

## Phi-Agreement in Past Participle Constructions

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### ABSTRACT

I argue in this paper that agreeing past participles are merged externally in the derivation in V endorsed with a feature [+resultative], whereas non-agreeing past participles are bound to value a feature [+perfective] against the *have*-auxiliary. Phi-agreement on the former kind of participle occurs since the meaning [+resultative] denotes a property of the logical object, which happens to merge in the position of sister to V-*en*. As postulated in standard frameworks, phi-agreement consists in that the V-*en* form values uninterpretable phi-features against the DP object. In contrast with agreeing past participles, non-agreeing past participles are merged externally in the form of V and they get their *-en* suffix in *v* valued against the *have*-auxiliary once the latter enters the derivation. The meaning or interpretation of this *-en* suffix is [+perfective] or [+anterior]. No phi-agreement occurs between these V-*en* forms marked [+perfective] and their logical object (whenever they select for one) since [+perfective] is a property of the event or situation as a whole, and not of the object. It is further suggested that the specific *Agree* relation that is phi-agreement appears not to be subject to configurations of asymmetric c-command, but to just occur on external Merge of the DP that bears the corresponding valued, interpretable phi-features.

**Keywords:** agreeing past participles vs. non-agreeing past participles, external Merge of V-*en* vs. internal merge of *-en*, [+resultative] vs. [+perfective], s-selection, asymmetric c-command

## 1. Introduction

*Phi-agreement* ( $\phi$ -agreement), that is, agreement in person and/or number and/or gender, used to be a widely-discussed topic in the generative literature of the Government & Binding (GB) period, and it can be considered to be one of the centres of interest in the literature of the minimalist period. From a conceptual or theoretical point of view, the interest of minimalist syntax in phi-agreement lies in an important way in the place that is allocated to morphology in the system, whether in narrow syntax or in the phonological component, and secondly, in case morphology is considered to be a narrow syntax issue, in the kind of configuration in which phi-agreement occurs or, in other words, in the ordering of the operation *Agree* relative to *Merge* as regards phi-features ( $\phi$ -features) (see the comprehensive volume by Boeckx, 2006). Further, it is widely known that agreement has been discussed in connection with *Case* ever since the times of GB syntax, which means that any account of agreement is expected to also be explanatory with regard to the *Case* properties of the nominal in question.

From an empirical point of view, phi-agreement is a core issue in the discussion of finite verb movement (or V-to-T movement) on the one hand, and of past participle constructions on the other: more specifically in relation to the latter, the distinction between agreeing past participles vs. non-agreeing past participles, both within a language and cross-linguistically, is a prominent subject of investigation.

In this paper I deal with phi-agreement of past participles, and I propose to account for some of the above-cited theoretical issues by explaining the differences between agreeing past participles and non-agreeing past participles. I argue that the *-en* suffix of each type is associated with a different interpretive feature, namely [*+resultative*] on the one hand, and [*+perfective*] on the other. This is held to account not only for phi-agreement on one type of past participle but not on the other, but also for the fact that each type of *-en* suffix is licensed at a different location in the process of derivation.

The core paradigm of agreeing participle constructions to be used in the paper is made up by passive sentences, as in (1), and unaccusative sentences, as in (2). Other sentence-types like reduced relative clauses, as in (3), or absolute small clauses, as in (4), will also be relevant for the discussion, though I must emphasize that the goal is precisely the phenomenon of phi-agreement (or lack thereof) and not the sentence-types in question. This means that no comprehensive analysis is provided of passives as in (1) –for instance, of the differences between so-called eventive passives and adjectival passives (see Section 4.1)– or of any of the other sentence-types.

- (1) a. Las mujeres han sido acusadas (Spanish)  
       the women<sub>fem.,pl.</sub> have been accused<sub>fem.,pl.</sub>  
       b. Le donne sono state accusate (Italian)  
       the women<sub>fem.,pl.</sub> are been<sub>fem.,pl.</sub> accused<sub>fem.,pl.</sub>  
       c. The women have been accused (English)
- (2) Teresa è arrivata (Italian)  
       Teresa<sub>fem.,sing.</sub> is arrived<sub>fem.,sing.</sub>

- (3) a. Las mujeres acusadas telefonarán (Spanish)  
 the women<sub>fem.,pl.</sub> accused<sub>fem.,pl.</sub> will-telephone  
 b. Le donne accusate telefoneranno (Italian)  
 c. The women accused will telephone (English)
- (4) a. Publicados los libros,.../ Llegados los invitados, Juan suspiró aliviado (Spanish)  
 published<sub>masc.,pl.</sub> the books<sub>masc.,pl.</sub> arrived<sub>masc.,pl.</sub> the guests<sub>masc.,pl.</sub> Juan sighed relieved  
 ‘Once the books have been published,...’ / ‘Once the guests had arrived, Juan sighed relieved’  
 b. Mangiata la mela,.../ Arrivata Maria, siamo andati al cinema (Italian)  
 Eaten<sub>fem.sing.</sub> the apple<sub>fem.sing.</sub> arrived<sub>fem.sing.</sub> Maria<sub>fem.sing.</sub> we-are gone to-the cinema  
 ‘Having eaten the apple,...’ / ‘Maria having arrived, we went to the cinema’  
 c. Ceci dit, la réunion a pu commencer (French)  
 this said the meeting has could start  
 ‘This said, it was possible to start the meeting’  
 d. This said, there’s no chance of winning the elections (English)

As for the set of non-agreeing participle constructions used, this includes canonical perfective sentences – that is, sentences with the perfective *have*-auxiliary – featuring a transitive/unergative predicate, as in (5), and also, crucially for the discussion, perfective sentences featuring an unaccusative predicate which also select for the *have*-auxiliary in languages like Spanish (6a) or English (6b).

- (5) a. Jean a vu la fille<sup>1</sup>  
 Jean has seen<sub>φ</sub> the girl<sub>fem.,sing.</sub>  
 b. Abbiamo salutato le ragazze  
 we-have greeted<sub>φ</sub> the girls<sub>fem.,pl.</sub>  
 c. El editor ha publicado los libros  
 the editor has published<sub>φ</sub> the books<sub>masc.,pl.</sub>
- (6) a. Los invitados han llegado / El barco se ha hundido  
 the guests<sub>masc.,pl.</sub> have arrived<sub>φ</sub> the ship<sub>masc.,sing.</sub> itself has sunk<sub>φ</sub>  
 b. The guests<sub>pl.</sub> have arrived<sub>φ</sub> / The ship<sub>sing.</sub> has sunk<sub>φ</sub>

I would like to clarify the inclusion of a language like English in the paradigm of both agreeing and non-agreeing participle constructions. Effectively, the constructions used for the argumentation in the paper come both from Romance languages like Spanish, French, or Italian, and also from a Germanic language like English. It is therefore necessary to specify that by *agreeing past participle* is understood here a participle or V-*en* form with overt phi-features, that is a participle whose phi- or agreement-features (which is an abstract concept) has a phonological matrix, as is typically the case in Romance languages, and likewise participles with phi-features that lack such a phonological realization, as is the case for a language like English. For past participles in the Old and Middle English periods to exhibit overt phi-agreement in e.g. passives, reduced relatives, or absolute small clause constructions, which structures feature the same core properties as in contemporary English, justifies treating the relevant participles as agreeing elements proper in contemporary English.

The paper is organized as follows. In Section 2 I carry out a quick review of the widely-known Spec, AgrOP approach to participle agreement in the GB period, and in Section 3 I describe the main lines of the minimalist analysis by D'Alessandro and Roberts (2008). After reaching a conclusion about central facts that are not accounted for in either kind of analysis, I propose in Section 4 an analysis that is based on the licensing of two different types of features, *[+resultative]* on the one hand and *[+perfective]* on the other. In Section 4.1 and 4.2 I describe each of these features in terms of the properties of valuation and interpretation, and I specify the location of each of them in the syntactic process of derivation. Lastly, I deal in Section 4.3 with the condition of asymmetric c-command. Section 5 is a summary of the discussion.

## 2. A Canonical GB Approach to Past Participle Agreement

As is widely known, the study of past participle agreement in the GB period focuses on a pattern that is observed in Romance languages like French or Italian, whereby participles selecting for a logical object or internal argument agree overtly with the latter whenever this does not follow the participle: let us observe the contrast between the passive structures in (1) and the unaccusative structures with movement verbs in (2) on the one hand, which are repeated below with the same numeration, and those in (7) on the other. The ungrammatical structures in (7) are ordinary perfective structures where the object occurs to the right of the participle.

- (1) a. Las mujeres han sido acusadas  
 the women<sub>fem.,pl.</sub> have been accused<sub>fem.,pl.</sub>  
 b. Le donne sono state accusate  
 the women<sub>fem.,pl.</sub> are been<sub>fem.,pl.</sub> accused<sub>fem.,pl.</sub>  
 c. The girls have been arrested
- (2) Teresa è arrivata  
 Teresa<sub>fem.,sing.</sub> is arrived<sub>fem.,sing.</sub>
- (7) a. \*Jean a vue la fille  
 Jean has seen<sub>fem.,sing.</sub> the girl<sub>fem.,sing.</sub>  
 'Jean saw her'  
 b. \*Abbiamo salutate le ragazze  
 we-have greeted<sub>fem.,pl.</sub> the girls<sub>fem.,pl.</sub>  
 c. \*El editor ha publicados los libros  
 the editor has published<sub>masc.,pl.</sub> the books<sub>masc.,pl.</sub>

The sequences in (7) all become grammatical if a non-agreeing participle is used instead:

- (5) a. Jean a vu la fille  
 Jean has seen<sub>-φ</sub> the girl<sub>fem.,sing.</sub>  
 b. Abbiamo salutato le ragazze  
 we-have greeted<sub>-φ</sub> the girls<sub>fem.,pl.</sub>

- c. El editor ha publicado los libros  
 the editor has published<sub>-φ</sub> the books<sub>masc.,pl</sub>

The seminal work of Kayne (1989) and also immediately afterwards Belletti (1990, 1992) come to acknowledge the above facts by establishing the generalizations in (8). The authors posit a Spec,AgrOP mechanism similar to the Spec,AgrSP mechanism already available in syntactic theory for subject constituents. As shown in (9), phi-agreement is explained as the result of the movement of the object through the specifier of AgrOP.

- (8) a. Agreeing past participles occur in structures with no external argument but with an internal argument or logical object  
 b. The object that agrees with the past participle typically antecedes the participle itself in the resulting phonetic sequence  
 (9) [<sub>AgrSP</sub>DP AgrS [<sub>TP</sub>T [<sub>AgrOP</sub>DP AgrO [<sub>VP</sub>V t]]]]

A weak aspect of the relevant approach is, as has been generally recognized, that it fails to explain in a straightforward way the (neutral) VS order of passives of null-subject languages like Italian or Spanish, or also the VS order of absolute small clauses in these languages: let us note (10) and also former (4a, b).

- (10) a. Han sido acusadas las mujeres  
 have been accused the women  
 ‘The women have been accused’  
 b. Sono state accusate le donne  
 are been accused the women  
 (4) a. Publicados los libros,... / Llegados los invitados,...  
 published the books arrived the guests  
 b. Mangiata la mela,... / Arrivata Teresa,...  
 eaten the apple arrived Teresa

In contrast to Italian or Spanish, a non-null-subject Romance language like French, or also a non-pro-drop non-Romance language like English, do not allow for VS passives or VS absolute constructions. In French, and likewise in English, which are languages where non-participial constructions are obligatorily SV on a general basis, (ordinary) passives of transitive verbs, and likewise absolute small clauses, must also exhibit the order SV: see (11) and former (4d, e).

- (11) a. Josèphe sera photographié par Marie  
 Joseph will-be photographed by Mary  
 b. He was arrested  
 (4) d. Ceci dit, la réunion a pu commencer  
 this said the meeting has could start  
 ‘This said, it was possible to start the meeting’  
 e. This said, there’s no chance of winning the elections

The pattern of opposition illustrated in (10)–(4a, b) vs. (11)–(4d, e) is successfully resolved in the *Agree* minimalist framework of Chomsky (1995, 2000, 2001a, b), though now another problem has to be faced. This is discussed in Section 3 below, which will set the ground for the account of participle agreement that is proposed in the paper. Before that, however, I would like to refer briefly to the approach to past participle agreement that Lundin (2003) proposes for Swedish, which incidentally appears to be close in spirit to the seminal analysis of passives of Baker, Johnson and Roberts (1989) in the GB era. The author tackles the correlation that exists between agreeing participles and the order [object-participle] on the one hand, and non-agreeing participles and the order [participle-object] on the other by claiming that the phi-agreeing *-en* suffix is an argument proper that merges in the position of object of V, and that is bound by a DP in Spec,v, as shown schematically in (12a') below. By contrast with agreeing suffixes, non-agreeing *-en* suffixes are not anaphoric in nature and are therefore not bound by the relevant DP, which merges this time in the position of object of V – note (12b').

- (12) a. Han fick boken skriven  
       he got the-book written  
       a.' [Han fick [<sub>vP</sub>boken [<sub>vAgr-v</sub> [<sub>vP</sub>skriv- t]]]]
- 
- b. Han fick skrivet boken  
       he got written the-book  
       b.' [Han fick [<sub>vP</sub>V [<sub>vP</sub>skrivet boken]]]

As is the case with the Spec,AgrOP analysis, Lundin's approach cannot account in a straightforward way for constructions where a logical object occurs after an agreeing participle, as is the case in e.g. the Spanish or Italian constructions in (10) and (4a, b).

### 3. D'Alessandro and Roberts (2008) *Phase-Based Minimalist Approach*

The Spec,AgrOP approach of Kayne or Belletti is replaced by the minimalist view of feature valuation between a *Probe* and a *Goal* as based on the operation *Agree* (Chomsky, 1995, 2000, 2001a, b).<sup>2</sup> The seminal framework of Chomsky postulates that no movement to the Spec position of any functional category need apply unless demanded by an *EPP* feature of the latter, which change of perspective is of course absolutely relevant for the explanation or justification of the pattern of opposition illustrated in (10)–(4a, b) vs. (11)–(4d, e) above. In an *Agree*-based framework, the minimal assumption to make is that a mechanism like the *EPP* feature of T is responsible for the SV order of both participial and non-participial constructions of English or French. By contrast, T's *EPP* feature would be satisfied in VS passives of Italian or Spanish like (10) just through *Agree*, without recourse to movement. In

addition to the latter analysis, it has also been argued in the literature that V-to-T movement could be in charge of licensing T's EPP feature (see the well-known work of Alexiadou and Anagnostopoulou, 1998).

Incidentally, in a more refined version of the theory, it is proposed in Chomsky (2000, 2001a) that the EPP is a property of any feature with the ability to trigger movement, and that the relevant feature of T that so happens to trigger the movement of a nominal into its Spec position could rather be labelled a *D-feature*. The structures in e.g. (1) or (2) above would be ones where T's D-feature has an EPP property, whereas those in (10) would be structures where the D-feature of T lacks the cited EPP property.

Focusing on the core of the discussion, once the relevant VS sequences are explained away (through an EPP feature of T, or a D-feature of T as provokes no movement) it is now the ungrammaticality of (7), repeated below with the original numeration, that must be accounted for. In effect, as argued by D'Alessandro and Roberts (2008), participles in non-unaccusative structures (as is the case of (7)) are expected to value the features of the relevant DP object through *Agree*, without there applying any movement or internal Merge of the object into a higher position. That is, *Agree* is in principle expected to ensure a relation between the participle and its object in structures like (7), which should arguably result in both elements exhibiting the same set of phi-features as in (1) or (2): nevertheless, the structures in (7) are completely ungrammatical.

- (7) a. \*Jean a vue la fille  
 Jean has seen<sub>fem.,sing.</sub> the girl<sub>em.,sing.</sub>  
 'Jean saw her'
- b. \*Abbiamo salutate le ragazze  
 we-have greeted<sub>fem.,pl.</sub> the girls<sub>fem.,pl.</sub>
- c. \*El editor ha publicados los libros  
 the editor has published<sub>masc.,pl.</sub> the books<sub>masc.,pl.</sub>

In order to solve this problem, D'Alessandro and Roberts (2008) propose that Romance past participle agreement is a morpho-phonological phenomenon that works according to the mechanism of *phases*, a theoretical construct that consists in that the process of derivation is divided up into chunks or pieces in order to alleviate the burden of syntactic computing (Chomsky, 2001a, b, 2005, 2006).

As is widely known, the theory of phases postulates a difference between a non-defective  $v^*$ , that is, a  $v$  that projects an external argument position, and a defective  $v$ , that is, a  $v$  that is unable to do so. Specifically, the DP object of a non-defective  $v^*$  is arguably licensed and sent out to Spell-Out (in order to become part of the phonological component) on its own, that is on a different cycle than the verb itself and its subject or external argument, which means for the overall computation of the verbal phrase to be made easier. By contrast, the DP object of a defective  $v$  need not be sent out to Spell-Out on its own, which allows the cited object to move into Spec, $v$  and for it to be sent out to Spell-Out later on within the same cycle as the verb.

Now, the analysis of D'Alessandro and Roberts (2008) in terms of phases hinges upon the hypothesis that morphological agreement takes place after Spell-Out, in the phonological component: since the DP object and the participle are sent out to Spell-Out on the same cycle in structures like (1) or (2), then for the two to share agreement is made possible; by contrast, the DP object is sent to Spell-Out separately from the participle in structures like (5) and as a result they are not expected to share agreement, which is what applies in ungrammatical (8).

Aside from the fact that I assume the theory or hypothesis that morphology must be explained as part of core or narrow syntax, and not exclusively as a piece in the phonological component, I would like to note that D'Alessandro and Roberts' analysis fails on the grounds that participle structures like (6), whose predicate is unaccusative and therefore projects a defective  $v$ , are left unexplained.

- (6) a. Los invitados han llegado / El barco se ha hundido  
       the guests<sub>masc.,pl.</sub> have arrived<sub>- $\varphi$</sub>  the ship<sub>masc.,sing.</sub> itself has sunk<sub>- $\varphi$</sub>   
       b. The guests<sub>pl.</sub> have arrived<sub>- $\varphi$</sub>  / The ship<sub>sing.</sub> has sunk<sub>- $\varphi$</sub>

The nominal in the Spanish and English structures in (6) is a logical object or internal argument of the corresponding verbs: according to the theory of phases, such a nominal is sent out to Spell-Out (in order to be phonologically realized) on the same cycle as the verb. On an account like D'Alessandro and Roberts, phi-agreement between the two should be expected, contrary to fact. Incidentally, as observed in the Introduction, the grammar of (contemporary) Spanish relies on an overt distinction between agreeing *-en* forms on the one hand, and non-agreeing *-en* forms on the other, and it is clearly the case that the participle forms in (6a) are non-agreeing. As regards the English language, such participle structures as those in (6b) have never exhibited overt agreement, not even when the participle of e.g. passive structures did inflect for number and gender. All in all then, both the Spanish and the English sequences in (6) are ones whose past participles lack the abstract construct in syntactic theory that are phi-features: in other words, the corresponding V-*en* forms value no person and/or number and/or gender features.

In Section 4 below I present an account of the distinction between agreeing vs. non-agreeing past participles that aims to explain not only the structures in (1) and (2) vs. those in (5), but also the structures in (6).

#### 4. The Present Approach to Past Participle Agreement

Given the construction-types in (1) and (2) vs. those in (5), it is clearly the case that *argument structure* is at the base of past participle agreement, since the DP that agrees with the participle is typically a logical object or internal argument, and not an external argument or logical subject. Hence, (8a) must be on the right track. However, the determining property distinguishing agreeing past participles from non-agreeing past participles cannot just be the argument structure of corresponding predicates, that is of

the abstract verbal root as stored in the Lexicon and characterized as selecting for an internal argument or otherwise an external argument, or both, since unaccusative structures with movement verbs or inchoative verbs in manifold languages happen to feature a non-agreeing past participle, as shown in (6). To (8a) should then be added a generalization like the one in (13) below.

- (8a) Agreeing past participles occur in structures with no external argument but with an internal argument or logical object  
 (13) Non-agreeing past participles must co-occur with the *have*-auxiliary, whether there is a logical object or not

I aim to account for (8a) and (13) by proposing that agreeing *-en* participles and non-agreeing *-en* participles each license a different kind of feature as regards their aspectual semantics, which is dealt with in Section 4.1 below. I argue that the features in question, which are identified here as [+resultative] and [+perfective] respectively, play a major role in the process of syntactic derivation, which means that they must be characterized as regards the properties of *valuation* and *interpretation* (Section 4.2). The feature [+resultative] of agreeing participles will be analyzed as being responsible for phi-agreement, which is clearly not the case for non-agreeing participles.

#### 4.1. On the licensing of two different types of features: the Semantics of [+resultative] vs. [+perfective]

As suggested in the preceding Section, the fact that non-agreeing past participles are not able to occur in a syntactic context where the *have*-auxiliary is not present, as opposed to agreeing past participles, which co-occur with the *be*-auxiliary, or which otherwise, in an important way, can occur on their own (let us recall reduced relative clauses or small clauses in (3) and (4)), can be used to postulate that they are each associated with a distinct type of feature that is relevant for the syntax. Such a contrast is bound to be at the base of the fact that only agreeing past participles do precisely that, that is license agreement with a nominal, whether overtly as in e.g. Spanish, or covertly as in e.g. English..

I would like to argue that agreeing past participles license a [+resultative] feature and that non-agreeing past participles license a [+perfective] (or also [+anterior]) feature. The semantics of each of these, which are incidentally frequently-recurring terms in the general literature on aspect, could be defined as follows:

- (14) a. [+resultative]: the property of an object that is the result or consequent state of a prior event<sup>3</sup>  
 b. [+perfective]: the property of a situation according to which the latter is completed at a time prior to the speech time

As advanced in the Introduction, passive structures as in (1) are canonical structures used in this paper to illustrate agreeing *-en* forms (both in Romance and in Germanic).

Those in (1) are specifically examples of eventive or agentive passives, which can be described as “denoting an action from the point of view of the object, which object is in a certain state as resulting from the cited action.” Such a state is precisely the property that is described in (14a), that is the property that is expressed by the agreeing *-en* participle.

Now, it must be noted that *resultative* is of course a term used in the highly-influential work of Embick (2004) in order to distinguish adjectival passives like *The door was already opened* –which the author calls *resultative passives*– from adjectival passives like *The door was open* –which the author refers to as *stative passives*. Whereas the former denote the state of an object once some event has taken place, the latter denote just a state, which entails that the participle can be assimilated in these to an adjective proper (Embick, 2004: 356).

I would like to emphasize the fact that the use of *resultative* that is relevant for the present discussion is one that covers both the participle occurring in the adjectival resultative passive of Embick, and the passive occurring in the canonical or eventive passive in (1), though each type of passive must be differentiated from the other. As noted in the Introduction, an analysis of passive constructions is outside the scope of this paper: I will restrict myself to noting, as I have mentioned immediately above, that canonical or eventive (or also agentive) passives denote, as the name indicates, an action. This action is viewed from the point of view of the logical object, which is crucially described as being in a state that is a consequence of the previous action. By contrast, adjectival resultative passives would denote a state that is a consequence of a previous action. From the point of view of syntax, the distinction between eventive passives on the one hand and adjectival resultative passives on the other could possibly be considered to depend on the treatment of the auxiliary *be*: once again though, this is an issue not covered by the present discussion.

Turning back to the core of the paper, I would like to note that, together with (1), the sequence in (2) is a paradigmatic example of an agreeing *-en* form, more specifically, the example of a structure which contains an unaccusative verb of movement in a language making systematic use of the *have/be* distinction as is Italian. This way, in accord with (14a), *Teresa è arrivata* (2) would mean informally that a “state is predicated of an individual, which state is the result or consequence of a previous event of arriving.”

Now, whereas the definition in (14a) acknowledges that agreeing *-en* forms denote the property of an object, (14b) specifies that non-agreeing *-en* forms denote the property of a situation. Two sentence-types are chosen in the present paper as paradigmatic of the use of these participles, which must obligatorily co-occur with the *have*-auxiliary: structures with transitive (or also unergative) verbs cross-linguistically, as in (5), or structures with unaccusative verbs or inchoative verbs in languages not exhibiting the *have/be* opposition, or not doing so in a systematic way, as in (6). A sequence like Spanish (6a) *Los invitados han llegado* or English (6b) *The guests have arrived* would express therefore the meaning of perfectivity or anteriority as a property of an event or situation as a whole, and not the property of an object or individual. By

contrast with the interpretation of *Teresa è arrivata* as specified above, the sentences in (6) could roughly be taken to mean that “an event of arriving is predicated of a given entity, which event has been completed at a time prior to the time of speaking.” Incidentally, it must be noted that the informal definition provided in (14b) is not a complete one from a Reichenbachian perspective. As is widely known, the framework of Reichenbach (1947) distinguishes the so-called *Reference time* in addition to the *Event time* and the *Speech time*, it being the relation between the Reference time and the Speech time that is core in distinguishing e.g. the present perfect from the simple past: whereas in the present perfect the Reference time coincides with or includes the Speech time (E\_R,S), in the simple past the Reference time precedes the Speech time (E,R\_S).<sup>4</sup>

The semantic characterization of the *-en* suffix of agreeing and non-agreeing participles as [+resultative] and [+perfective] that has been provided in the present Section is used in the Section immediately below in order to characterize each type of participle as regards the process of syntactic derivation, that is as regards the properties of valuation and interpretation of formal features. The main goal is to establish the connection between the feature [+resultative] and the phi-features of corresponding participles.

#### 4.2. Feature-valuation and feature-interpretation of [+resultative] vs. [+perfective]: a distinct licensing position for agreeing vs. non-agreeing participles

The seminal works of Chomsky (1995, 2000, 2001a, b) postulate that the linguistic component of core or narrow syntax proceeds through the operations *Merge* and *Agree*, where *Merge* consists in the combination of two syntactic units from the Lexicon/Numeration (*external Merge*) in order to form a new syntactic unit, and *Agree* consists in that an element that acts as a *Probe* that searches for a *Goal*, which it must c-command, in order to value formal features (see also at the beginning of Section 2). Incidentally, the c-commanding spatial relation that is assumed in standard minimalist frameworks is dealt with in Section 4.3. Before that, the focus must be on the distinction *valued/unvalued* on the one hand, and *interpretable/uninterpretable* on the other.

In effect, formal features are characterized in the above-cited framework as based on the properties of valuation and interpretation, and specifically Chomsky (2001: 5) couples together both properties through positing that a feature is uninterpretable “if and only if it is also an unvalued feature.” In this framework, the interpretability of features, that is, the capacity that a feature has to contribute meaning to the lexical item it belongs to, and eventually to the sentence as a whole, is the force driving a derivation. Further, the valuation of features will entail the movement (or *internal Merge*) of the Goal in case the Probe has an EPP feature or property. If there is no such EPP feature on the part of the Probe, then the valuation of features (that is, *Agree* between Probe and Goal) will take place without movement (see also Section 3 above).

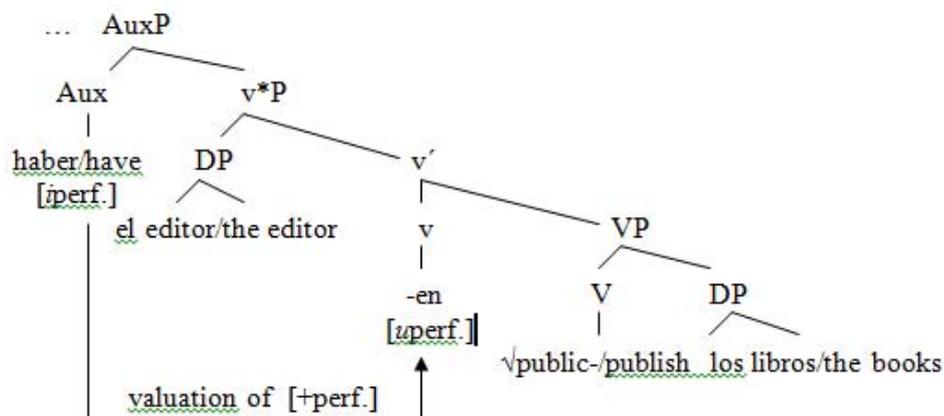
Pesetsky and Torrego (2001, 2004a, b) reject the biconditional established by Chomsky between valuation of features and their interpretability, and propose that each

such property works independently of the other, all combinations between the two properties being possible. On the authors' approach, the property of interpretability can be described as above, that is, as the semantic contribution that the feature in question makes to the item that bears it. As for feature valuation, Pesetsky and Torrego consider that this is the capacity of any given item to come from the Lexicon already specified for that property, in which case the feature in question is *valued* on that item; if, on the other hand, an item must borrow the property from another item, then the feature is *unvalued* on the borrowing item. One example to illustrate can be the  $\tau$ -features of T (typically, [+/-present]), which are interpretable on this head and unvalued, and happen to be uninterpretable on  $v$  and valued. T will act as a Probe for the Goal of  $v$ , with the result that T will value its  $\tau$ -features, and these will become interpretable for  $v$  itself.

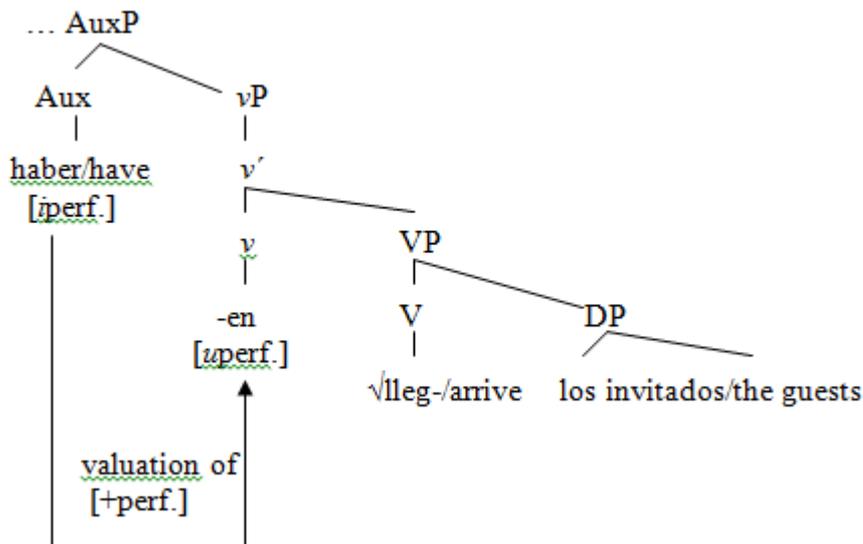
The above characterization of features as valued/unvalued and interpretable/uninterpretable must now be applied to the context of non-agreeing past participles on the one hand and agreeing past participles on the other.

Starting with non-agreeing participles, these forms have been shown in preceding Sections to occur in sequences with a logical subject and/or with a logical object, and to always appear in combination with the *have*-auxiliary – let us recall (5) and (6). The operation Merge that corresponds to any of the sequences in (5) or (6) will consist of a typical configuration where V s-selects for O(bject), with the two forming a VP as a result. After the Merge of V and O comes the Merge of a  $v$  head, which s-selects for S(ubject) and projects a Spec position for the latter: see tree-diagrams in (15). Incidentally, as assumed in standard frameworks, the  $v$  head is in charge not only of selecting a subject, but also of valuing the accusative Case-feature of O (that is, of the logical object or internal argument). Further, I would like to note that, for the sake of simplicity, only the relevant portion of derivation is shown on these two tree-diagrams, and in the three other tree-diagrams to appear in the Section, and that only the *Agree* operation that refers to the feature [+perfective], or later [+resultative], has been signalled. The notation [*i*] means “interpretable” and [*u*] means “uninterpretable.”

(15) a. Figure 1



b. Figure 2



Now, I assume that morphology is built up in narrow syntax and I take V to merge externally as a root-form and to license subsequently, in a higher position, corresponding inflectional affixes. In the case at hand, the cited inflectional affix is an *-en* suffix which lacks phi-features, and which has the meaning [+perfective], as argued in Section 4.1. The *-en* suffix of the participle is bound to be licensed by a head that c-commands the participle, which head is of course the *have*-auxiliary, which merges on top of vP: note again the diagrams in (15).

Based upon the above characterization of features, I would like to argue that [+perfective] is *interpretable* and *unvalued* on *have*, and that it is *uninterpretable* and *valued* on *v*. Now, the grammatical notion of perfectivity or anteriority is conveyed by *have* in combination with the (non-agreeing) *-en* participle (see in this regard the descriptive work of Ehrich, 1992). Neither the auxiliary nor the participle can be absent when it comes to the expression of an event or situation that is completed prior to another event or situation: the parameters of valuation and interpretation appear thus to be in complementary distribution as regards these two elements (though it must be recalled that all four combinations between valued/unvalued and interpretable/uninterpretable are arguably possible). For the *have*-auxiliary to select an *-en* form means that the Probe of *have* seeks for a Goal in the cited *-en* form. The very presence of the *have*-auxiliary in a sequence indicates the meaning of perfectivity or anteriority, hence the characterization of [+perfective] as interpretable on *have*: however, *have* cannot convey such a meaning on its own but needs to value [+perfective] through resort to another element in the Lexicon of the language that is present in the derivation, namely the participle form, hence the characterization of [+perfective] as unvalued on *have*. On the other hand, to say that [+perfective] is uninterpretable on the *-en* participle

does not contradict the fact that the *-en* participle is itself characterized as [+perfective], as has been argued in Section 4.1 above: [+perfective] actually means the completion of an event or situation prior to another event or situation and, strictly speaking, this can only be done by the *have*-auxiliary in combination with an *-en* form. In other words, if the *interpretation* of a sequence is perfective, then the *have*-auxiliary is chosen from the Lexicon or Numeration, and the form of the verb that must be instantiated is the cited *-en* participle.

Incidentally, it must be noted that the *have*-auxiliary figures in the position of Aux in the tree-diagrams in (15), though the possibility is open for it to be merged externally from the Lexicon into the T head. This is an aspect of the process of derivation that does not affect the core of the argumentation in the paper.

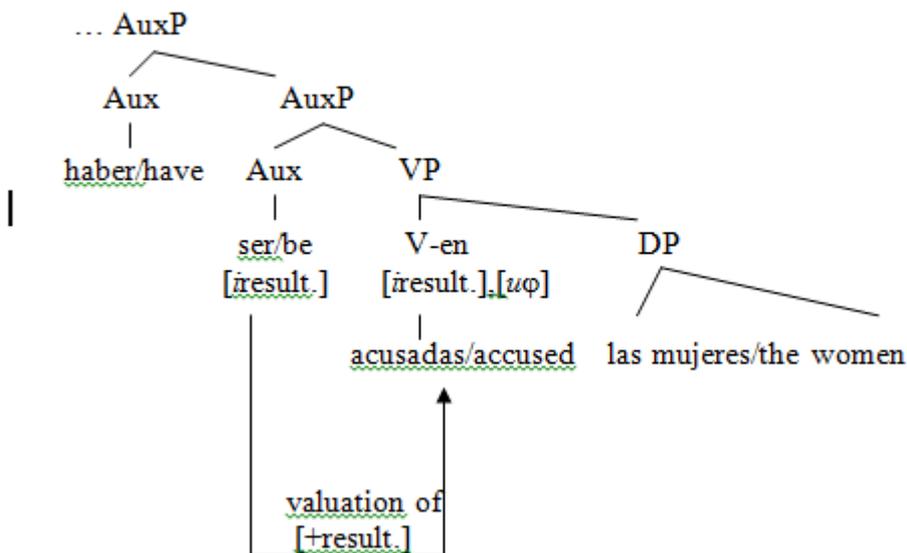
Summing up the discussion immediately above, the *-en* suffix of non-agreeing participles is located in *v*, and an *Agree* relation is established between the *have*-auxiliary and *V-en* in *v* by means of which *have* values its interpretable [+perfective] feature (marked [*i*+perf.] in the tree-diagrams in (15)) against the cited *V-en*. Now, such an analysis of non-agreeing *-en* forms is bound to contrast with the analysis to be provided for agreeing *-en* forms, since the latter occur in sequences where the nominal in question is a logical object or internal argument, and not a logical subject (let us recall the sequences in (1)–(4)) and they can be selected by the *be*-auxiliary (as in (1) and (2)) or otherwise occur on their own (as in (3) and (4)). Though the analysis of absolute small clauses is out of the scope of the paper (see Section 1), it is interesting to note that these structures are prone to receive a two-fold account, depending on whether an aspectual projection is considered to merge on top of the verbal phrase or not. However, reduced relative clauses (3) appear to be safely analyzed just like finite passive structures that happen to lack the *be*-auxiliary projection, which supports the idea that agreeing past participles can indeed be autonomous, that is that they do not require the presence of *be*.

Focusing now on agreeing past participles, these are argued in this paper to value phi-features on the one hand and a [+resultative] feature on the other (see Section 4.1 above). I would like to contend that the fact that they can occur on their own (as in (3) or also possibly (4)) means that the feature [+resultative] is both valued and interpretable on the participle itself, that is, on the *V-en* form in question. As for phi-features – that is, person and/or number and/or gender features – these are valued and uninterpretable on the participle, and valued and interpretable on the logical object or internal argument. The participle will thus value its phi-features against the object, and the object will value nominative Case.

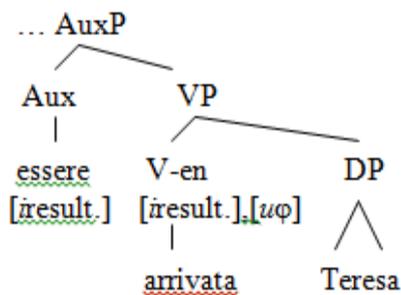
Now, given that both instances of features on the participle – phi-features on the one hand and [+resultative] on the other – can be licensed on external Merge of V with its object, and given also that *V-en* is not expected in agreeing past participle constructions to project any external argument position, that is, any subject position,<sup>5</sup> then it can be concluded that *V-en* is merged as such in V with the object as its sister. Thus, whereas the *-en* suffix of non-agreeing past participles is located in *v* (let us recall the tree-diagrams in (15)), the *-en* suffix of agreeing past participles is located in V in the

account proposed here: see the tree-diagrams in (16a, b).<sup>6</sup> V-*en* forms with the meaning [+resultative] are thus analyzed as merging from the Lexicon/Numeration as such V-*en* forms, and they must subsequently get their phi-features valued. Incidentally, the auxiliaries *have* and *be* can merge externally in an Aux projection above VP –as shown in (16a, b)– though the possibility exists, the same as in (15) above, for the auxiliaries to merge externally in the T head.

(16) a. Figure 3



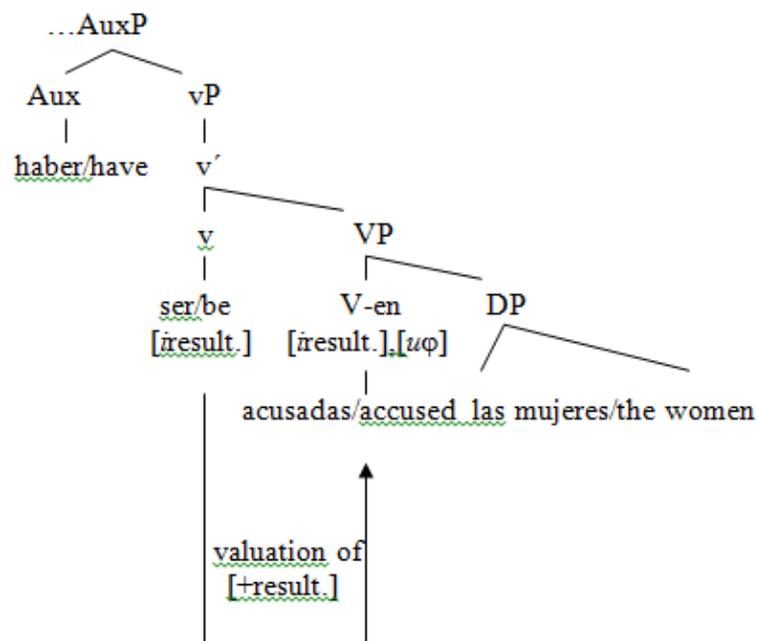
b. Figure 4



[+resultative] is a property of an entity or individual (namely, the object), and the *-en* forms bearing such a feature can occur with or without the *be*-auxiliary. As just mentioned, [+resultative] is valued and interpretable on V-*en*. In case V-*en* co-occurs with the *be*-auxiliary, then [+resultative] is interpretable and unvalued on *be*, which would explain that *be* must select a V-*en* form, though [+resultative] is still valued and interpretable on V-*en* itself, which element can occur on its own. The corresponding notation appears on the trees in (16a, b).

Now, as noted from the beginning of the paper, the aim of the present discussion is not to analyse passive structures proper, or the contrasts between the various types of passives. Nevertheless, I would like to observe that the possibility exists for eventive or agentive passives – that is, passives like the one illustrated in (1) – and also for movement structures as those in (2) to be analyzed as projecting a *v* head where *be* itself is merged (see the tree-diagram in (17)). Once more, I would like to say that such issues are out of the scope of this paper, and that the major goal of the present discussion is to present an analysis of the *-en* suffix of agreeing past participles as valuing different features from those of non-agreeing past participles, and also as merging in different positions in the derivation.<sup>7</sup>

(17) Figure 5



Summing up, the core argument in this Section, and actually the core argument of the paper, is that phi-agreement in *-en* participles occurs because the relevant verbal element denotes the property [+resultative] about the object that it selects, which *Agree* relation between the participle and the logical object can further be considered to take place with *V-en* in the typical V position of external Merge – without any need of internal Merge into higher *v*. Such sequences as (7), repeated below with the same numeration, are ungrammatical because the feature that the relevant *V-en* forms value is [+perfective], which does not relate to an object or individual, but to an event or situation as a whole. Therefore no phi-*Agree* relation obtains between the two.

- (7) a. \*Jean a vue la fille  
 Jean has seen<sub>fem.,sing.</sub> the girl<sub>fem.,sing.</sub>  
 ‘Jean saw her’
- b. \*Abbiamo salutate le ragazze  
 we-have greeted<sub>fem.,pl.</sub> the girls<sub>fem.,pl.</sub>
- c. \*El editor ha publicados los libros  
 the editor has published<sub>masc.,pl.</sub> the books<sub>masc.,pl.</sub>

I would like to note that the analysis proposed here is perfectly compatible with the theory of adverb-placement formulated in the influential work of Cinque (1999), or also in Blight (1999), according to which English *passive* participles (our agreeing participles valuing [+resultative]) appear to occupy a position lower than *active* participles (our non-agreeing participles valuing [+perfective]). Note the illustrations in (18) below.

- (18) a. The house was poorly built  
 b. \*They (have) poorly built the house  
 c. They (have) built the house poorly  
 (Blight 1999, in Caponigro and Schütze, 2003: 297)

On the account proposed here, for the adverb *poorly* to be possible in between the participle and the *be*-auxiliary, but not in between the participle and the *have*-auxiliary would indicate that the corresponding V-*en* element can itself be modified with manner adverbs, independently of the *be*-auxiliary. This is not possible with non-agreeing *-en* participles, which are located in *v* –and the same situation would apply to finite forms, also located in *v*.<sup>8</sup>

#### 4.3. In what configuration does Phi-agreement occur?

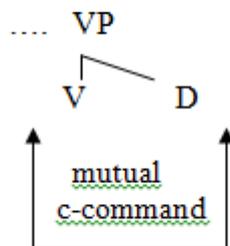
In this last Section of the paper I focus briefly on the c-command condition typically invoked for any *Agree* relation generally speaking in an Antisymmetry account of minimalist syntax.

Chomsky’s framework (1995 et seq.) defends that there is no specific order of Merge of elements into narrow syntax (so-called *Bare phrase structure* model of syntax) and, as is widely known, this is a view that contrasts quite strongly with the highly-influential model of *Antisymmetry* theory, originally postulated by Kayne (1994). The recent work of Kayne (2011/2013) establishes that Merge is bound to abide by the Spec-head-complement order of classical Antisymmetry theory, since every instance of Merge entails a relation of *Agree* between a Probe and a Goal, which is an *asymmetric c-command relation*. As is well known, the so-called *Linear Corresponding Axiom (LCA)* of Antisymmetry theory postulates that the above-cited universal base order results without exception from the condition that if an element  $\alpha$  c-commands an element  $\beta$  (that is, if  $\beta$  is dominated by a sister of  $\alpha$ ) then  $\beta$  may not c-command  $\alpha$  in the phrase-marker.

Antisymmetry theory has been criticized over the years on various fronts, one of these being the supposed weakness of the claim that VO, rather than OV, is bound to be the original order of Merge. The argument (against Antisymmetry or LCA theory) is that the relation between V and a pronominal O s-selected by V amounts to a relation between two heads, which is a totally symmetric relation, since V c-commands O and O c-commands V (the so-called *bottom-pair problem*).

Now, though the issue of linearization within narrow syntax is marginal to the present discussion, I must say something about the condition relative to asymmetric c-command between a Probe and a Goal, since I have argued in the core of the paper that phi-agreement between V-en and the logical object occurs in the position of external Merge of V: in that case, if O is analyzed as a head (more specifically, if O happens to be a D head), then the Probe of V-en does not asymmetrically c-command its Goal. See the tree-diagram in (19).

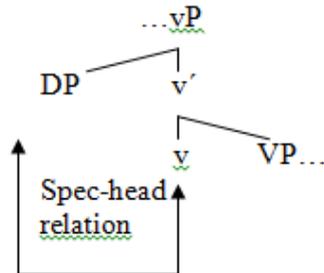
(19) Figure 6



I would like to say that I assume an Antisymmetry model in my research in syntax on a general basis, and that relations of *Agree* appear indeed to be typically based on an asymmetric c-command configuration: this is the case between the Probe of T and *v* as regards  $\tau$ -features (as standardly assumed), or the Probe of Aux and *v* as regards e.g. the feature [+perfective] or [+progressive] (again as standardly assumed), or also the Probe of Aux and V as regards the feature [+resultative] (as argued here). In all such cases, the Probe c-commands the Goal but not the reverse. However, I would like to suggest that maybe the specific relation of *Agree* that is phi-agreement does *not* necessarily abide by the condition of asymmetric c-command.

Now, in work in press I deal with phi-agreement in relation to the phenomenon of V-to-T movement, and I argue that phi-features in (ordinary) non-participial, finite structures are valued between *v* and the DP subject in its Spec position, and that the relevant valuation is completed on T's valing  $\tau$ -features against *v*. See the tree-diagram in (20).

(20) Figure 7



I support such an analysis by means of two arguments: on the one hand, the fact that the content or interpretation of phi-features on the subject nominal (that is, of person and/or number and/or gender features) are known by  $v$  on the external Merge of the cited subject nominal in Spec, $v$ , at a stage prior to T acting as a Probe for S; on the other hand, the fact that verbal paradigms of languages other than English (typically, Romance languages) figure distinctive morphology relative to tense and to agreement, which is in accord with a systematic building up of the verbal form in question through narrow syntax. The account that I defend is reminiscent of the original (pre-minimalist) analysis postulated by Pollock (1989) according to which agreement features are licensed separately and *before* tense features.

All in all then, in work in press I defend the view that phi-features between a finite verb and a subject nominal are valued in a Spec-head configuration, and in the present paper I defend the view that phi-features between a past participle and an object nominal are valued in a head-complement configuration that can be one of symmetric c-command. In both cases it is argued that phi-agreement occurs at the moment of external Merge in the derivation of the element bearing interpretable valued phi-features, which element is typically a nominal. A conclusion that seems to me to be thus far explanatory is for phi-agreement not to be subject to asymmetric c-command, but to the cited external Merge of the nominal in question.

## 5. Conclusion

I have argued in this paper that agreeing past participles differ from non-agreeing past participles in that the former enter the derivation endorsed with a feature [+resultative] whereas the latter must value a feature [+perfective] or [+anterior] against the *have*-auxiliary. For agreeing V-*en* forms to be merged already in V is compatible with the fact that such participles do not need the occurrence of the *be*-auxiliary, together with the fact that they denote the meaning [+resultative], which is a property of the logical object or internal argument, which merges, as standardly assumed, as sister to V.

The main point of the overall argumentation is that phi-agreement (between the corresponding V-*en* form and the logical object) occurs because the meaning [+resultative] denotes a property of the logical object, as just mentioned. The V-*en* form

with the valued, interpretable feature [+resultative] comes to establish an *Agree* relation with the object in order to value its (that is, the participle's) uninterpretable phi-features. In contrast with these *V-en* forms, those *V-en* forms that do not show agreement are obligatorily selected by the *have*-auxiliary. They are argued to merge in V (in the form of a root) and to raise subsequently to the *v* head, where they will value the *-en* suffix with an uninterpretable feature [+perfective] as soon as the *have*-auxiliary merges on top of *vP*. In accord with the above argumentation, no phi-agreement occurs whenever the *V-en* form values a feature [+perfective] because the latter is a property of the overall event as expressed by the sentence, and not a property of the object.

The proposed account appears to justify the fact that whereas all agreeing past participles in general s-select for a logical object, non-agreeing past participles *can* actually occur in structures with a logical object and no logical subject, namely, unaccusative structures with verbs of movement or with inchoative verbs in languages like Spanish or English. This latter fact seems to be left unexplained in seminal GB analyses, or in the minimalist phase-based analysis of D'Alessandro and Roberts (2008). An account like D'Alessandro and Roberts' is not explanatory enough from the perspective of the present paper not only because it restricts itself to treating past participle agreement as a morpho-phonological phenomenon rather than a narrow syntax phenomenon, but above all because it does not seem able to derive a sentence where participles of unaccusative verbs select for objects with which they nevertheless do not agree, as suggested immediately above.

In the last part of the paper I develop in a brief way the observation that the precise *Agree* relation that is phi-agreement appears not to be subject to the condition of asymmetric c-command, but that phi-agreement occurs in the configuration of external Merge of the nominal carrying the relevant valued, interpretable phi-features.

## Notes

1. It is well known that languages like French or Italian tend to use agreeing participles in perfective sentences with the *have*-auxiliary whenever the logical object is a clitic: see (i) below. I would like to observe that this structural type could possibly be put in connection with the original use of the *have*-auxiliary (that is, of perfective *have*) as the canonical predicate meaning possession (see also (12) in Section 2). Due to space limitations, this issue, which includes the issue of clitics and therefore the VO/OV order, are not dealt with in the present paper.

- (i) a. Jean l'a                      vue  
       Jean her<sub>fem.,sing.</sub> -has seen<sub>fem.,sing.</sub>  
       'Jean saw her'
- b. Le                      abbiamo salutate  
       them<sub>fem.,pl.</sub> we-have greeted<sub>fem.,pl.</sub>  
       'We have greeted him'

2. See Section 4.1 and 4.2 for a more detailed description of the notions of Probe and Goal, and of the operations Merge and Agree.

3. The meaning of “state” that is relevant includes both *temporary* states and *permanent* states, as distinguished in the literature (see e.g. Kratzer, 2000).

4. The goal of the present paper is not to defend any logico-semantic analysis of *perfectivity*, or of the present perfect in particular. Nonetheless, it seems appropriate to note that, aside from the Reichenbachian description as mentioned in the text, a very influential analysis is that of the present perfect as an *extended now* (see e.g. the work of Dowty, 1979).

5. Let us recall the existence of sequences like (i) in note 1 above. These are bound, however, to receive a separate treatment.

6. As for nominative Case on the object, this is of course a thorny issue in the literature. As is widely known, Chomsky (2000, 2001a, b) invokes phi-defectivity on the past participle, which would have number and gender features to value, but not person features, with the result that the object becomes available as a Goal for the Probe of T, and values above-cited nominative Case. Nevertheless, this kind of explanation is criticized in the literature on the grounds that it treats Goals as Probes themselves: in effect, it is so entailed that, if nominals have a person feature, then there must be a Probe in need to value such a feature. I endorse the general idea that Case is the counterpart of phi-agreement, as in the above framework, though the issue of where exactly in the derivation does the valuing of nominative Case apply belongs to work in preparation. Incidentally, it is well known that Pesetsky and Torrego (2001, 2004a) defend an analysis of Case where this is a tense-feature on the nominal, rather than the result of phi-feature valuation, as in Chomsky’s framework.

7. It is interesting to note that Embick’s (2004) analysis, which follows the tenets of *Distributed Morphology*, argues for different flavours of the little *v* head that would correspond to the different types of passives, and locates the *-en* morpheme in an Aspectual head above *v*P. Embick’s approach aims to justify the syntax and morphology of deadjectival verbs, and also of so-called resultative secondary predicates, and their connections with resultative passives proper, which means that the portion of structural analysis provided by the author as applying in between the root element and *v* is a fine-grained one. The reader is referred to Embick (2004: 383).

8. It is fair to note that Caponigro and Schütze (2003) postulate different heights of raising (that is, of internal Merge) for participles in passive constructions vs. participles in active constructions, though there exist major differences between the authors’ approach and the one defended here. Briefly put, Caponigro and Schütze (2003) focus on passives introduced by expletive *there* and their analysis relies very heavily on adverb-placement. Assuming a Spec,AgrOP framework for the licensing of objects rather than a feature-valuing framework as based on *Agree*, the authors reach the conclusion that Italian participles raise higher than English participles, an idea that is not contemplated at all in the present discussion.

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