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A syntactic account of auxiliary selection in French

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Abstract: This article presents a modern theoretical approach to auxiliary selection in Standard European French. Assuming that HAVE and BE are allomorphs spelling out the functional head v_{Aux} , it argues that the person feature identity of v_{Aux} plays a central role in determining auxiliary choice: BE is inserted when T and v_{Aux} share the same person feature identity, and when identity differs, HAVE obtains. Crucially, and unlike most analyses in the literature, this simple proposal provides a unified account of auxiliary selection for unaccusatives, transitives, and reflexive verbs. It explains why reflexive transitives pattern with unaccusatives, and as a result, the analysis challenges the view that auxiliary selection is sensitive to argument structure. A key assumption here is that HAVE functions as the elsewhere auxiliary.

Keywords: auxiliary selection; French; Agree; reflexive verbs; clitics; argument structure

1 Introduction

The primary objective of this article is to provide a formal syntactic analysis of auxiliary selection in French, which is lacking in the existing literature.¹ As is well known, French verbs form compound tenses with either HAVE or BE; however, the conditions governing the selection of each auxiliary require a refined formulation. While formal studies on auxiliary selection have primarily concentrated on Italo-Romance varieties (Amato 2021, 2022, 2023; D'Alessandro and Roberts 2008, 2010; D'Alessandro and Ledgeway 2010; D'Alessandro 2017; Kayne 1989), it is now time to

¹ I would like to thank the two anonymous reviewers for taking the time to offer valuable feedback and suggestions on this paper, leading to the present version. Any remaining mistakes are solely my own.

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turn our attention to French and examine the syntactic mechanisms governing its auxiliary system.

Traditionally, the explanation put forward in the literature is that auxiliary selection connects to argument structure: verbs that select an External Argument (EA) select *HAVE*, whilst those that do not select *BE*. Indeed, transitives (1a) and unergatives (1b) pattern with *HAVE*, whereas unaccusatives pattern with *BE* (1c). Nonetheless, it does not straightforwardly explain why reflexive transitive verbs, which select an EA, take *BE* (1d).

- (1) a. Charlie a visité une ferme
 C. has visit-PTCP a farm
 ‘Charlie visited a farm’
 b. Charlotte a téléphoné
 C. has phone-PTCP
 ‘Charlotte phoned’
 c. Léon est parti
 L. is leave-PTCP
 ‘Léon left’
 d. Léonie s’est teint les cheveux
 L. REFL=IS dye-PTCP the hair
 ‘Léonie dyed her hair’

The aim of this article is to offer an analysis that accounts for the data in (1) without resorting to additional mechanisms for reflexive transitives. In essence, I build on existing literature to argue that auxiliary selection is best explained as the result of Agree on the functional head that merges the auxiliary. Specifically, I propose that two configurations exist: either the auxiliary and T have an identical person identities, or they do not. In the former case, which results in the selection of *BE*, we find either promotion of the Internal Argument (IA) to subject position in TP, or climbing of the reflexive clitic to the auxiliary. As will be shown in detail, these operations yield identical person indices between the auxiliary and T. Where *HAVE* is found however, T’s person feature is valued by the EA, while the auxiliary head’s is valued by the IA.²

I begin by depicting the empirical view in Section 2, where I exemplify verbs paired with each auxiliary. Section 3 offers a comprehensive overview of previous approaches to auxiliary selection and past participle agreement, followed by the

² In anticipation of the analysis developed in the present article, T’s features spell out morphological agreement between the subject and the auxiliary verb, as is standardly assumed. I argue that the auxiliary head, v_{AUX} , copies the person value of the IA, which is responsible for the spell out of allomorphs *BE* and *HAVE* depending on the syntactic environment.

introduction of my formal proposal in Section 4. This proposal is subsequently applied to unaccusatives in Section 5, transitives in Section 6, and reflexive verbs in Section 7. Section 8 provides concluding remarks.

2 Empirical view

2.1 HAVE-selecting verbs

As noted in the introduction already, non-reflexive verbs that select an EA form compound tenses with HAVE in French. This category includes all unergatives (2), transitives (3), and ditransitives (4).

- (2) Elle a travaillé
 she has work-PTCP
 ‘She worked’
- (3) Cannelle a écrit une lettre
 C. has write-PTCP a letter
 ‘Cannelle wrote a letter’
- (4) Chloé a envoyé un livre à Mathilde
 C. has send-PTCP a book to M.
 ‘Chloé sent Mathilde a book’

Past participle agreement morphology is found under a specific condition, namely when the IA linearly precedes the verb, whether it is a clitic (5) or a pre-posed DP (6).

- (5) Cannelle l’a écrite (la lettre)
 C. 3SG-FEM=has write-PTCP-FEM (the letter)
 ‘Cannelle wrote it (the letter)’
- (6) La lettre que Cannelle a écrite
 the letter that C. has write-PTCP-FEM
 ‘The letter Cannelle wrote’

As is well known, past participle agreement morphology tends to be optionally realised in colloquial French (Audibert-Gibier 1992; Blanche-Benveniste 2006; Georgi and Stark 2020; MacKenzie 2013; Stark 2015). It is silent on most verbs, where it is only present in orthography, and only gender agreement can have a morphophonological realisation. There is, however, a phonological condition: as illustrated in examples (5) and (6), the participle must end in an underlying obstruent for agreement to be overt. An anonymous reviewer points out, however, that in Swiss French, agreement is

realised as an offglide [j] after a vowel, making it much more audibly frequent.³ They give the following examples and transcriptions for *aimée* (7a) and *vue* (7b).

- (7) a. La femme que j'ai [emej] (Swiss French)
 the woman that I=have love-PTCP-FEM
 'The woman I loved'
- b. La femme que j'ai [vyj]
 the woman that I=have see-PTCP-FEM
 'The woman I saw'

This brief overview concludes the distribution of HAVE and its link to past participle agreement morphology, for which I review formal accounts in Section 3.2. Let us now turn to the distribution of BE.

2.2 BE-selecting verbs

Unaccusatives (8) select BE, and past participle agreement morphology systematically spells out, independently of the linear order of constituents, as shown with (9).⁴

- (8) Sophie est morte ainsi
 S. is dead.FEM thus
 'Sophie died like this'
- (9) Ainsi est morte Sophie
 thus is dead.FEM S.
 'Thus died Sophie'

Reflexive verbs also pattern with BE, whether they select one (10) or two (11) arguments.

³ The anonymous reviewer adds that this overt agreement realisation is productive in the cantons of Geneva, Vaud, and Valais at least, and may reflect a Franco-Provençal substrate.

⁴ A particularity of Standard French is that some unaccusatives form compound tenses with HAVE, as shown in (i) and (ii). I leave these irregular predicates for further research.

- (i) Alain a disparu
 A. has disappeared
 'Alain disappeared'
- (ii) La neige a fondu
 the snow has melted
 'The snow melted'

- (10) Il s'est déroulé une cérémonie importante ici
EXPL REFL=IS unfold-PTCP a ceremony important here
 'Here took place an important ceremony'
- (11) Hélène s'est achetée une maison
H. REFL=IS buy-PTCP a house
 'Hélène bought herself a house'

Unlike unaccusatives, agreement is only ever found if the IA precedes the past participle (this is similar to the pattern identified with verbs that select HAVE), contrast (10) with (12), and (11) with (13).

- (12) Une cérémonie importante s'est déroulée ici
a ceremony important REFL=IS unfold-PTCP-FEM here
 'An important ceremony took place here'
- (13) La maison que Hélène s'est achetée
the house that H. REFL=IS buy-PTCP-FEM
 'The house Hélène bought herself'

The remainder of this paper will refer to the constructions exemplified here, for which it will offer a formal account.

3 State of the art

3.1 Previous approaches to auxiliary selection

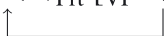
Auxiliary selection shows significant crosslinguistic variation in Romance (for instance, Schifano, Silvestri & Squillaci 2016 report 8 different patterns, see also Manzini and Savoia 2005 for a thorough documentation across different Romance varieties). The discussion that ensues aims at setting the scene for a formal analysis of auxiliary selection in French.

Bentley and Eythórsson (2004) build on Sorace (2000) in arguing for two semantic classes of unaccusatives: a core class (BE is systematically found) and a peripheral class (auxiliary selection is subject to crosslinguistic or crossdialectal variation). By analysing crosslinguistic data, these authors claim that the distribution of HAVE and BE does not systematically connect to the presence of absence of an EA, and therefore cannot be determined by syntax. They instead develop an account whereby auxiliary selection is a morphological rule sensitive to the semantics of predicates. Admittedly, Bentley and Eythórsson (2004) face the issue of exceptional cases in Standard French (for instance *changer* 'change' takes HAVE

whereas *rester* ‘stay’ takes _{BE}), and they postulate that _{BE} in Canadian French is a historical residue subject to frequency. Whilst their proposal makes interesting predictions, the tests they use to assess the semantic connection between a given predicate and its selected auxiliary are all based on Italian examples and do not apply to French. Furthermore, Bentley & Eythórsson’s (2004) semantic analysis does not readily explain auxiliary selection with reflexive verbs and requires the assumption of a morphological [+pronominal] feature that overrides semantic criteria. The motivation for the connection between [+pronominal] and _{BE} is not clear and is seemingly *ad hoc*.

Within a syntactic analysis, Bjorkman (2011) assumes that the auxiliary is the Spell Out of a Perf(ective)-head sandwiched between TP and VP and argues that auxiliary selection results from agreement or lack thereof between Perf and V: _{BE} surfaces when Agree holds, whereas the presence of an intervening EA between the two heads blocks Agree and yields _{HAVE}. As a result, auxiliary selection directly connects to the presence or absence of an EA (*contra* Bentley and Eythórsson 2004). Her proposal includes the view that semantics is involved in the case of peripheral unaccusatives, and she remains agnostic with regards to auxiliary selection with reflexive verbs. As already discussed in Section 2, French showcases predicates that select an EA and form compound tenses with _{BE}, therefore this proposal can only account for a subset of verbs.

Building on D’Alessandro and Roberts (2008, 2010) propose an iterated vP (14), where v_{Aux} spells out the auxiliary and v_{Prt} the past participle. The V-head incorporates with v_{Prt} to form the past participle.

$$(14) \quad [v_{\text{Aux}}P \ v_{\text{Aux}} \ [v_{\text{Prt}}P \ EA \ V + v_{\text{Prt}} \ [vP \ \overline{V} \ IA \]]]$$


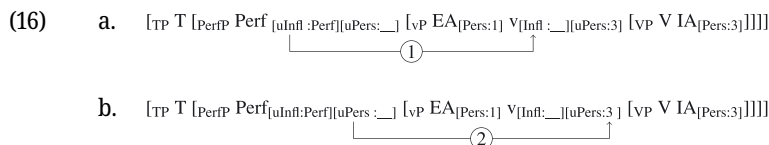
They argue that v_{Aux} is realised as _{HAVE} or _{BE} depending on its set of valued features at Spell Out and intend a generalisation whereby v_{Aux} surfaces as _{HAVE} if its v_{Prt} -complement is non-defective (i.e., a v-head is non-defective when it assigns an external θ -role, and probes the direct object’s ϕ -features and licences its Case feature, as proposed by Chomsky 2001: p. 43). As these authors point out, this generalisation does not account for the presence of _{BE} with reflexive verbs that are non-defective (i.e., those that select both an EA and an IA).

In a recent series of works on Italo-Romance, Amato (2021, 2022, 2023, 2024) takes the auxiliary to be the Spell Out of Perf, a functional head merged between TP and vP (this structure is not different from the ones proposed by D’Alessandro and Roberts 2008, 2010; Bjorkman 2011). Her proposal relies on the assumption that the allomorph is conditioned by the formal features valued on Perf: the IA’s ϕ -features are probed by v first, enabling Perf to copy the IA’s person values as they appear on v. Given the

undesirable effect that the EA acts as an intermediate potential goal, as shown in (15), Amato (2021, 2022) puts forth the mechanism of Nested Agree, which formalises the order in which instances of Agree take place when a given head has more than one feature.⁵



Accordingly, as illustrated in (16), Perf is merged with a valued probe Infl that establishes an Agree relation with v (16a).⁶ This operation, she argues, allows Perf to further exploit this channel with v, allowing for [uPers] to probe its value as in (16b). This proposal elegantly captures how the IA's person features are copied on Perf despite the EA being the closest potential goal.



Based on this derivation, and in the context of Standard Italian (which shows a pattern comparable to that of Standard French), Amato (2022) argues that HAVE yields where Perf copies v's inherited person feature (i.e., with transitives and unergatives),⁷ whereas BE obtains where Agree fails, assuming that unaccusative v-heads are not ϕ -probes. Nonetheless, this proposal does not capture why we find BE with reflexive transitive verbs that select a post-verbal direct object: in this context, v and Perf should Agree, which incorrectly predicts HAVE. In Amato (2023: pp. 65–69), she addresses this issue in postulating that the reflexive clitic is merged in the specifier of an applicative head between v and V (17). In this configuration, the IA is out of reach from v, which probes the reflexive clitic instead. The reflexive, she argues, bears an unvalued person feature when it enters the derivation. Agree stops upon finding the

5 NESTED AGREE (Amato 2021: p. 62):

Let F_1 and F_2 be two ordered probes on the same head H . The search space of F_1 is the c-command domain of H .

(i) If the Agree operation A_1 for the feature F_1 has targeted the goal G , then the subsequent Agree operation A_2 for the feature F_2 must also target G .

(ii) If G is not a goal for F_2 , the search space of F_2 is the c-command domain of G (not of H).

6 Amato's (2021, 2022, 2023) proposal goes against the more traditional view that unvalued probes c-command goals (Chomsky 2000, 2001). The operation in (16a) is akin to upward Agree (Baker 2008; Bjorkman and Zeijlstra 2014; Deal 2023; Preminger 2013; Zeijlstra 2012), also postulated by Bjorkman (2011) and Wurmbrand (2012) in the context of past participle morphology.

7 Regarding unergatives, Amato (2022) assumes that *v* bears a valued ϕ -feature as default, as proposed in Hale and Keyser (1993) and D'Alessandro and Roberts (2010).

matching unvalued feature, leading to *v* not obtaining a person value for *Perf* to probe, and spelling out *BE* as described above.

(17)



Whilst French auxiliary selection is ‘argument-structure-driven’, let us briefly consider ‘person-driven’ systems where the choice of the auxiliary depends on the person features of the subject.⁸ D’Alessandro and Ledgeway (2010) and D’Alessandro and Roberts (2010) analyse this issue in Abruzzese, and they reach the conclusion that *BE* spells out when a higher *v*-head agrees with the subject, which convincingly suggests that the functional head spelling out the auxiliary is associated with unvalued person features, at least in some varieties. This hypothesis is further developed by D’Alessandro (2017), who introduces structure (18) where the π -head is a ϕ -bundle (the content of which is language-specific) spelling out the auxiliary. Further, this author argues that the (content of the) *v*-head is scattered between *v* itself and π , thus forming a COMPLEX PROBE (I return to this notion in Section 4).

(18) [TP T [π_P π_{Aux} [VP EA **V_{Prt}** [VP V IA]]]]

Although not articulated in the context of French, this proposal entertains the notion that auxiliary selection interacts with (a subset of) ϕ -features. D’Alessandro (2017) convincingly argues that the Spell Out of the auxiliary-head is dependent on the goal(s) probed by *T* and/or *v*, as previously formulated by D’Alessandro and Roberts (2010). As further demonstrated by Amato (2022, 2023), there may be bridges between ‘argument-structure-driven’ and ‘person-driven’ systems.

The common theme identified here centres on the ϕ -features as they appear on the auxiliary, in particular for person. I will show that the same assumption can account for auxiliary selection in French, yet before doing so, let us consider how to account for past participle agreement morphology or lack thereof.

3.2 Syntactic approaches to past participle agreement

The objective of this paper is to offer a novel analysis of auxiliary selection. As exposed in the empirical discussion of Section 2, past participle agreement

⁸ French is described as an ‘argument-structure-driven’ system since auxiliary selection appears to be sensitive to argument structure (an idea I argue against, but the label is common in the literature and holds true in most cases). Let us briefly illustrate a ‘person-driven’ system: in Ariellese for instance, a variety of (Eastern) Abruzzese, first and second person subjects form compound tenses with *BE*, whereas third person subjects select *HAVE* (see D’Alessandro 2017 for further illustration and discussion).

morphology represents the opposite side of the coin and cannot be ignored. It is treated as a peripheral issue throughout the paper, yet the proposal ensures its accurate realisation. A comprehensive review of the literature is therefore essential, as it contributes to a more nuanced understanding of the syntax of compound tenses and of the featural makeup of the relevant functional heads.

Within an earlier generative framework, Kayne (1989) puts forward a unified theory proposal to account for both finite verb agreement with the subject and past participle agreement with the IA in French and Italian. Given that past participle agreement surfaces when the IA (clitic or full DP) linearly precedes HAVE, Kayne (1989) argues that the functional head Agr taking VP in its complement spells out agreement when the IA transits through its specifier (19b–19c), a proposal that Belletti (2006) adopts and builds on. The specifier of VP remains empty with a post-verbal IA (19a), therefore the past participle does not morphophonologically agree with it. This proposal, however, does not straightforwardly capture why agreement is found on the past participle when the auxiliary is BE and the IA post-verbal.

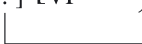
- (19) a. $[_{IP} I [_{AgrP} Agr [_{VP} V_{Prt} [_{DP} IA]]]]$
 b. $[_{IP} I [_{AgrP} [_{DP} IA]_i Agr [_{VP} V_{Prt} [_{ClP} [_{DP} IA]_i]]]]$
 c. $[_{XP} [_{DP} IA]_i \dots [_{IP} I [_{AgrP} e_i Agr [_{VP} V_{Prt} [_{DP} IA]_i]]]]$

Within a Minimalist framework (and replacing Agr with v), D'Alessandro and Roberts (2008) note that v ϕ -probes the IA in (19a), which incorrectly predicts the Spell Out of agreement morphology. To address this issue, these authors argue that the agreeing elements (i.e., the IA and the past participle) must belong to the same phase at Spell Out for past participle agreement morphology to obtain (prosodic phrases are assumed to derive from Transfer domains, cf. Chomsky 2001). When the predicate is transitive, v_{Prt} assigns an external θ -role and functions as a phase boundary, therefore past participle agreement is set to default if the IA remains *in situ* (20a), as the two agreeing elements are in different Transfer domains. When the IA is a clitic (20b), however, agreement is triggered since it lands within the same domain as the past participle (v_{Aux} is not assumed to ever be phasal).

- (20) a. $[_{v_{Aux}P} v_{Aux} [_{v_{Prt}P} EA V+v_{Prt} [_{u\phi:}] [_{VP} \forall IA [_{\phi}]]]]$
 b. $[_{v_{Aux}P} IA [_{\phi}] +v_{Aux} [_{v_{Prt}P} EA V+v_{Prt} [_{u\phi:}] [_{VP} \forall IA]]]$

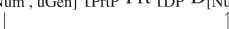
Turning to unaccusatives (21), v_{Prt} does not select an EA. Because its phasehood is deactivated, the IA is spelled out in the same domain as the past participle, its probe.

As a result, D'Alessandro & Roberts' (2008) analysis correctly predicts that past participle agreement morphology occurs in both (20b) and (21).

$$(21) \quad [{}_{v_{AUX}P} \ v_{AUX} \ [{}_{v_{Prt}P} \ V+v_{Prt} \ [{}_{u\phi:} \] \ [{}_{VP} \ \forall \ IA \ [{}_{\phi} \] \]]]$$


This proposal elegantly captures the distribution of past participle agreement morphology with a straightforward explanation. Nevertheless, it does not readily account for the Spell Out of agreement with A'-movement, unless one posits that intermediate traces are taken in consideration (which should not pose a problem, as an anonymous reviewer points out).

Building on D'Alessandro & Roberts' (2008) hypothesis, Kobayashi (2022) proposes that *v* (which spells out the participle) bears unvalued features for gender and number only, and that agreement morphology depends on the type of Agree operation in place (i.e., either Minimal Agree or Full Agree). In Minimal Agree, due to minimal computation, the probe targets only the highest head of the phrasal complement, minimally valuing its ϕ -features (e.g., number only). Full Agree, on the other hand, occurs when the probe finds a match for all of its ϕ -features.⁹ Specifically, with a post-verbal IA, the ϕ -probe *v* searches for matching values within its complement and halts upon encountering the first match: this is Minimal Agree (22).¹⁰ According to Kobayashi (2022), past participle agreement morphology is realised at Spell Out only when the complex head *Prt+v* finds matching values for all of its features (i.e., both gender and number). In other words, a minimally valued participle spells out in its default agreement form.

$$(22) \quad [{}_{v_{AUX}P} \ v_{AUX} \ [{}_{VP} \ EA \ Prt+v \ [{}_{uNum, uGen} \] \ [{}_{PrtP} \ Prt \ [{}_{DP} \ D \ [{}_{Num} \] \ [{}_{NP} \ N \ [{}_{Gen} \] \]]]]]$$


With a non-phasal *v* however (i.e., when *v_{AUX}* spells out as *BE*), the IA and *Prt+v* are contained within the same Transfer domain (23). Upon landing of the IA into the specifier of TP, the Spec-Head relation values *T*'s ϕ -features, and the search continues within the phase, leading to full valuation of *Prt+v*'s ϕ -features and spelling out past participle agreement morphology in gender and number.¹¹

⁹ According to Kobayashi (2022), Full Agree is necessary to label phrase nodes, whereas Minimal Agree suffices when no labeling issue arises.

¹⁰ Kobayashi (2022) assumes that the participle head *Prt* moves to *v* (a non-defective *v* with *HAVE*, and a defective *v* with *BE*). The head *v_{AUX}* is never phasal in this context.

¹¹ In (23), the moved DP enters in a probe-goal relationship with two probes, *T* and *Prt+v*. This is essentially a phenomenon of Multiple Agree (Carstens 2001; Hiraiwa 2001; Nevins 2011).

- (23)
- $$\begin{array}{c}
 \text{[TP IA[Pers, Gen, Num] T[uPers, uGen, uNum] [vAuxP vAux [vP Prt+v[uGen, uNum] [PrnP Prt [DP} \\
 \text{IA]]]]]}
 \end{array}$$

Based on the empirical observation that past participle agreement morphology tends to be optionally realised in colloquial French with object clitics, Kobayashi (2022) further argues that Prt+v can agree with either the lower copy of the clitic (i.e., this is the mechanism exposed in (22)), yielding default agreement, or with the moved clitic (similar to how agreement obtains with a moved IA (23)). The structure of past participle agreement morphology or lack thereof with object clitics is given in (24): option 1 yields agreement, whereas option 2 does not.

- (24)
- $$\begin{array}{c}
 \text{[vAuxP IA}_{\text{clitic}} \text{ +vAux [vP EA Prt+v [uNum, uGen] [PrnP Prt [DP IA}_{\text{clitic}}]]]} \\
 \text{①} \qquad \qquad \qquad \text{②}
 \end{array}$$

In sum, Kobayashi (2022) offers a powerful analysis that correctly predicts the distribution of past participle agreement morphology as found in French.

The asymmetry of past participle agreement morphology between pre-verbal clitics and post-verbal lexical objects is also tackled by Manzini (2023), who departs from the studies mentioned until now in assuming that object clitics are generated higher than full object DPs, namely between vP and VP (25b).

- (25) a. [v*P v* [vP V [DP IA_{lexical}]]]
 b. [v*P v* [ϕ P IA_{clitic} [vP V]]]

This alternative approach takes clitics to be merged as pure heads: the lexical root V is merged first as a maximal projection, which enables “the asymmetric merger of the clitic head” (Manzini 2023: p. 95). Subsequent merger of the v* phase head triggers inheritance of ϕ -features to the clitic, allowing the [Cl VP] constituent to project a ϕ P. With regards to past participle agreement, Manzini (2023) proposes that clitics, as functional heads, enter into an Agree relation with the participle. The latter inherits the clitic’s ϕ -features (following the framework of Chomsky 2015), triggering morphological agreement.¹² Lexical objects, on the other hand, do not trigger agreement because they remain *in situ* within the VP; as a result, the participle does not inherit features from the DP, and no agreement is triggered. This hypothesis mainly centres on the specific issue of past participle agreement morphology with transitive verbs.

¹² In this system, the inheritance path involves the verbal root merging with a clitic head, and then the ϕ -features of the clitic are inherited by the verb. This results in the labelling of the clitic-verb structure as ϕ P, with shared ϕ -features forming the syntactic relationship needed for agreement, yielding past participle agreement morphology.

So far, we have observed a general tendency for authors to rely on Agree in their proposal. An opposing view is developed by Georgi and Stark (2020), who argue against a unified view of past participle agreement. For them, there exist two mechanisms. Firstly, with *BE*, the past participle *v* is a ϕ -probe that copies the IA's ϕ -features *in situ*, yielding obligatorily overt morphology (whether or not the IA satisfies an EPP in the specifier of TP). The second mechanism applies to contexts with *HAVE*, for which they claim that *v* is not a ϕ -probe. They argue that agreement morphology is triggered only if the IA is a resumptive pronoun (i.e., a clitic) that incorporates with *v*.¹³ In other terms, they argue that past participle agreement with *BE* is a product of Agree, while with *HAVE* it is a result of incorporation. This mechanism enables them to account for the mismatch between obligatory agreement in (26a) and its absence in (26b), which both feature a post-verbal IA: in (26b), the past participle does not have ϕ -features.

- (26) a. À chaque candidat sera présentée une épreuve
 to each candidate be-FUT-3-SG present-PTCP-FEM a test
 ‘Each candidate will be presented a test’ (Georgi and Stark 2020: p. 5)
- b. Pierre a mangé la pomme
 P. has eat-PTCP the apple
 ‘Pierre ate the apple’

This proposal is problematic as it forces the assumption that *v* is somewhat defective with *HAVE*, which goes against what most authors believe.¹⁴ Furthermore, it heavily relies on the assumption that past participle agreement morphology is obligatory with *BE* whether or not the IA is post-verbal, which leaves examples like (27a), where a reflexive clitic is present, unaccounted for (see Section 2 for complementary examples).

- (27) a. Il s’est produit une erreur
 EXPL REFL=IS occur-PTCP an error
 ‘There occurred an error’
- b. Une erreur s’est produite
 an error REFL=IS occur-PTCP-FEM
 ‘An error occurred’

While most authors link past participle agreement morphology to auxiliary selection, Bentley and Eythórsson (2004) argue that the two should be treated independently.

¹³ Building on Boeckx (2003), Georgi and Stark (2020) argue that incorporation of the clitic in *v* assigns the IA's ϕ -features to *v*. For them, the ϕ -features on the past participle can come from either Agree (when the auxiliary is *BE*) or incorporation (when the auxiliary is *HAVE*).

¹⁴ “Aux is realized as *avoir* when *v* selects an external argument [...] such a *v*-head does not bear a ϕ -probe, and hence, [past participle agreement] under *avoir* cannot be the result of agreement between *v* and the internal argument” (Georgi and Stark 2020: p. 18).

Their reasoning is based on the observation that in some Romance varieties, the past participle selected by HAVE exhibits morphological agreement with the EA, unlike in Standard French and Standard Italian. However, this claim is primarily based on Italian dialects, where auxiliary selection follows a pattern distinct from that of French (i.e., the so-called ‘person-driven’ systems mentioned in Section 3.1).

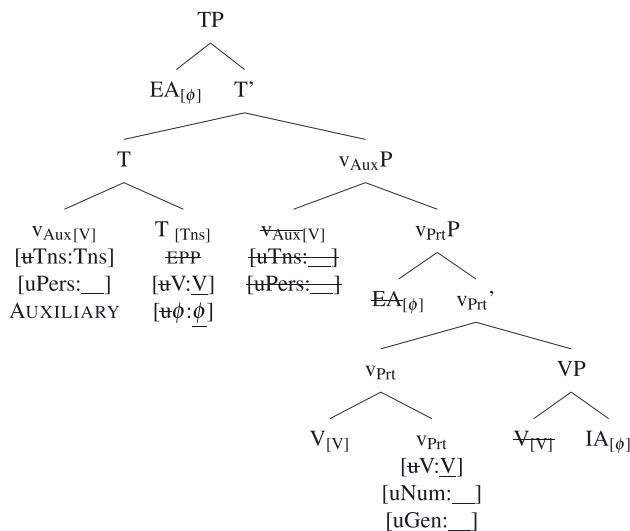
Given that agreement morphology inflects for gender and number only, I adopt the assumption that the past participle acts as a probe for these two features exclusively. In so doing, I follow the approaches of D’Alessandro and Roberts (2010) and Kobayashi (2022), which align with Kayne’s (1989) earlier proposal.

4 Theoretical backbone of the proposal

There is a growing consensus in the formal literature that binary auxiliary selection connects to features present on a functional head in the T/v-field (Amato 2021, 2022, 2023; Bjorkman 2011; D’Alessandro and Ledgeway 2010; D’Alessandro and Roberts 2010; D’Alessandro 2017). I adopt and build on this view, which has not been done with regards to French data.

The structure of compound tenses I assume is given in (28). The spine is adopted from D’Alessandro and Roberts (2008: p. 481), however I reassess the conditions under which HAVE and BE Spell Out in French.

(28)



Working our way from bottom to top, and ignoring ϕ -valuation for the time being, a v_{Prt} -head (for Participle) is merged above VP and bears an unvalued V-feature that attracts the verbal root to yield past participle morphology. This follows from the mainstream minimalist assumption that the lexical verb targets the verbaliser v^* (here, under the shape of v_{Prt}). With transitives and unergatives, the EA is merged in the specifier of $v_{\text{Prt}}P$, whereas with unaccusatives the v_{Prt} -head is defective and does not θ -select any argument (Chomsky 1995, 2001). Furthermore, I assume that HAVE and BE are allomorphs: the auxiliary is merged as a v_{Aux} -head generated in a projection above v_{Prt} , and directly below TP, and spells out as one or the other depending on its feature content. In anticipation of the discussion that ensues, I take v_{Prt} and v_{Aux} to share one set of ϕ -features: gender and number are distributed on v_{Prt} and surface as agreement morphology on the past participle (Kobayashi 2022), whereas person is distributed on v_{Aux} and interacts with auxiliary selection (Amato 2021, 2022; D'Alessandro and Ledgeway 2010). The v_{Aux} -head is merged with a V-feature probed by T, with which it incorporates. Note that v_{Aux} also bear an unvalued Tns-feature, which is valued upon v_{Aux} -to-T, thus giving rise to tense agreement morphology on the auxiliary. As is traditionally assumed, the EA targets the specifier of TP, where it satisfies the EPP and values T's ϕ -features, yielding subject agreement on the auxiliary.

Crucially, both v_{Aux} and v_{Prt} are inherently verbal: whilst the former bears a V-feature and spells out an auxiliary verb, the latter probes a lexical verb to yield a past participle. These two heads are intimately linked, and as shown in (28), they share a set of unvalued ϕ -features. More specifically, we are dealing with a split v-head, that is, a COMPLEX HEAD that behaves as a COMPLEX PROBE (29) in the sense of D'Alessandro (2017):

- (29) a. COMPLEX HEAD: Given two heads F_1 and F_2 , where F_1 immediately dominates F_2 , F_1 and F_2 constitute a complex head if they share their ϕ -features.
- b. COMPLEX PROBE: Given two heads F_1 and F_2 , where F_1 immediately dominates F_2 , F_1 and F_2 constitute a complex probe if they share their ϕ -features and these ϕ -features are unvalued. (D'Alessandro 2017: p. 22)

The dominant perspective in current minimalist research is that v_{Aux} should be considered a person feature holder (see Section 3.1), which I follow. A central claim of the present article is that argument structure alone cannot account for auxiliary selection, especially given that reflexive transitives pattern similarly to unaccusatives (see Section 2). Recall that some authors base their analysis of auxiliary selection on the idea that BE spells out when v is defective (Amato 2021, 2022; Bjorkman 2011; D'Alessandro and Roberts 2010; D'Alessandro 2017), a view that does not readily explain why BE is found with reflexive transitives (30), where v is not defective (it selects an EA).

- (30) a. Le chat s'est léché la patte (French)
 the cat REFL=IS lick-PTCP the paw
 'The cat licked his paw'
- b. *Le chat s'a léché la patte
 the cat REFL=has lick-PTCP the paw

As Kayne (1993) originally noted, a compelling explanation for v_{BE} -selection with reflexive transitives is to assume that the system is sensitive to person features, assuming that reflexive clitics bear such features. There is no apparent reason to believe that this sensitivity should be restricted to reflexive clitics. I will therefore argue that v_{Aux} serves as a person feature holder and that this feature is connected to auxiliary selection patterns in French. As we have seen earlier, further evidence for the link between auxiliary selection and person features comes from Southern Italo-Romance varieties, where auxiliary selection is 'person-driven' (D'Alessandro and Ledgeway 2010; D'Alessandro and Roberts 2010; D'Alessandro 2017). Although these systems differ markedly from French, they provide strong empirical support for the view that v_{Aux} can function as a person feature holder. The hypothesis that v_{Aux} bears a person feature responsible for auxiliary selection outside Southern Italo-Romance is further substantiated by Amato (2022, 2023). Within the context of Standard Italian (where auxiliary selection is similar to what is found in French), this author demonstrates that v_{Aux} (which she calls Perf) is sensitive to the person features of the IA, thereby leading her to unify 'argument-structure-driven' and 'person-driven' systems under a single mechanism. Finally, the hypothesis that v_{Aux} is a person feature holder aligns naturally with the assumption that v_{Aux} and v_{Prt} are subheads forming a COMPLEX HEAD v : if we maintain the traditional view that v bears ϕ -features for person, number, and gender, we can expect these features to be distributed between v_{Aux} and v_{Prt} . As evidenced by past participle morphology and as already discussed in Section 3.2, v_{Prt} carries number and gender features, leaving person on v_{Aux} .¹⁵

15 An anonymous reviewer raises the question of what ensures that v_{Aux} and v_{Prt} form a COMPLEX HEAD, while v_{Aux} and T do not. Several pieces of evidence support this distinction. First, for two subheads to form a COMPLEX HEAD, they must be in local c-command relation (with no intervening c-commanding heads), cf. (29a), which is not always the case with v_{Aux} and T. For example, a NegP can be projected between T and v_{Aux} , disrupting their immediate dominance. This is more obvious with infinitives since they do not move to T (see Pollock 1989), as in *ne pas avoir mangé*, or *ne pas être parti* (the structure I assume is: [_{TP} [_{NegP} *ne pas* [_{v_{Aux}} *avoir* [_{v_{Prt}} *mangé*]]]]). Second, the subheads must share a single set of ϕ -features, and there is no clear reason to believe that v_{Aux} and T share ϕ -features in this way. Assuming they do even leads to further issues with regards to clitic placement: the clitic is probed by the person feature on the auxiliary and climbs to it (drawing from and adapting Roberts' 2010 mechanism), which in turn values v_{Aux} 's feature. If this valued person feature were shared between v_{Aux} and T, T's person feature would not be able to probe the subject anymore (which would

I propose that French auxiliary selection is sensitive to whether T and v_{Aux} obtain the same person feature specification. Specifically, I will argue in this paper that BE-selection obtains when the person features of T and v_{Aux} are identical (either because they form a co-indexed chain, or through a bound reflexive clitic), whereas non-identical features yield HAVE. Feature identity is understood here as defined by Reuland (2017), compare the sentences in (31).¹⁶

- (31) a. [The men]_i left ~~[the men]_i~~
 b. [The men]_i admired [themselves]_i
 c. [The men]_i admired [the men]_j

In (31a), the trace of *the men* and its overt realisation in subject position are co-indexed and form a chain. Similarly in (31b), binding of *themselves* attributes the reflexive pronoun the same feature content and identity as *the men*, they both refer to the same group. In (31c) however, even though the two instances of the DP *the men* bear the same values [3,pl,masc], the second occurrence refers to a different group, thus a different identity. This notion is central to the approach developed here: BE is found in the contexts corresponding to (31a) and (31b) in French, whereas HAVE is found where feature identity does not match (31c). Taking identity (mis) matching as the primary factor in auxiliary selection, this proposal departs from the traditional hypothesis that auxiliary selection is driven by argument structure. Consequently, it successfully accounts for BE-selection with reflexive transitives, as illustrated in (30).

The vocabulary entries for French are given in (32), showing that HAVE is the elsewhere auxiliary.

(32) **Auxiliary selection in French:**

- a. $v_{\text{Aux}}[\text{Pers: } X(\alpha)] - T[\text{Pers: } Y(\beta)] \rightarrow \text{insert BE into } v_{\text{Aux}} \text{ if } \alpha = \beta$
 b. $v_{\text{Aux}}[\text{Pers: } X(\alpha)] - T[\text{Pers: } Y(\beta)] \rightarrow \text{insert HAVE into } v_{\text{Aux}} \text{ if } \alpha \neq \beta$

The letters α and β represent the person identity as copied onto v_{Aux} and T respectively. According to (32), if the identities of the copied person features match between the two functional heads, the auxiliary BE is inserted; otherwise, HAVE is selected. In anticipation of the analysis developed in this paper, a summary of the proposal is given in Table 1, based on the insertion rules given in (32). Coindexation (i, j) in Table 1

impact subject agreement on the auxiliary). Lastly, compound tenses necessarily involve two components, the auxiliary and the participle, which strongly suggests that the syntax provides a specific (verbal) structural frame for this combination. I propose that this frame is a split v-head, comprising v_{Aux} and v_{Prt} .

¹⁶ The sentences in (31) are inspired from Reuland (2017: fn12).

Table 1: Binary auxiliary selection in French.

	BE	HAVE	HAVE
T	[uϕ:Num, Gen, Pers _i]	[uϕ:Num, Gen, Pers _i]	[uϕ:Num, Gen, Pers _i]
v _{Aux}	[uPers:Pers _j]	[uPers:Pers _j]	[uPers:_____]
	Il _i s' _i est parlé	Il _i t' _j a parlé	Il _i a parlé
	Elle _i est arrivée elle _i	Elle _i a vu Marie _j	

serves as shorthand for feature identity – I adopt this notation system throughout the paper from now on.

Consequently, auxiliary selection is not directly sensitive to argument structure, in that it does not depend on the nature of *v*, but on a person-goal generated in the lower domain being probed in the higher domain and yielding matching person indices between the auxiliary head and T. This proposal captures auxiliary selection with unaccusatives, transitives, unergatives, reflexive intransitives, and reflexive transitives without positing further mechanisms. Let us now turn to the derivations to illustrate the analysis for each.

5 Auxiliary selection with unaccusatives

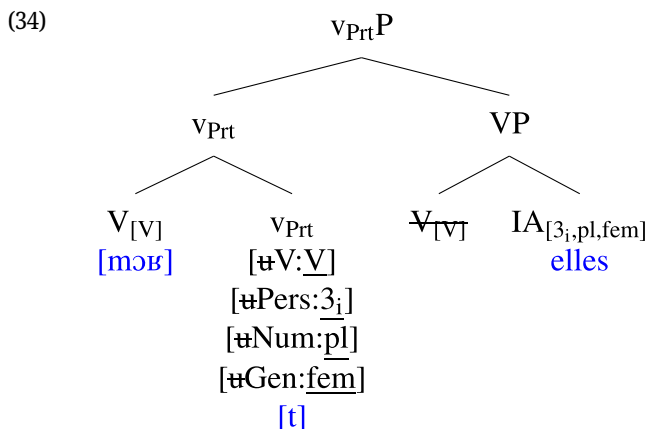
Let us start with unaccusative verbs, where we find BE-selection and subject-agreement in number and gender on the past participle.¹⁷ Consider example (33), for which I provide the derivation directly below.

- (33) Elles sont mortes (French)
they-FEM-PL are die-PTCP-FEM-PL
‘They have died’

The unaccusative *v*_{PrT}-head is a defective non-phasal head, in that it does not select an EA, and it does not assign accusative case to the IA either. As a result, the IA will need to escape the *v*/VP at some point in the derivation (Chomsky 1995, 2001). The first step of the derivation is shown in (34). Upon valuation of its

17 The plural suffix is never pronounced on past participles, whereas gender leads to alternation when the past participle ends with an obstruent *mort* [mɔʁ] vs. *morte* [mɔʁt]. It is left unpronounced with past participles ending with a vowel in most varieties *venu* [vəny] vs. *venue* [vəny], although see Swiss French example (7) for overt realisation of gender agreement on past participles ending with a vowel.

V-feature, v_{Prt} scans for ϕ -features in its c-command domain and finds the IA as a first potential goal, thus copying its values (which in this case yields past participle agreement morphology). This point is crucial, as despite being unaccusative, there is morphophonological evidence for ϕ -features on v_{Prt} in compound tenses. Note also that I assume the presence a person feature on v_{Prt} at this point in the derivation, which will subsequently be transferred upwards to v_{Aux} . From now on, all trees show person indices (*i* for the IA's person feature, and *j* for the EA's).



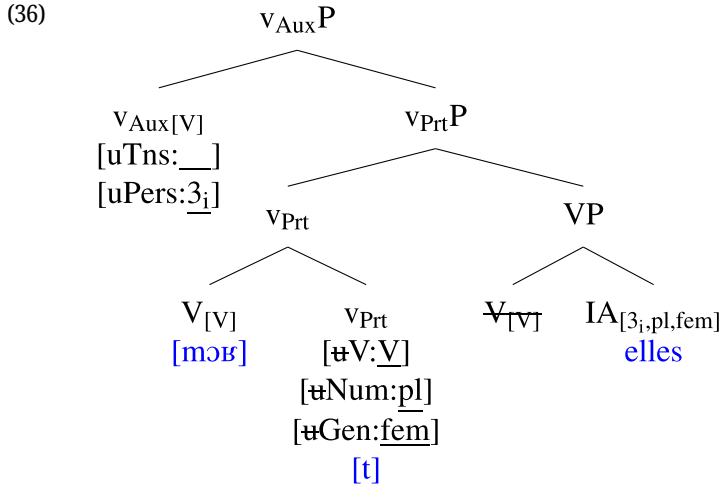
The idea that the person feature is transferred from v_{Prt} to v_{Aux} naturally follows from the assumption that they form a COMPLEX HEAD. D'Alessandro (2017: p. 22), building on Ouali (2008: p. 169), defines this mechanism as in (35) – recall that the definition of a COMPLEX PROBE involves ‘sharing’ (29b).¹⁸

(35) SHARE

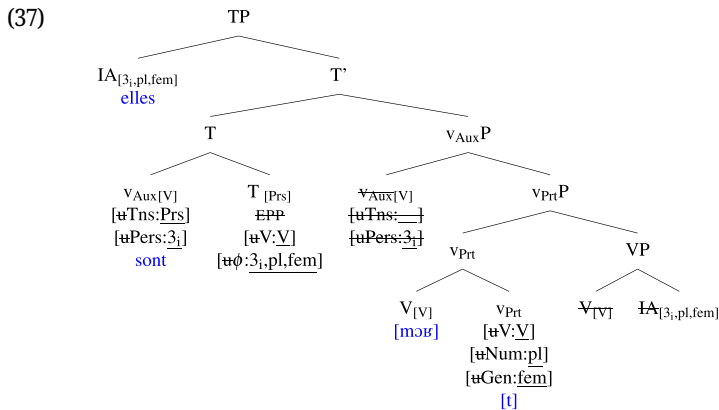
Transfer ϕ -features from X to Y and keep a copy.

According to the definitions of complex probe and of share adopted here, v_{Prt} is initially merged as a probe for person, gender, and number, but it immediately transfers person to the higher part of the complex head upon the merging of v_{Aux} . The crucial point, here, is that v_{Prt} probes the IA's ϕ -features: number and gender are copied, whereas person is transferred to v_{Aux} (36).

¹⁸ SHARE is reminiscent of Chomsky's (2008) feature sharing. See also the proposal of D'Alessandro and Ledgeway (2010), who incorporate feature spreading into their analysis of compound tenses in Abruzzese.



Merging of the TP-layer in (37) leads to v_{Aux} -to-T incorporation and triggers movement of the IA to the specifier to satisfy the EPP and check nominative case, while T ϕ -probes the subject. The result is a co-indexed chain of person features with the same identity (Reuland 2011, 2017) between v_{Aux} and T, since they have both (independently) entered in an Agree relationship with the IA at some point in the derivation. As predicted by the insertion rules given in (32), the consequence is BE-selection.



T does not form a COMPLEX PROBE with the v_{Aux}/Prt -head, therefore we must address with the IA can be a goal for two probes (i.e., T and v_{Aux}/Prt). This issue, also found in D'Alessandro & Roberts' (2008) proposal, has been mentioned in the literature

before (Brattico 2011), but let me clarify how I analyse it. I understand Agree as an operation that refers to at least two configurations. In the first one, a head bearing [uF] will probe the first potential goal [F] in its c-command domain (this is how the COMPLEX PROBE V copies the IA's ϕ -features above). In the second one, a head bearing [uF] will probe a potential goal [F] that lands in its specifier (cf. Koopman 2006; this is how T probes the IA above). We must assume that feature-valuation renders the goal invisible to a higher probe unless the goal moves to a position higher than its first probe after agreeing with it, which is what happens in (37). This proposal further aligns with Kobayashi's (2022) analysis of past participle agreement morphology.

In conclusion, I have argued that with unaccusative verbs, both v_{Aux} and T form a probe-goal relationship with the IA, creating a co-indexed chain of identical person features between the two heads. I propose that this configuration gives rise to BE-selection, as outlined in the vocabulary insertion rule provided in (32a). As I will demonstrate in Section 6 below with transitive verbs, HAVE obtains when these two heads do not have a co-indexed person feature – and as will then be shown in Section 7, matching person indices on v_{Aux} and T also accounts for BE-selection with reflexive verbs.

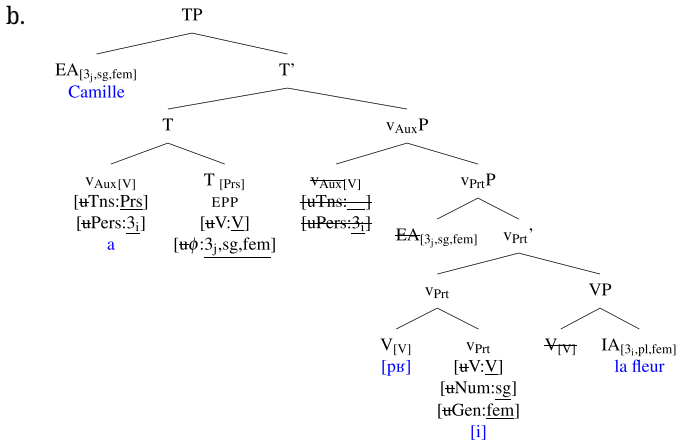
6 Auxiliary selection with transitives

We now turn to transitive verbs, where a non-defective v_{PTT} θ -selects an EA, and ϕ -probes and case-licenses the IA. In this section, I first consider cases where the IA remains *in situ*, before extending the proposal to cases where it is a pre-verbal clitic.

6.1 When the internal argument is a post-verbal DP

With a post-verbal lexical IA, we find HAVE and the past participle lacks agreement morphology (38a). The EA is merged in the specifier of v_{PTT} , which, as we saw earlier, is a head that probes for a V-feature and ϕ -features. The derivation of (38a) is given in (38b).

- (38) a. Camille a pris la fleur (French)
 C. have-PRS take-PTCP the flower
 ‘Camille took the flower’



As usual, v_{Prt} probes the verb, an operation which triggers V-incorporation, and it also probes the ϕ -features of the IA. As mentioned above in the context of unaccusatives, the person feature of the IA is shared upwards from v_{Prt} to v_{Aux} once the COMPLEX HEAD starts probing. Note that SHARE offers a simple explanation as to why v_{Aux} does not consider the EA a potential probe: its person feature is already valued by the IA.¹⁹

As opposed to the structure for unaccusative verbs given in (37), we do not obtain a co-indexed chain of identical person features between T and v_{Aux} here. Instead, the

¹⁹ That a head of the auxiliiation complex (i.e., v_{Aux}) either skips the EA or does not consider it a potential goal is also mentioned by Roberts (2010: p. 78), whose analysis involves a v^*P introducing the EA between $v_{\text{Prt}}P$ and VP (i).

(i) [$v_{\text{Aux}}P$ v_{Aux} [$v_{\text{Prt}}P$ v_{Prt} [v^*P EA v^* [v_P V IA]]]]

When the IA is a clitic, Roberts (2010) assumes that it incorporates with v^* , before the complex head [$\text{clitic}+v^*$] targets v_{Prt} . From this point on in the derivation, the clitic is the closest goal to v_{Aux} whilst the EA sits below in Spec, v^*P – as a result, v_{Aux} probes the IA instead of the EA. Nevertheless, this mechanism does not explain why v_{Aux} cannot probe the EA when there is no clitic attached to v^* : the EA is the closest potential goal to v_{Aux} when the IA is a lexical DP *in situ*, as in (38a). This issue is also raised by Amato (2022: p. 10), who argues that Perf (the head that spells out the auxiliary in her analysis – our v_{Aux}) skips the EA and probes the IA's values on v instead. Using the mechanism of Nested Agree (cf. discussion and example (16) in Section 3.1 of the present article), Perf ignores the closest potential goal if it enters in an Agree-relationship with another (more distant) goal first: in the context that interests us, Amato (2022) considers that Perf probes v to delete an Infl-feature first, and that this established Agree-relationship becomes exploitable for Perf to probe the IA's ϕ -features copied on v . As such, the EA is essentially skipped, or ignored, and thus available for probing by T. Under the assumption that feature sharing occurs on a COMPLEX PROBE, the analysis I propose in (38b) naturally accounts for why v_{Aux} does not probe the EA without the need for additional mechanisms.

two heads probe different goals: T probes the EA's ϕ -features whereas v_{Aux} probes the IA's person feature. Even if the two heads have a [3-person] value, they do not share the same identity (cf. example (31c) and relevant discussion in Section 4). Following the vocabulary insertion rule given in (32b), the lack of co-indexation between the two forces HAVE-selection.

This analysis also extends to unergatives, where Agree fails on both $v_{\text{Aux/Prt}}$ due to the absence of a goal (there is no IA in this context). As a result, past participle agreement morphology is absent, and HAVE is selected, since v_{Aux} lacks a person value.²⁰

6.2 When the internal argument is a pre-verbal clitic

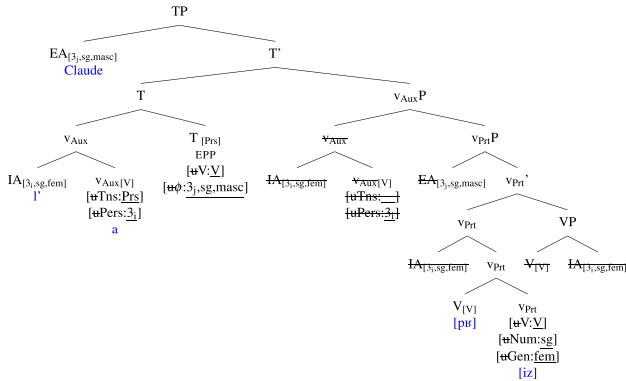
As illustrated in Section 2.1, the past participle does not inflect in French when the IA is post-verbal (38a), but it does if the IA ends up in a pre-verbal position. Consider (39), where the IA is a clitic that attaches to the auxiliary and feminine agreement is pronounced.

- (39) Claude l'a prise (French)
 C. 3_{SG-FEM}=has take-PTCP-FEM
 'Claude took it'

If my analysis of auxiliary selection is on the right track, BE is the Spell Out of a co-indexed chain of person features between v_{Aux} and T, whereas the auxiliary HAVE is the elsewhere allomorph and is not conditioned by the valuation and co-indexation of ϕ -features (cf. insertion rules given in (32)). Let us consider auxiliary selection with pre-verbal clitics; the structure of (39) is given in (40). The IA is generated as a clitic in the complement position of V (Gallego 2016; Kayne 1975; Olivier 2022; Roberts 2010), and it is subsequently probed by the non-defective v_{Prt} along the mechanism adopted until now. Being a clitic, the IA moves to the left-edge of v_{Prt} (cf. Roberts' 2010 analysis), before being transferred up to v_{Aux} to which it incorporates. I follow D'Alessandro and Roberts (2008) and Kobayashi (2022) on the claim that past participle agreement morphology spells out when the IA and the past participle are in the same Transfer domain.

²⁰ This implies that the unvalued person feature is not active anymore once v_{Prt} has transferred it to v_{Aux} , otherwise the latter would probe the EA and BE would eventually obtain. Another possibility is to assume that $v_{\text{Aux/Prt}}$ bears a valued ϕ -feature as default due to the presence of a cognate object (cf. Hale and Keyser 1993, but also D'Alessandro and Roberts 2010; Amato 2022).

(40)



The derivation of structure (40) goes as follows: v_{Prt} probes V to value its V -feature, before probing the clitic and subsequently transferring it to v_{Aux} – this operation is essentially a form of clitic climbing, which is itself a byproduct of SHARE.²¹ This analysis therefore unifies climbing of the IA to v_{Aux} and past participle agreement morphology on v_{Aux} : they are both triggered by the same operation (i.e., ϕ -probing of the IA by a COMPLEX HEAD), and they are sent to Spell Out together. Finally, the complex $[IA_{clitic} + v_{Aux}]$ incorporates with T , and the EA moves to the specifier of TP to satisfy the EPP and value its ϕ -features. Similar to when the IA remains *in situ* (38b), v_{Aux} and T are valued by different goals, therefore they do not form a co-indexed chain of identical person features – in contrast to the earlier structure for unaccusatives (37). Following the proposal developed here, HAVE is correctly predicted.

A key consequence of this proposal is that the valuation of v_{Aux} 's person feature results in the Spell Out of BE only if this very feature is also probed by T and encodes the same identity (cf. discussion with example (31) and insertion rules in (32)). Thus, I argue against the traditional hypothesis that auxiliary selection is sensitive to argument structure. Building on this, I address auxiliary selection with reflexive verbs in the following section.

7 Auxiliary selection with reflexive verbs

We saw in Section 3.1 that the literature on auxiliary selection does not readily account for the presence of BE with reflexive verbs. In this section, I demonstrate that

²¹ This suggests that clitic climbing is not a uniform mechanism, see Olivier, Sevdali & Folli (2023, 2024) for a different analysis of clitic climbing with restructuring predicates in earlier French.

my proposal effectively addresses this environment as well. I start by considering the issue of auxiliary selection in this context before offering a formal analysis for reflexive transitives.

7.1 The issue

Firstly, the analysis proposed for unaccusative verbs in Section 5 can be extended to reciprocals (41), inchoatives (42), and middle passives (43). *Prima facie*, these predicates appear to be transitive (i.e., the reflexive clitic looks like an argument). However, I adopt the assumption that they trigger movement of the IA to the subject position, whereas the reflexive clitic absorbs both the external θ -role and the ability to assign accusative case (Belletti 1982; Baker, Johnson & Roberts 1989; McGinnis 1998). Under this hypothesis, these verbs are essentially unaccusative. In relation to the issue that concerns us, the analysis predicts that v_{Aux} and T share co-indexed person features here (as in (37)), correctly yielding BE-insertion.

- (41) Jeanne s'est lavée (French)
 J. REFL=IS wash-PTCP-FEM
 'Jeanne washed herself'
- (42) La boîte à musique s'est cassée (French)
 the box of music REFL=IS break-PTCP-FEM
 'The music box broke (by itself)'
- (43) Ma bière s'est bue toute seule (French)
 my beer REFL=IS drink-PTCP-FEM all-FEM alone-FEM
 'My beer drank itself'

In Section 6.2, I concluded that we should reject the hypothesis that BE is associated with unaccusativity (including constructions from (41) to (43)) and HAVE with transitivity.²² While making correct predictions in most cases, this approach fails to account for cases where a reflexive clitic co-occurs with a direct object, a context where we find BE. Consider the constructions in (44), where the v-head is not defective: here, v probes the IA in the complement of V and assigns accusative case. Unlike in examples (41) to (43), the IA is not promoted to subject position, and it is

²² However, unaccusative verbs are associated with BE (*modulo* some exceptions where individual verbs like *disparaître* 'disappear' can select HAVE, which I treat as irregular – note that there is empirical evidence that this very verb is also attested with BE). Unaccusatives are simply a subset of the class of BE-selecting verbs, as shown in Section 2.

clear that the reflexive does not absorb the EA's θ -role. In this context, the subject must be an agent.

- (44) a. Alex s'achète des cigarettes (French)
 A. REFL=buys some cigarette-PL
 'Alex buys cigarettes (for himself)'
 b. Dominique se lave les mains
 D. REFL=Washes the hand-PL
 'Dominique_i washes her_i hands'

In absence of the reflexive clitic, this environment forms the periphrastic past with HAVE, as shown in (45a) and (46a). The presence of *se* always triggers BE-selection, see (45b) and (46b).²³ Note also that past participle agreement morphology is set as default, unlike the constructions given in (41), (42), and (43). This is particularly clear in (46b), where *lavé* shows agreement with neither the subject *Dominique* nor the object *les mains*, which are both feminine.²⁴

- (45) a. Alex a acheté des cigarettes (French)
 A. has buy-PTCP some cigarette-PL
 'Alex bought cigarettes'
 b. Alex s'est acheté des cigarettes
 A. REFL=IS buy-PTCP some cigarette-PL
 'Alex bought cigarettes (for himself)'
- (46) a. Dominique a lavé ses mains dans l'évier (French)
 D. has wash-PTCP her hand-PL in the=sink
 'Dominique_i washed her_{i/j} hands in the sink'
 b. Dominique s'est lavé les mains dans l'évier
 D. REFL=IS wash-PTCP the hand-PL in the=sink
 'Dominique_i washed her_{i/*j} hands in the sink (herself)'

These data indicate that *true* transitive verbs select BE under certain circumstances. As it stands, this evidence confirms that the nature of *v* is not the cause of auxiliary selection, which goes against the traditional assumption put forward in the

²³ For Standard European French, this holds true independently of the flavour of the reflexive (e.g. anticausative, middle voice, etc.), and whether the clitic is accusative or dative. See Sportiche (2014) on the reflexive clitic in French, and Dobrovie-Sorin (2017) for a comprehensive discussion of reflexive clitics in Romance. See Rea (2020) for a discussion of auxiliary selection variation in Canadian French, where HAVE is found in this context.

²⁴ Both examples in (46) are perfectly grammatical to me, although some speakers might find (46a) colloquial when EA and the IA are co-referential.

literature. In French, it is not transitivity or lack thereof that ‘decides’: *BE* is found when the IA of a lexical verb surfaces in subject position (as discussed in Section 5 notably), and when the reflexive clitic (hosted by the auxiliary) is bound by the subject. If the proposal drawn so far is correct, v_{Aux} must have an identical person index with T in (45b) and (46b). I present a formal analysis for this syntactic environment in the following subsection.

7.2 Reflexive transitive verbs

Let us build on the analysis developed throughout this paper to posit a formal account for why *BE* spells out with transitive verbs that have a reflexive clitic. In what follows, I first examine the content of reflexive clitics before addressing their syntax. In anticipation of the discussion that ensues, I take these particular clitics to have an impoverished set of ϕ -features, consisting of a person feature only (Amato 2022, 2023; Heinat 2006; Kayne 1993, 2003; Mendikoetxea 2008; Reuland 2001). These theoretical assumptions are then applied to the syntactic analysis of auxiliary selection developed here.

The content of (reflexive) clitics has been a long-standing subject of debate. In my view, Kayne (1993) convincingly demonstrated that Romance clitics could be divided into two categories: person clitics (e.g., *me*, *te*, *nous*, *vous*, and as we will see below, *se*) and determiner clitics (e.g., *le*, *la*, *les*, *lui*).²⁵ While person clitics carry a person feature, they lack gender and number features (there is no feminine form *ma/ta*, and no plural form *mes/tes* for object clitics). The claim that person clitics lack number might require some justification, as the traditional view treats *me* as [1.sg] and opposes it to *nous* as [1.pl]. Nonetheless, Mendikoetxea (2008) argues that the distinction between these clitics is more comparable to the difference between [1.sg] and [1.pl] on verbal affixes (e.g., *mange* vs. *mangeons*), suggesting that these features are more verbal than nominal; assuming that number is not intrinsic to person clitics, an alternative characterisation could treat *me* as [1-person], *te* as [2-person], *nous* as [4-person], and *vous* as [5-person] (the exact label does not matter, it is used descriptively here). Determiner clitics, on the other hand, clearly encode gender and number (cf. *la* and *les*). According to Kayne (1993), determiner clitics lack person features, with third person considered a case of ‘non-person’ (a notion that goes back to

²⁵ These labels are introduced by Kayne (1993), and I use them for descriptive purposes only. Of course, these categories are an over-simplification, since they exclude locative and partitive clitics (and also neutral clitics of the type found in Occitan and Catalan). I do not consider these here.

Benveniste 1966). What sets apart person clitics from determiner clitics, under this hypothesis, is that the former only bear [Person], whereas the latter only bear [Gender, Number].

As for the reflexive *se*, empirical evidence strongly suggests that it should be included in the person clitic group, in that it also seems to lack gender and number (similar to other person clitics, it never inflects). Notably, consider examples like (47) where the reflexive is co-referent with a feminine, plural DP, yet agreement on the past participle is set on default.²⁶

- (47) Il s'est dénoncé trois mille femmes ce mois-ci
 EXPL REFL=IS denounce-PTCP three thousand women this month-there
 'Three thousand women denounced themselves this month.'

In Kayne's (1993, 2003) system, *se* bears a person feature that is set to [0-person], which is not a complete absence of a person feature, but a distinct specification (it is not [3-person] either, given that this author supports the view that [3-person] is 'non-person'). [0-person] represents a kind of default, meaning that it is neither [1-person], [2-person], etc., but still involves person-related content (i.e., it is not 'non-person'). In other words, [0-person] signals that the reflexive clitic does not introduce an independent referential entity with its own person features, as a 'regular' pronoun would. Instead, it relies on being bound by an antecedent to acquire its person identity (this is Binding Condition A). Kayne (1993: p. 16) further makes an interesting observation, in claiming that his so-called [0-person] (i.e., the default value of the reflexive) "is less strong than a 'positively numbered' person". In more concrete terms, this can be linked to its need for a binder.²⁷ This is what differentiates the reflexive from other pronouns, the latter are not set with a default value and (therefore) are not subject to the same binding condition. I assume, then, that the reflexive is merged with a default person feature and awaits binding to be set for [1-person], [2-person], etc., yielding the reflexives *me*, *te*, etc. and acquiring an identity. In my view, we do not need to consider [3-person] to be 'non-person'. Rather, the reflexive is set to [3-person] if it is the value of its binder (see also D'Alessandro 2007, who argues that *se* is merged with a [3-person] feature). In sum, reflexive clitics have an impoverished set of ϕ -features, consisting solely of a person feature that is identical (and therefore co-indexed) to that of their

²⁶ Example (47) is adapted from Labelle (2008: p. 866). Note that this is an example of the so-called 'accusative' *se*, with which agreement on the past participle is found if the binder is in the same phasal domain as the past participle.

²⁷ A direct consequence of the proposal developed here is that [anaphor] is not a primitive feature of natural language (Reuland 2011), therefore the anaphoric reading of the reflexive is an epiphenomenal property (Marelj and Reuland 2013).

binder.²⁸ This simple assumption naturally aligns with the analysis of auxiliary selection developed here, where identity matching between two functional heads is key.

Before looking at the derivation of auxiliary selection with transitive reflexives, let us consider the syntax of *se*.²⁹ One line of enquiry assumes the reflexive clitic to be phrasal, a DP, generated either as a complement of the verb (Amato 2021, 2022; Kayne 2003; Sportiche 2014), merged in the specifier of an Applicative head in the case of dative reflexive clitics (Amato 2023), or in the specifier of VoiceP (Alexiadou, Anagnostopoulou & Schäfer 2015; Schäfer 2008). Another approach considers the reflexive clitic to be verbal, either a v-head (Armstrong 2013; Basilico 2010; Cuervo 2003; Folli 2002; Folli and Harley 2005; García-Pardo 2021; Jiménez-Fernández and Tubino 2019), a Voice-head (Labelle 2008; McGinnis 2022). Looking at consumption verbs, Folli and Harley (2005) claim that the reflexive clitic is merged on a v-head (specifically, v_{Caus}) because it functions as a light verb whose specifier introduces the EA. The Italian reflexive clitic *si* takes on the role of encoding causation, involving a result state. They illustrate this by contrasting sentences like (48a) and (48b), showing that the addition of *si* changes the argument structure and the event telicity, thus requiring the presence of a small clause complement. The reflexive clitic, therefore, merges into the v position to introduce causative meaning and enforce the event's telicity.

- (48) a. Il mare si è mangiato la spiaggia (Italian)
 the sea REFL=IS eat-PTCP the beach
 'The sea ate up the beach'
- b. *Il mare ha mangiato la spiaggia
 the sea has eat-PTCP the beach
 'The sea ate the beach'

Focusing on transitive reflexives that introduce an agent EA in Spanish, Armstrong (2013) also claims that the reflexive clitic is merged on v to account for their unique syntactic and semantic properties. Specifically, this author argues that the clitic spells out a special type of v-head (v_{Do}), which introduces an agent argument while

²⁸ According to the assumptions adopted here, determiner clitics also bear [3-person], instead of 'non-person'. While this may be the case, my analysis does not hinge on this. The only crucial point is that reflexive clitics bear the same person value (and index) as their binder.

²⁹ Given the scope of this article, it is not possible to address all aspects of reflexive constructions. I leave open the possibility that the reflexive clitic is merged in different syntactic positions depending on the context (see notably Armstrong and Kempchinsky 2021). I leave this issue, along with its interaction with the present proposal, for future research.

enforcing additional agent-oriented conventional implicatures, such as willful intent and unaided performance. These implicatures make the agent more involved in the event, giving such constructions a heightened sense of agency. Additionally, the event features on *v* ensure that the verb must have an accomplishment interpretation. This approach offers a granular explanation to the diversity of reflexive constructions.

The advantage of the line of research entertained by authors like Folli and Harley (2005) and Armstrong (2013) is that it unifies the semantic and syntactic properties of the reflexive clitic within a single locus: *v*. As I will demonstrate below, this assumption fits in with the auxiliary selection analysis presented here. Recall that BE-selection occurs when *T* and *v*_{Aux} have co-indexed person features, and that *se* bears the same person index as its binder. I will demonstrate that *T* probes the binder while *v*_{Aux} probes *se*, resulting in both functional heads acquiring identical person indices.

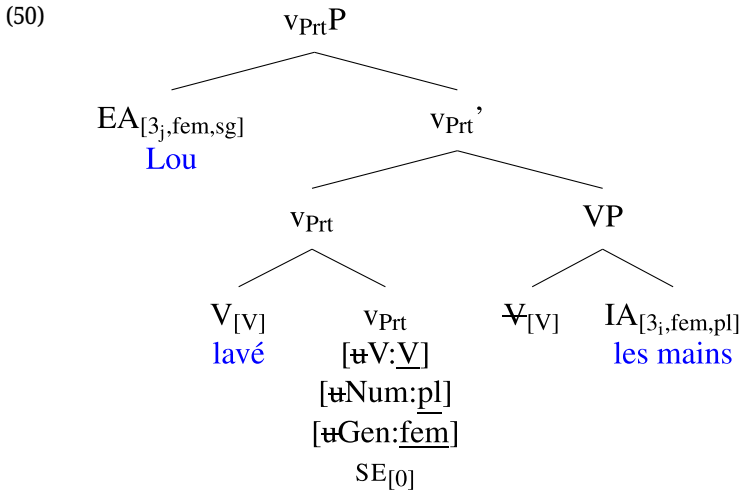
Based on the aforementioned theoretical assumptions, the derivation of auxiliary selection with reflexive transitives is illustrated step by step below for example (49).

- (49) Lou s'est lavé les mains (French)
 L. REFL=IS wash-PTCP the hands
 'Lou_i washed her_i hands (herself).'

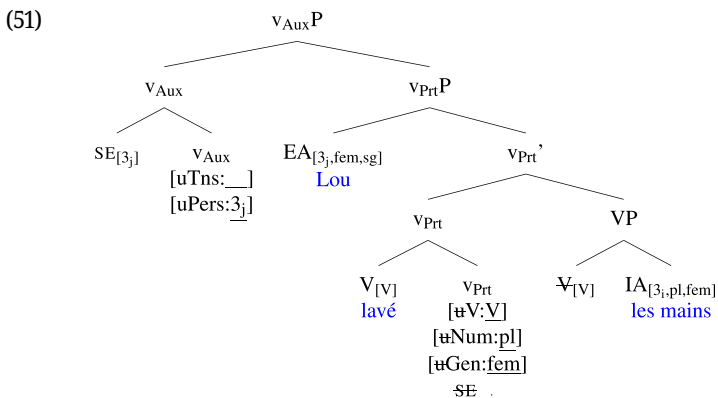
Following Folli and Harley (2005) and Armstrong (2013), amongst others, the reflexive clitic is merged on *v*_{Prt}, and we have seen above that it comes a default person feature, but no identity (50).³⁰ Building on the mechanism outlined throughout this paper, *V* moves to *v*_{Prt}, a head that introduces the EA and probes the IA, copying its ϕ -features.³¹ In this case, however, *v*_{Prt} is a probe for gender and number only, since it already bears a default person feature in the form of *se*.

³⁰ An alternative proposal posits that the reflexive clitic merges on a distinct functional head between *v*_{Prt} and *V*, as proposed by Cuervo (2003) and Armstrong and Kempchinsky (2021); see also Amato (2023), though she argues that the clitic is merged as a phrase in the specifier of an ApplP between *v*P and VP. In this scenario, *V* would move through this head, picking up *se* on its way to *v*_{Prt}. The advantage of their approach is that it reduces the burden on *v*_{Prt}, but I do not see empirical motivation for it.

³¹ Past participle agreement defaults in (49), as expected since the IA is in a different Transfer domain (D'Alessandro and Roberts 2008, Kobayashi 2022). When the IA moves to a pre-verbal position, however, overt agreement occurs (e.g., *les mains qu'elle s'est lavées*).



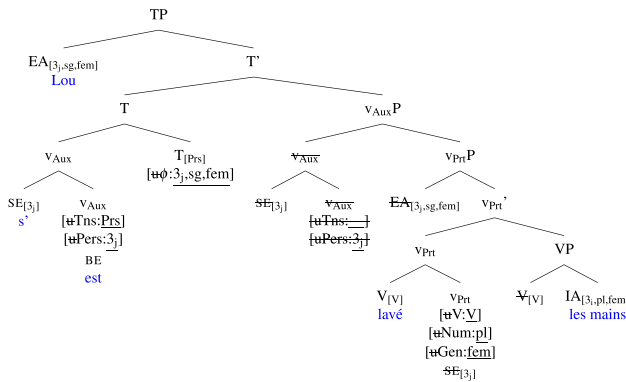
At this stage, merging of the EA binds the reflexive, which acquires a matching person value and identity (which is identical to that of the EA). As usual, v_{Prt} transfers its person feature (via the reflexive this time) to v_{Aux} (51) – this sharing operation is only possible since v_{Prt} and v_{Aux} form a COMPLEX HEAD that behaves as a COMPLEX PROBE. This follows the same mechanism outlined for transitives in Section 6, except that the person feature belongs to the reflexive clitic rather than the IA, a distinction that is crucial, as it severs the relationship between the IA and v_{Aux} ; otherwise, HAVE would eventually surface.



The EA then moves to the specifier of TP to satisfy the EPP and be probed by T, while [$se+v_{\text{Aux}}$] incorporates to T to yield tense and agreement morphology on the auxiliary (52). This structure further supports the claim that BE spells out when the person

features of v_{Aux} and T have the same identity: since the EA values T's person feature and binds the reflexive, and the reflexive values v_{Aux} 's person feature, both T and v_{Aux} receive co-indexed features.

(52)



The advantage of this proposal is that no additional mechanism of auxiliary selection is needed in the case of reflexive transitives. The core structure remains the same whether the verb is unaccusative or transitive, and whether a reflexive clitic is present or not.

8 Concluding remarks

In this article, I have proposed a novel account of auxiliary selection in Standard European French. The hypothesis advanced here attributes the selection of *BE* or *HAVE* to person features. Specifically, my analysis predicts that *BE* is inserted when person features are co-indexed between the auxiliary head v_{Aux} and T, while *HAVE* serves as the default or 'elsewhere' option (as previously suggested by Bentley and Eythórssón 2004, though from a different perspective, and in contrast to D'Alessandro and Roberts 2010; Bjorkman 2011; Amato 2023). Crucially, this approach avoids linking auxiliary selection to argument structure, a hypothesis that could not explain why reflexive transitives pattern like unaccusatives.

The key contribution of this proposal lies in its simplicity: a unified structure is proposed for all environments, with differences arising solely from the valuation of person features on T and v_{Aux} (cf. their co-indexation or lack thereof). By positing that the person feature of the auxiliary plays a central role in auxiliary selection in French, this analysis builds on the work of D'Alessandro (2007, 2017), D'Alessandro and Roberts (2008, 2010), D'Alessandro and Ledgeway (2010), and Amato (2021, 2022, 2023) on Italo-Romance data.

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