u]} ~~VP~~ [VP t leave]]]]]]]

This *to*-insertion process is reminiscent of the *of*-insertion rule, illustrated in (46), which was also taken to be triggered to prevent a Caseless element from violating the Case Filter (see Chomsky 1981).

- (46) a. *the destruction the city
 b. the destruction of the city

Chomsky (1986) analyzed the preposition *of* in constructions such as (46b) as the morphological realization of the inherent Case assigned by *destruction* to its complement. Assuming this to be on the right track, we propose that *to* in sentences such as (44b) is the morphological reflex of the inherent Case assigned by the matrix verb to its infinitival complement.¹¹ Thus, the infinitival morpheme in (44b) has its Case-feature licensed in a way analogous to *the city* in (46b).

¹⁰ Recall that constructions such as (ia) below in European Portuguese are not to be analyzed along the lines of (44), with preposition insertion as a last resort operation (see section 2.2). The preposition *a* in constructions such as (ia) is a marker of progressive aspect and can also appear with active verbs, as shown in (ib), or even as discourse fragments, as shown in (ic) (see Raposo 1989).

- (i) a. As meninas foram vistas a sair.
the girls were seen to leave-INF
 ‘The girls were seen leaving’
 b. Eu vi as meninas a sair.
I saw the girls to leave-INF
 ‘I saw the girls leaving’
 c. Os meninos a fumar! Isso é um horror.
the boys to smoke-INF this is a horror
 ‘The boys smoking! That’s awful’

¹¹ Suggestive evidence that the role of *to* in (44b) is different from the one it generally plays in infinitival clauses is provided by the fact that it is unable to license VP-ellipsis, as illustrated in (i).

This proposal raises a couple of questions. First, if *to* is able to check the Case-feature of the infinitival T, why can't it check the Case-feature of the embedded subject, as well? In other words, why can't *Mary* and the infinitival T in (47) below be both licensed by *to*, in a way similar to what we proposed for the active version of this construction in (48) (cf. (28))? If this were possible, the derivation should converge after the expletive checked the features of the matrix T, incorrectly ruling (47) in.

- (47) *It was seen to Mary leave.
(48) I saw Mary leave.

There is however a crucial difference between the role played by the matrix light verb in (48) and the role played by the matrix verb in (44b) in licensing the infinitival T head: (48) involves a structural Case relation, whereas (44b) involves inherent Case, which, according to Chomsky (1986), must be associated with θ -role assignment. Thus, the embedded subject and the infinitival head can both enter into an agreement/structural Case relation with the matrix light verb in (48), but only (the head of) the infinitival TP can be Case-licensed by *to* in (44b) and (47), for it is the only element that is θ -marked by the matrix verb. As Chomsky (1986) observes, there is no "exceptional" θ -marking, where a given verb assigns a θ -role to the specifier of its complement. In other words, *Mary* can't be Case-licensed by *to* in (47) for the same reason it can't be licensed by *of* in (49) below, namely, it is not θ -marked by either *seen* or *appearance*. Hence, the derivation of (47) crashes because *Mary* does not have its Case-feature valued.

- (49) *the appearance of Mary to have left

A second question that arises has to do with minimality effects. At first sight, the matrix T in (44b) shouldn't be able to agree with and attract the embedded subject to its Spec, given that the intervening matrix verb in (44b) is a Case-licenser of sorts (it assigns inherent Case). However, lack of intervention effects for purposes of agreement and A-movement seems to be an independent property of inherent Case relations. As is well known, the arguably inherently Case-marked pronouns in (50) below do not block raising of the embedded subject, despite the fact that they appear to c-command into the embedded domain, inducing Principle C effects, as shown in (51). The fact that the matrix

-
- (i) A: Did John wash the dishes?
B: He tried to/ he was expected to/he was supposed to/*he was seen to

verb in (44b) does not block the Case relation between the finite T and *Mary* is thus not unexpected.

- (50) a. [John_i seems to *him*_k [t_i to be nice]]
b. [John_i struck *him*_k [t_i as a genius]]
- (51) a. *[Mary_i seems to *him*_k [t_i be in love with John_k]]
b. *[Mary_i struck *him*_k [t_i as envious of John_k]]

Finally, the proposal above appears to be tacitly making the questionable assumption that passive forms of the verb can assign inherent Case, but their active versions can't. In other words, if the infinitival head in (44b) is licensed through the inherent Case assigned by the matrix verb, which is realized as *to*, there arises the question of why such Case licensing can't take place in active constructions, as well. After all, there seems to be nothing wrong with the derivation of (52), for example, where *to* licenses the infinitival head and the matrix light verb licenses the embedded subject.

- (52) *I saw Mary to leave.

Here we will not depart from what appears to be the null hypothesis. We assume that the verb *see* always assigns inherent Case to its TP complement (regardless of whether it is active or passive) and that the derivation of (52) is indeed convergent. What we would like to propose is that its unacceptability is rather related to economy computations regarding the insertion of morphological material not present in the underlying numeration. Recall that the derivation of (52) can converge without the insertion of *to* (cf. (48)), for the matrix light verb can value the Case of the infinitival head. Hence, (52) should be ruled out by the same economy considerations that block *do*-insertion in (53a) below or *of*-insertion in (54a).¹² In these derivations, the computational system has resorted to insertion of morphological material that is not required for convergence and is not present in the numeration that feeds the computation (see e.g. Chomsky, 1991; Arnold, 1995; and Hornstein, 2001 for relevant discussion). Furthermore, for each case, there's a competing alternative derivation that is arguably more economical in that it doesn't insert such material. Thus, economy considerations exclude (52), (53a), and (54a) in favor of (48), (53b), and (54b), respectively.¹³

¹² In the wake of the research stemming from the DP-Hypothesis (see e.g. Abney, 1987), we assume that the "possessive" 's is a determiner that assigns *structural* Case to its specifier.

¹³ Quirky Case is different from inherent Case in this regard, for it retains its quirky morphology even when structural Case is available. Here we will have nothing to say on this difference.

- (53) a. *John does love Mary. (unstressed *do*)
 b. John loves Mary.
- (54) a. *[[the city]_i]'s [destruction of t_i]]
 b. [[the city]_i]'s [destruction t_i]]

To summarize, the apparently complex paradigm found in perception and causative constructions results from the interplay between multiple agreement/Case relations couched on ϕ -defectiveness, on the one hand, and economy considerations regulating the insertion of morphological material not present in the numeration, on the other. In the next section, we will see how these interactions may give rise to other idiosyncrasies in European Portuguese.

4 Some Contrasts Involving Inflected Infinitivals in European Portuguese

European Portuguese lends interesting empirical support to the analysis developed in section 3 when inflected and uninflected infinitival complements of perception and causative verbs are contrasted. But before we discuss the relevant data, there are two interfering factors that must be taken into consideration. First, Portuguese only shows Case-distinctions on pronouns. Thus, although *os meninos* is arguably assigned accusative Case by the matrix verb in (55a) and nominative Case clause-internally in (55b), it doesn't display any morphology showing what kind of Case it has received.

- (55) a. A Maria viu os meninos sair.
the Maria saw the boys leave-INF
- b. A Maria viu os meninos saírem.
the Maria saw the boys leave-INF-3PL
 'Maria saw the boys leave'

The converse situation is found in (56) and (57) below, for the inflected infinitival form for first and third person singular is phonologically nondistinct from the uninflected form. Thus, we take the infinitive to be uninflected in (56a) and (57a) and inflected in (56b) and (57b), based on the Case morphology displayed by its pronominal subject rather than the infinitival form itself.

- (56) a. A Maria viu-me sair.
the Maria saw-CL.ISG.ACC leave-INF
- b. A Maria viu eu sair.
the Maria saw PRON.ISG.NOM leave-INF-1SG
 'Maria saw me leave'

- (57) a. A Maria viu-o sair.
the Maria saw-CL.3.MASC.SG.ACC leave-INF
 b. A Maria viu ele sair.
the Maria saw PRON.3.MASC.SG.NOM leave-INF-3SG
 ‘Maria saw him leave’

We will therefore concentrate our discussion on the most transparent constructions, namely, the ones in which we have both pronominal subjects and distinction between inflected and uninflected forms, as illustrated in (58)-(60).

- (58) a. A Maria viu-te sair.
the Maria saw-CL.2SG.ACC leave-INF
 b. A Maria viu tu saíres.
the Maria saw PRON.2SG.NOM leave-INF-2SG
 c. *A Maria viu-te saíres.
the Maria saw-CL.2SG.ACC leave-INF-2SG
 ‘Maria saw you leave’

- (59) a. A Maria viu-nos sair.
the Maria saw-CL.1PL.ACC leave-INF
 b. A Maria viu nós sairmos.
the Maria saw PRON.1PL.NOM leave-INF-1PL
 c. *A Maria viu-nos sairmos.
the Maria saw-CL.1PL.ACC leave-INF-1PL
 ‘Maria saw us leave’

- (60) a. A Maria viu-os sair.
the Maria saw-CL.3MASC.PL.ACC leave-INF
 b. A Maria viu eles saírem.
the Maria saw PRO.3MASC.PL.NOM leave-INF-3PL
 c. %A Maria viu-os saírem.
the Maria saw-CL.3MASC.PL.ACC leave-INF-3PL
 ‘Maria saw them leave’

Putting aside the dialectal variation regarding (60c) for the moment, the data in (58)-(60) fall under our expectations. The uninflected infinitivals in the *a*-sentences are not Case-assigners and their subjects must be Case-marked by the matrix verb. By contrast, the inflected infinitivals assign nominative to their

subjects, preventing the matrix verb from entering into Case/agreement with them; hence, the contrast between the *b*- and the *c*-sentences.¹⁴

The big mystery is why in Nonstandard European Portuguese, (60c) is acceptable despite the fact that (58c) and (59c) are not. At first sight, the embedded subject in (60c) seems to be checking both the Case assigned by the matrix light verb (it shows up with accusative morphology) and the nominative Case assigned within the embedded clause (it is the subject of an inflected infinitival). This unexpected pattern is also coupled with another idiosyncrasy, as illustrated by the contrast between (61) and (62).

- (61) a. *A Maria não viu-me/te/o/nos/os sair.
the Maria not saw-CL.ACC:1SG/2SG/3MASC.SG/1.PL/.3MASC.PL leave-INF
 ‘Mary didn’t see me/you/him/us/them leave’
 b. A Maria não me/te/o/nos/os viu sair.
the Maria not CL.ACC:1SG/2SG/3MASC.SG/1.PL/.3MASC.PL saw leave-INF
 ‘Mary didn’t see me/you/him/us/them leave’
- (62) a. *A Maria não viu-os saírem.
the Maria not saw-CL.3MASC.PL.ACC leave-INF-3PL
 ‘Mary didn’t see them leave’
 b. *A Maria não os viu saírem.
the Maria not CL.3MASC.PL.ACC saw leave-INF-3PL
 ‘Mary didn’t see them leave’

(61) illustrates the fact that negation in European Portuguese triggers proclisis (see Duarte, 1983; Rouveret, 1989; Madeira, 1992; Martins, 1994; Uriagereka, 1995; Barbosa, 2000; Duarte and Matos, 2000; Raposo, 2000; Costa and Martins, 2003; and Raposo and Uriagereka, 2005, among others, for relevant discussion); hence, the contrast between (61a) and (61b). The question then is why the

¹⁴ As mentioned in section 2.1, if the inflected infinitival is part of a PP small clause, the matrix verb can Case-mark the subject of the small clause (see Raposo, 1989), yielding grammatical constructions superficially similar to ungrammatical ones in (58c), (59c), and (60c), as illustrated in (i).

- (i) a. A Maria viu-te a saíres.
the Maria saw-CL.2SG.ACC to leave-INF-2SG
 ‘Maria saw you leaving’
 b. A Maria viu-nos a sairmos.
the Maria saw-CL.1PL.ACC to leave-INF-1PL
 ‘Maria saw us leaving’
 c. A Maria viu-os a saírem.
the Maria saw-CL.3MASC.PL.ACC to leave-INF-3PL
 ‘Maria saw them leaving’

violation of the proclisis requirement in (62a) cannot be remedied in (62b) by movement of the clitic as in (61b).

Let's consider the standard dialect, first. The fact that there is no difference in the standard dialect between (58c) and (59c), on the one hand, and (60c), on the other, leads to the conclusion that the T head of agreeing infinitives is treated in this dialect as finite T for purposes of Case-assignment, namely, it is associated with a complete ϕ -set. The question that should then concern us is the feature specification of the uninflected infinitival. Two facts suggest that the analysis of the English constructions discussed in section 3 cannot be carried over straightforwardly. The first one has to do with the immobility of the subject. As we can see in (61b), the (clitic) subject is not immobile, contrasting with what we saw for English (cf. (29)-(30)). Second, if the uninflected T had just a number feature in its ϕ -set, as was the case of English, it should in principle display overt agreement in number when agreeing with a plural pronoun and this is not what happens, as (61b) again illustrates.

We would like to propose that these two facts are indeed connected. More specifically, we propose that in the standard dialect, all pronouns have the features person and number fused, and this state of affairs prevents the number feature of the infinitival T head from being valued by the pronoun.

The intuition goes as follows. By and large, the morphology of inflected infinitivals in Portuguese is such that its number and person specifications are simultaneously encoded by a single morpheme, as illustrated in (63) below. So, if the T head of an uninflected infinitival were to agree in number with a pronoun, it should automatically agree in person as well and there would be no morphological difference between inflected and uninflected infinitivals, contrary to fact. We thus suggest that if the infinitival T head in the standard dialect cannot enter into full agreement with a pronoun, it's assigned default specification and is realized with no inflection.

- (63) *infinitival inflection for cantar 'to sing':*
- a. cantar (first person-singular)
 - b. cantares (second person-singular)
 - c. cantar (third person-singular)
 - d. cantarmos (first person-plural)
 - e. cantardes (second person-plural)
 - f. cantarem (third person-plural)

Take the derivation sketched in (64), for instance.

- (64) a. [TP T_{[N:u]/[Case:u]/EPP} [VP pro_{[P/N:1PL]/[Case:u]} V]]
 b. [TP pro_{[P/N:1PL]/[Case:u]} [T' T_{[N:def]/[Case:u]/~~EPP~~} [VP t V]]]
 c. [_{VP} V_{[P:u]/[N:def]} saw [TP pro_{[P/N:1PL]/[Case:u]} [T' T_{[N:def]/[Case:ACC]/~~EPP~~} [_{VP} t V]]]
 d. [_{VP} V_{[P:1]/[N:PL]} saw [TP pro_{[P/N:1PL]/[Case:ACC]} [T' T_{[N:def]/[Case:ACC]/~~EPP~~} [_{VP} t V]]]

In (64a), the unvalued number feature of T probes the structure and enters into an agreement relation with the subject pronoun. However, the number and person features are fused and, by hypothesis, cannot value the number feature of T in isolation. T then has its number feature assigned a default value, as shown in (64b) and the derivation proceeds to the merger of the matrix light verb, as shown in (64c). After agreeing with the T head, the light verb values the Case feature of the infinitival head and has its number feature assigned a default value. Further agreement with the pronoun in (64d) presumably overrides the previous default assignment (given that full checking is possible) and all the uninterpretable features end up valued. Notice that in (64d) the pronoun and the T head don't agree, strictly speaking. Under the assumption that immobility is related to agreement (see section 3), it's thus not surprising that the pronouns in (61b) can move to the matrix clause.¹⁵

Let's now consider the nonstandard dialect. Recall that the only difference with respect to the standard dialect was that it allowed constructions such as (60c), where we have an inflected infinitival with an accusative subject. We claim that appearances are misleading here. It is very symptomatic that the exception affects exclusively third person plural pronouns, but not second person singular or first person plural pronouns (cf. (58c) and (59c)). A crucial difference between these pronouns is that only the former can be analyzed as bimorphemic, with *-s* being the marker for plural, as shown in (65).

- (65) a. *os*: third person masculine (*o*) + plural (*-s*)
 b. *as*: third person feminine (*a*) + plural (*-s*)
 c. *te*: second person-singular
 d. *nos*: first person-plural

¹⁵ The same reasoning extends to the contrast in (i), which shows that the embedded subject can be a reflexive only if the infinitival is uninflected (see Raposo 1989). In other words, the inflected infinitival behaves like finite clauses with respect to the licensing of reflexives (see section 3).

- (i) a. *Eles viram-se sair.*
They saw-REFL leave-INF
 b. **Eles viram-se saírem.*
they saw-REFL leave-INF-3PL
 'They saw themselves/each other leave'

If third person plural pronouns are analyzed as bimorphemic in the nonstandard dialect, there is a convergent derivation for (60c) along the lines of (66), with an “uninflected” infinitival, that is, an infinitival with a defective ϕ -set.

- (66) a. [TP T_{[N:u]/[Case:u]/EPP} [VP **pro**_{[P/G:3.MASC]/[N:PL]/[Case:u]} V]]
 b. [TP **pro**_{[P/G:3.MASC]/[N:PL]/[Case:u]} [T' T_{[N:PL]/[Case:u]/~~EPP~~} [VP t V]]]
 c. [_{VP} V_{[P:u]/[N:PL]} **saw** [TP **pro**_{[P/G:3.MASC]/[N:PL]/[Case:u]} [T' T_{[N:PL]/[Case:ACC]/~~EPP~~} [VP t V]]]]
 d. [_{VP} V_{[P:3]/[N:PL]} **saw** [TP **pro**_{[P/G:3.MASC]/[N:PL]/[Case:ACC]} [T' T_{[N:PL]/[Case:ACC]/~~EPP~~} [VP t V]]]]

The derivation in (66) proceeds exactly like its counterpart in English, the only difference being that the plural value of T gets morphologically realized (cf. (60c)).¹⁶ In other words, in (60c) we have an uninflected infinitival disguised as inflected.

Once we have actual agreement between the pronoun and the infinitival T in (66b), the embedded subject becomes immobile, as in English. Assume for concreteness that a negation feature on the finite verb blocks enclisis (cf. (61)) and that subject accusative clitics in European Portuguese surface as enclitics on the finite perception/causative verb unless an “enclisis blocker” is present. Then there is no convergent solution for the sentences in (62), repeated below in (67). (67a) violates the ban on enclisis to a negated verb, whereas in (67b) the embedded subject is immobile and cannot move to circumvent the problem.¹⁷

¹⁶ In principle, the form *saírem* in (60c) in the nonstandard dialect is compatible either with just the plural feature of the infinitival T or with the plural feature in association with a default third person. The fact that sentences such as (i) below are also unacceptable in the nonstandard dialect indicates that the latter is the case. In other words, the association between a valued number feature and a default person feature is computed as a “complete” ϕ -set, thus behaving like a finite T in blocking a reflexive subject.

(i) *Eles viram-se saírem
 they saw-REFL leave
 ‘They saw themselves/ each other leave’

¹⁷ The ungrammaticality detected in (67) is not restricted to negation, but is actually observed with any other “enclisis blocker” preceding the main verb such as subordinate conjunctions, quantifiers, wh- phrases, and certain adverbs.

- (67) a. *A Maria não viu-os saírem.
the Maria not saw-CL.3MASC.PL.ACC leave-INF-3PL
 ‘Mary didn’t see them leave’
 b. *A Maria não os viu saírem.
the Maria not CL.3MASC.PL.ACC saw leave-INF-3PL
 ‘Mary didn’t see them leave’

Other morphophonological peculiarities of accusative clitics when they are subjects of inflected infinitives in the nonstandard dialect further confirm that they indeed remain within the embedded clause and do not have the kind of interaction with the matrix verb that is otherwise observed. Take the paradigm in (68), for instance.

- (68) a. A Maria vê-os sair.
the Maria sees.PRES.IND.- CL.3MASC.PL.ACC leave
 ‘Maria sees them leave’
 b. A Maria vê-los-á sair.
the Maria see-FUT-CL.3MASC.PL.ACC-[T(present)+Agr] leave
 ‘Maria will see them leave’
 c. A Maria vê-los-ia sair
the Maria see-FUT-CL.3MASC.PL.ACC-[T(past)+Agr] leave
 ‘Maria would see them leave’

(68a) shows that enclitics surface adjacent to the right edge of the verbal form, that is, right-adjacent to the agreement morphemes. However, when the clitic is preceded by a future or conditional form of the verb, it surfaces preceding the sequence formed by the tense and the agreement morpheme, as illustrated in (68b) and (68c) (on the morphological structure of futures and conditionals, see Ultra-Massuet and Arregi, 2005). In sharp contrast with (68b) and (68c), the parallel sentences with an inflected infinitive and mesocclisis are ungrammatical, as shown in (69) below.

- (69) a. *A Maria vê-los-á saírem.
the Maria see-FUT-CL.3MASC.PL.ACC-[T(present)+Agr] leave-3PL
 ‘Maria will see them leave’
 b. *A Maria vê-los-ia saírem
the Maria see-FUT-CL.3MASC.PL.ACC-[T(past)+Agr] leave-3PL
 ‘Maria would see them leave’

The contrast between (68b-c) and (69a-b) shows that the accusative clitic subject of inflected infinitival clauses may lean on the finite verb on its left but is unable

to undergo true object cliticization, which leads to mesoclitisis when the finite verb is future or conditional.¹⁸ The immobility of the accusative infinitival subject is thus responsible for its inability to enter into morphological processes with the matrix verb.

Another clear indication that the accusative subject of inflected infinitivals escapes “regular” cliticization is the fact that it can only take the unmarked phonological forms *os/as* ‘them-MASC/them-FEM’. The morphophonological variants with an initial lateral consonant (e.g. *los* ‘them-MASC’) and an initial nasal consonant (e.g. *nos* ‘them-MASC’), which occur respectively after a (deleted) consonant in verb-final position and after a nasal diphthong corresponding to a third person plural verbal suffix, as shown in (70), cannot be the phonological realization of the accusative subject of an inflected infinitive, as shown in (71).

- (70) a. *Nós vimo(s)-los* sair
we saw-1PL- CL.3MASC.PL.ACC leave
‘We saw them leave’
- b. *Vejam-nos* sair
see-PRESENT.SUBJUNCTIVE-3PL- CL.3MASC.PL.ACC leave
‘(You go) see them leave’
- (71) a. **Nós vimo(s)-los* saírem
we saw-1PL- CL.3MASC.PL.ACC leave-3PL
‘We saw them leave’
- b. **Vejam-nos* saírem
see-PRESENT.SUBJUNCTIVE-3PL- CL.3MASC.PL.ACC leave-3PL
‘(You go) see them leave’

The choice between the unmarked form of the accusative clitic and a marked morphophonological variant arguably arises at lexical insertion, as the latter cannot be derived by regular phonological processes in EP (see on this matter Vigário, 2003). Assuming late lexical insertion (in Distributed Morphology terms; see Embick and Noyer, forthcoming, among others), the ungrammaticality of the sentences in (71) points again to the non-object clitic status of the accusative subject. As the accusative subject cannot move beyond the infinitival clause, it

¹⁸ In addition, enclisis in sentences such as (i) is ungrammatical for all speakers whose grammars independently do not allow enclisis to future or conditional forms.

- (i) **A Maria verá-os* saírem.
the Maria see-FUT-[T(present)+Agr]-CL.3MASC.PL.ACC] leave-3PL
‘Maria will see them leave’

does not undergo (syntactic) clitic placement within the higher clause. At the point when lexical insertion takes place, it is therefore not the object clitic of a verb with a particular (morphophonological) ending.

Despite appearances, Case assignment in perception and causative structures in English and European Portuguese thus patterns in essentially a uniform way, with the embedded subject and the infinitival head “sharing” the Case assigned by a higher probe when this is possible and, furthermore, with the embedded subject becoming frozen for certain additional computations after it agrees with the infinitival head.

5 Conclusion

In this paper we argued that Chomsky’s (2000) proposal that ϕ -incompleteness may allow multiple Agree/checking relations provides a new way to analyze perception and causative structures. The specific analysis developed here led to two welcome results. First, it offered an account for the well known (but up to present unexplained) asymmetry between active and passive forms of perception/causative verbs: the infinitival complements must be bare when selected by the active form, but prepositional when selected by the passive form. Second, it made a suggestion as to why the embedded subject of the relevant active constructions displays freezing effects (a fact that went unobserved in the literature), thus being unable to undergo “long QR” and Heavy NP Shift in English or clitic climbing in (Nonstandard) European Portuguese.

Under the analysis pursued here, the contrast between active and passive constructions is due to the fact that in passives the past participle morpheme intervenes between the finite T and the infinitival T, blocking agreement between the two heads. Hence there is no way for the infinitival head (a Case bearing element) and the embedded subject to both have their Case-features valued by the finite T. Since in active constructions no parallel blocking effect arises, the Case-features of the infinitival head and the embedded subject can be valued by the same probe, namely, the matrix light verb.

As for the immobility manifested by the embedded subject, it arises as a consequence of the partial agreement relation established between the subject and the infinitival T. Although this is incomplete agreement (as the ϕ -set of infinitival T includes only a number feature), it puts perception/causative infinitival complement clauses on a par with finite clauses in the sense that the subject becomes frozen for certain additional computations once it agrees with T. In this respect, the infinitival constructions under discussion sharply contrast with standard ECM constructions. The proposal made here thus provides a uniform analysis for languages such as English and (Nonstandard) European Portuguese, whose perception and causative constructions look very dissimilar at first glance.

Acknowledgements

The third author would like to acknowledge the support he received from CAPES (grant BEX/0199/04-4) during the writing of this paper.

References

- Abney, S. 1987. *The noun phrase in its sentential aspect*. Doctoral Dissertation, Massachusetts Institute of Technology, Cambridge.
- Arnold, M. 1995. *Case, periphrastic do, and the loss of verb movement in English*. Doctoral Dissertation, University of Maryland, College Park.
- Barbosa, P. & F. Cochofel, forthcoming. A construção de infinitivo preposicionado em PE. *Actas do XX Encontro Nacional da Associação Portuguesa de Linguística*. Lisboa: Associação Portuguesa de Linguística.
- Barbosa, P. 2000. Clitics: A Window into the Null Subject Property. In J. Costa (ed.), *Portuguese Syntax: New Comparative Studies*. Oxford and New York: Oxford University Press, pp. 31-93.
- Bošković, Ž. 1997. *The Syntax of Nonfinite Complementation*. Cambridge, Mass.: The MIT Press.
- Callaway, M. 1913. *The Infinitive in Anglo-Saxon*. Washington, D.C.: Carnegie Institution.
- Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, N. 1986. *Knowledge of Language: Its Nature, Origin and Use*. New York: Praeger.
- Chomsky, N. 1991. Some notes on economy of derivation and representation. In R. Freidin (ed.), *Principles and Parameters in Comparative Grammar*. Cambridge, Mass.: The MIT Press, pp. 417-454.
- Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Mass.: The MIT Press.
- Chomsky, N. 2000. Minimalist Inquiries: The Framework. In R. Martin, D. Michaels & J. Uriagereka, *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge, Mass.: The MIT Press, pp. 89-155.
- Chomsky, N. 2001. Derivation by Phase. In M. Kenstowicz (ed.), *Ken Hale: A Life in Language*. Cambridge, Mass.: The MIT Press, pp. 1-52.
- Costa, J. & Martins, A. M. 2003. Clitic placement across grammar components. Paper delivered at *Going Romance 2003 (Seventeenth Conference on Romance Linguistics)*. Nijmegen.
- Duarte, I. 1983. Variação paramétrica e ordem dos clíticos. *Revista da Faculdade de Letras de Lisboa* 50:158-178.
- Duarte, I. & Matos, G. 2000. Romance Clitics and the Minimalist Program. In J. Costa (ed.), *Portuguese Syntax: New Comparative Studies*. Oxford and New York: Oxford University Press, pp. 116-142.

- Embick, D. & Noyer, R., forthcoming. "Distributed Morphology and the Syntax/Morphology Interface". In G. Ramchand & C. Reiss (eds.), *The Oxford Handbook of Linguistic Interfaces*. Oxford University Press.
- Fox, D. 2002. Antecedent-Contained Deletion and the Copy Theory of Movement. *Linguistic Inquiry* 33:63-96.
- Hornstein, N. 2001. *Move! A Minimalist Theory of Construal*. Malden, Mass.: Blackwell.
- Kayne, R. 1984. *Connectedness and Binary Branching*. Dordrecht: Foris.
- Kayne, R. 1989. Facets of Romance past participle agreement. In P. Benincà (ed.), *Dialect Variation and the Theory of Grammar*. Dordrecht: Foris, pp. 85-103.
- Lightfoot, D. 1979. *Principles of Diachronic Syntax*. Cambridge: Cambridge University Press.
- Lightfoot, D. 1991. *How to Set Parameters: Arguments from Language Change*. Cambridge Mass.: The MIT Press.
- Madeira, A. M. 1992. On clitic placement in European Portuguese. *UCL Working Papers in Linguistics* 4, ed. by H. van Koot. London: University College, pp. 95-122.
- Martins, A. M. 1994. Enclisis, VP deletion and the nature of Sigma. *Probus* 6:173-205.
- Martins, A. M. 2001. On the origin of the Portuguese inflected infinitive: A new perspective on an enduring debate. In L. J. Brinton (ed.), *Historical Linguistics 1999: Selected Papers from the 14th International Conference on Historical Linguistics*. Amsterdam and Philadelphia: John Benjamins, pp. 207-222.
- Martins, A. M., Nunes, J. & Raposo, E. P. 2005. Coerced Inflected Infinitives. Ms., Universidade de Lisboa, Universidade de São Paulo, and University of California at Santa Barbara.
- May, R. *Logical Form: Its Structure and Derivation*. Cambridge, MA: MIT Press.
- Nunes, J. 1995. The diachronic distribution of bare and prepositional infinitives in English. In H. Andersen (ed.), *Historical Linguistics 1993: Selected Papers from the 11th International Conference on Historical Linguistics*. Amsterdam and Philadelphia: John Benjamins, pp. 357-369.
- Nunes, J. & Raposo, E. P. 1998. Portuguese inflected infinitivals and the configurations for feature checking. *GLOW Newsletter* 40:52-53.
- Oltra-Massuet, Isabel and Karlos Arregi 2005. "Stress-by-Structure in Spanish". *Linguistic Inquiry* 36: 43-84.
- Ortiz de Urbina, J. 1989. *Parameters in the Grammar of Basque*. Dordrecht: Foris.
- Pesetsky, D. 1995. *Zero Syntax: Experiencers and Cascades*. Cambridge, MA: MIT Press.

- Postal, P. 1974. *On Raising: One rule of English grammar and its implications*. Cambridge, Mass: The MIT Press.
- Raposo, E. P. 1987. Romance Infinitival Clauses and Case Theory. In C. Neidle & R. A. Nuñez Cedeño (eds.), *Studies in Romance Languages*. Dordrecht: Foris, pp. 237-249.
- Raposo, E. P. 1989. Prepositional infinitival constructions in European Portuguese. In O. Jaeggli & K. Safir (eds.), *The Null Subject Parameter*. Dordrecht: Kluwer, pp. 277-305.
- Raposo, E. P. 2000. Clitic Positions and Verb Movement. In J. Costa (ed.), *Portuguese Syntax: New Comparative Studies*. Oxford and New York: Oxford University Press, pp. 266-297.
- Raposo, E. & Uriagereka, J. 2005. Clitic Placement in Western Iberian: A minimalist view. In G. Cinque & R. Kayne (eds.), *Handbook of Comparative Syntax*. Oxford: Oxford University Press, pp. 639-697.
- Reuland, E. 1983. Governing –ing. *Linguistic Inquiry* 14:101-36.
- Rizzi, L. 1990. *Relativized Minimality*. Cambridge, Mass.: The MIT Press.
- Rouveret, A. 1989. Cliticization et Temps en Portugais Européen. *Revue des Langues Romanes* 93:337-371.
- Uriagereka, J. 1995. Aspects of the Syntax of Clitic Placement in Western Romance. *Linguistic Inquiry* 26:79-123.
- Vigário, Marina 2003. *The Prosodic Word in European Portuguese*. Berlin and New York: Mouton de Gruyter.
- Woolford, E. 1999. More on the anaphor-agreement effect. *Linguistic Inquiry* 30:257-287.
- Zagona, K. 1988. *Verb Phrase Syntax: A Parametric Study of English and Spanish*. Dordrecht: Kluwer.