Past-Participle Agreement in French: a Matter of Phases and Case-Accessibility

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1. Introduction

Agreement of a past-participle with the subject or the direct object of a clause arises in a broad range of languages. Much of the literature since Kayne's (1989, 1993) celebrated papers has focused on the occurrence of this phenomenon in Romance and Scandinavian languages. The accounts often postulate the presence of an Object Agreement Projection in the clausal structure in which the case and φ-features of the past-participle and of the DP trigger of agreement are checked.

This paper intends to account for a set of patterns of subject and direct object PPA (S/OPPA) in French without resorting to a particular functional projection but in using the notions of case-accessibility and cyclic Transfer to the phonological component of the grammar. The starting point of the discussion is the observation that, in the Romance, Scandinavian and Slavic languages studied, when the auxiliary used to form the present perfect is *be*, PPA systematically occurs with the subject. When the auxiliary is *have*, PPA never takes place with the subject but it sometimes does with the direct object, mostly situated in a preverbal position. These facts will form the basis of the formal analysis put forth in this paper to account for the most current patterns of S/OPPA in French (reflexive verbs and ECM constructions are not included in this study, their complexity deserving a separate paper).

I will proceed as follows: in section 2, I present a set of cross-linguistic patterns of S/OPPA in Romance, Germanic and Slavic languages. Building on the conclusion I draw from these data, I outline in section 3 a formal analysis which combines the notions of agreement at PF and case-accessibility. In section 4 and 5 respectively, I show how the formal system developed derives the patterns of SPPA and OPPA observed in French. Section 6 concludes the paper.

2. The basic data

2.1. Past-participle agreement with the subject (SPPA)

The Italian data and a subset of the French data presented in this section are well-known and have been the object of much attention, especially since Kayne's (1989, 1993) influential papers. However, in this section, I also present less well-studied patterns of past-participle agreement in French, Icelandic and Slavic languages. I conclude that SPPA is dependent on the auxiliary that a verb selects to form its present perfect and not on the presence of an agreement projection in the clausal structure as is often claimed (Belletti 2001, Déprez 1998, Sportiche 1990 to mention just a few).

Consider first Italian. In passive sentences (1) and with unaccusative verbs (2), the past-participle agrees in gender and number with the internal argument (IA) raised to the canonical subject position[1]. When the subject is an external argument (EA), namely in active transitive (3) or unergative sentences (4), SPPA does not occur and the past-participle appears in its default form[2].

1. Maria   è stata assunta.
   Maria $_{FEM.SG}$ is been hired$_{FEM.SG}$ Belletti (2001:3)
2. Maria è partita.
   Maria is left$_{FEM.SG}$ Belletti (2001:3)
3. Maria ha comprato   la mela.
   Maria has bought$_{DFT}$ the apple
4. Maria ha dormito.
   Maria has slept$_{DFT}$

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1. Abbreviations used in this paper are as follows: FEM=feminine, MASC=masculine, NEU=neutral, NV=non-virile, SG=singular, PL=plural, NOM=nominative, ACC=accusative, ERG=ergative, DAT=dative, 1,2,3=1st, 2nd, 3rd person, DFT=default agreement, CL=clitic, EXPL=expletive, AUX=auxiliary, PRES=present, PART=Slavic 'l-participle', PASS=present passive participle, PTP=past-participle.

2.The default form of a past-participle varies between languages. To mention only a few cases, in Italian and French, the default form of the past-participle corresponds to the form of the participle agreeing with a masculine singular DP. In Icelandic, the default past-participle carries the nominative-neuter-singular suffix *-iδ*. As this is not crucial to the analysis, I shall refer to all these forms as 'default' (DFT) for ease of exposition.

To account for these facts, Kayne (1993), Belletti (2001), among others suggest the presence of an Object Agreement Phrase, 'AgrOP', to the left of VP but lower than the merge position of the EA. In passive and unaccusative sentences, the IA has to raise to specTP to receive case. On its way, it passes through AgrOP and triggers agreement on the participle which has raised to the AgrO head. In unergative and transitive sentences, the subject is an EA. Therefore, on its way to specTP, it does not pass through AgrOP and is thus unable to trigger agreement on the participle.

This account provides an understanding of the Italian data but encounters problems as soon as we look at other languages.

Let us first consider unaccusative verbs. In French, most unaccusative verbs select the auxiliary *be* but some appear with the auxiliary *have*. In Icelandic, unaccusative verbs generally select *have* but some verbs of motion can be used with *be* (see Thráinsson (2007)). In both languages, when the auxiliary is *be*, the unaccusative participle systematically agrees with the derived subject (6, 8)[3], just like in Italian (2). However, when the auxiliary is *have*, SPPA is ungrammatical (5, 7).

5. La viande   a cuit/*e   French
   The meat$_{FEM.SG}$ has cooked$_{DFT /*FEM.SG}$
6. Marie   est morte   ce matin.
   Marie$_{FEM.SG}$ is died$_{FEM.SG}$ this morning
7. Hann   hefur farið / *farinn.   Icelandic
   He$_{NOM.MASC.SG}$ has   gone $_{DFT / * NOM.MASC.SG}$
8. Hann   er farinn.
   He$_{NOM.MASC.SG}$ is gone$_{NOM.MASC.SG}$

The same link between auxiliary selection and patterns of agreement is observable in Slavic languages: Macedonian selects the auxiliary *have* with unaccusative verbs (and passivized verbs), Czech uses *be*. In Macedonian, the past-participle shows up in its default form (9). In Czech, the past-participle (more precisely, the "l-participle", see Migdalski 2006) shows agreement with the derived subject (10).

9. Gostite   imaat dojdeno
   guests-the have arrived$_{DFT}$ adapted from Migdalski (2006:134)

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3. In Icelandic, the derived subject must bear nominative case (or accusative case in Exceptional Case Marking constructions). Oblique subjects trigger agreement neither on finite verbs nor on non-finite verbs (see Bobaljik (2006), Thráinsson (2007) among many others).

10. Ty   jsi   přišel / přišla

    you$_{MASC/FEM.SG}$ be$_{2SG}$ come$_{PART.MASC/FEM.SG}$ R. Simik (p.c)

    'you came'

These data show that IAs raising to the canonical subject position do not always trigger SPPA. In Kaynian terms, this means that IAs do not always pass through AgrOP on their way to specTP (or that the participle does not raise to AgrO, see Belletti 2001:7). The question is then why, when the auxiliary is *have*, the IAs do not raise through AgrOP while they do when the auxiliary is *be*. As far as I am aware, this question has not received any clear answer in the literature[4].

I shall now consider transitive and unergative verbs. In Italian, French and Icelandic, the present perfect of these verbs is formed with the auxiliary *have* and the participle never agrees with the subject. If we now look at Slavic languages we observe that in Czech and Bulgarian for example, transitive and unergative verbs select the auxiliary *be* and the participle agrees in gender and number with the subject (see Migdalski 2006). In other words, EAs also trigger PPA, provided that the auxiliary *be* is selected.

11. Ja   jsem   koupil   knihy   Czech

    I$_{MASC.SG}$ be$_{AUX.1SG}$ buy$_{PART.MASC.SG}$ books$_{ACC}$

    'I have bought the books'   Migdalski (2006:281)

12. Polja   e   čela   knigata   Bulgarian

    Polja$_{FEM.SG}$ be$_{PRES.3SG}$ read$_{PART.FEM.SG}$ book-the$_{FEM}$

13. Ivan   e   čel   knigata   Migdalski (2006:67)

    Ivan$_{MASC.SG}$ be$_{PRES.3SG}$ read$_{PART.MASC.SG}$ book-the$_{FEM}$

To sum up, it seems that in languages in which past-participles can show agreement, whilst IAs raised to the canonical subject position trigger PPA if the auxiliary that the verb selects is *be*, they do not if the auxiliary is *have*. Additionally, when the auxiliary is *be*, PPA occurs with EAs, but it does not if the auxiliary selected by the verb is *have*. [5]

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4. Belletti (2001:fn.25) suggests that the IA moves presyntactically to the highest specVP. Movement in the syntax via AgrOP is thus not possible.

5. For reasons of space, I include only a limited set of data. However, I am aware of no exceptions to this generalization, except in languages like Abruzzese (D'Alessandro and Roberts 2007) where the choice of auxiliary is person-driven. In this Italian dialect, auxiliary *have* is selected with 3rd person subjects and auxiliary *be* occurs with 1st and 2nd person subjects independently of the argument structure of the verb. In both cases, the past-participle agrees with any of its plural arguments.

I conclude from these observations that the base-generated position of the surface-subject is not responsible for the occurrence of SPPA. The crucial factor in the realization of SPPA is the auxiliary which is selected: *be* enables SPPA while *have* prevents it. In section 3, I propose an account of this phenomenon.

2.2. Past-participle agreement with the direct object (OPPA)

In the previous section we have seen that, in many languages, when a verb selects the auxiliary *have*, the past-participle does not agree with the subject. It shows up in its default form independently of its argumental structure. Yet, in some languages, the past-participle of a transitive verb agrees with the DO under certain conditions.

In standard French, a transitive past-participle can only agree with a DO that has raised to the left of its base-generated position, i.e the complement of VP.

14. Marie a   peint /*es   les chaises.
    Marie has painted$_{DFT/*FEM.PL}$ the chairs $_{FEM.PL}$
15. Marie les$_i$ a   peintes t$_i$.
    Marie them$_{CL.FEM.PL}$ has painted$_{FEM.PL}$
16. Je me   demande quelles chaises$_i$ Marie a   peintes t$_i$.
    I myself ask   which chairs$_{FEM.PL}$ Marie has painted$_{FEM.PL}$

In Italian, transitive past-participles obligatorily agree with 3rd person clitic objects (17) and optionally with 1st and 2nd person clitics (18). They never agree with DOs in situ (19) or wh-objects (20).

17. L'   ho   vista/*o
    Her$_{CL.FEM.3SG}$ (I) have seen$_{FEM.SG/*DFT}$ Belletti (2001:3)
18. Mi/ti   ha   vista/o
    Me/you$_{CL.FEM.1/2SG}$ have seen$_{FEM.SG /DFT}$ Belletti (2001:4)
19. Gianni ha   letto   i libri
    Gianni has read$_{DFT}$ the books $_{MASC.PL}$
20. Quanti   libri   hai   letto?
    How many books$_{MASC.PL}$ have (you) read$_{DFT}$ Belletti (2001:8)

In Slavic languages, when *be* is selected, the participle does not agree with the DO, even when the latter precedes the former:

21. Já   jsem obraz   koupila.   Czech
   I$_{NOM.FEM.SG}$ be$_{1SG}$ painting$_{ACC.MASC.SG}$ bought$_{PART.FEM.SG}$
   `I bought a painting.'   R. Simik (p.c.)

In Czech and in Polish, *have* is used together with a passive participle in the so-called "stative-perfect construction" (see section 5). Here, the participle agrees with the DO.

22. Mam   wszystkie jabłka   sprzedane   Polish
   have$_{1SG}$ all   apples$_{NV.PL}$ sell$_{PASS.NV.PL}$
   'All my apples have been sold'   Migdalski (2006:157)

In colloquial French (see section 5), Icelandic and Macedonian for example, OPPA never occurs with DOs, independently of their position.

As this section has shown, the presence or absence of OPPA patterns in ways that vary greatly from one language to another. In section 5, I propose an account of the French patterns and suggest that a parallel can be drawn between them and the Slavic data mentioned here.

3. The approach: Architecture of the clause and conditions on the realization of PPA

In 2.1, I presented a set of data showing that SPPA takes place when the auxiliary is *be* but does not when the auxiliary is *have*. In 2.2, I showed that in standard French OPPA can occur with a raised DO. In this section I outline the formal requirements I take to be at stake in the realization of subject and object PPA in French. These conditions being partly based on the architecture of the clause, I first outline the basic structure of a clause comprising an auxiliary and a past-participle[6].

3.1. The architecture of the clause

I assume that the main verb is merged under V and the participial morphology under v(*)Prt. IAs are merged as the complement of V. The auxiliary *be* is merged in T. This gives us the following representation for a clause containing the compound tense of a passivized verb or an unaccusative verb selecting the *être* ('be') such as *arriver* ('arrive'):

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6. I will assume this structure to be correct for French, not committing myself to definite claims about other languages.

23. Marie est arrivée.
    Marie is arrived$_{FEM.SG}$
24. [$_{TP}$ [est] [$_{vPrtP}$ [-é] [$_{VP}$ [arriver] Marie]]]

In transitive/unergative perfective clauses, the auxiliary is *avoir* ('have') in French. Following Freeze (1992), Kayne (1993) and Mahajan (1997) among many others, I consider that *have/avoir* is composed of the auxiliary *be/être* and an adposition. Mahajan (1997) indeed observes that the auxiliary *have* is generally absent in verb peripheral languages like Hindi/Urdu (SOV), which have ergative case-marking. Conversely, verb medial languages like French (SVO) lack ergative case-marking but very often possess the auxiliary *have*. Mahajan concludes that the auxiliary *have* and ergative case have the same source[7]. To support his claim he shows that, in Hindi, ergative case-marking of the subject (more precisely affixation of an ergative post-position) appears in transitive perfective clauses (25), just like auxiliary *have* in most SVO languages (26). In unaccusative constructions, where SVO languages mostly use the auxiliary *be* to form their compound tenses (28), the subject is not ergative-marked in Hindi (27). The first three examples are from Mahajan (1997:39-40):

25. Raam-ne   bhindiiyãã pakaayii   hɛ̃.   Hindi
    Ram-$_{ERG.MASC}$ okra$_{FEM.PL}$ cook$_{PERF.FEM.PL}$ be$_{PRES.FEM.PL}$
    'Ram has cooked okra'
26. Jean   a   cuit   les tomates.   French
    Jean$_{MASC.SG}$ has cooked$_{DFT}$ the tomatoes$_{FEM.PL}$
27. Raam   aayaa   hɛ   Hindi
    Ram$_{MASC}$ come$_{PERF.MASC.SG}$ be$_{PRES.SG}$
    'Ram has arrived'
28. Marie   est venue.   French
    Marie$_{FEM.SG}$ is come$_{FEM.SG}$

Mahajan suggests that in both Hindi and French the subject of (25) and (26) starts as a PP in the specifier position of VP. In French, the ergative adposition then incorporates into the auxiliary *be* to which it is left-adjacent, yielding *have*. The subject raises to specTP where it receives nominative case. In Hindi, given the verb final status of the language, the auxiliary *be* is not adjacent to the adposition. The latter thus suffixes onto the subject, marking it as ergative.

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7. See Mahajan (1997:44-45) and Freeze (1992) for a possible connection with other uses of *have* such as the possessive construction.

I follow Mahajan in considering that *have* is *be* augmented by an ergative adposition[8]. Unlike in his account however, I take this adposition to be the head of a projection in whose specifier the EA is merged[9]. I situate this 'ErgPP' to the right of T and to the left of v*PrtP. This yields the following base-structure for a transitive sentence such as (26):

29. [TP [est] [ErgPP Jean [ErgP] [v*PrtP [-t] [VP [cuire] les tomates]]]]

If the auxiliary *have* is simply the morphological realization of *be* into which an adposition has incorporated, then one must be consistent and assume that any time the form *have* surfaces, this is evidence for the presence of an underlying P. I therefore consider that for those French unaccusative verbs which select *have*, an ErgPP is part of the structure of the clause[10]. I assign the sentence in (30) the base-structure in (31)[11]:

30. La viande   a   cuit.   French
    The meat_{FEM.SG} has   cooked_{DFT}
31. [TP [est] [ErgPP [ErgP] [vPrtP [-t] [VP [cuire] la viande]]]]

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8. Mahajan (1997:fn 9) notes that "the exact cause of the obligatoriness of P incorporation remains unclear". For proposals as to the mechanisms of P incorporation into *be*, I refer the reader to Freeze (1992) and Kayne (1993). I leave to future research an analysis of P incorporation that would be compatible with the proposal developed in this paper.

9. If ErgP is indeed a component of auxiliary *have*, this is close to the proposals by Hoekstra (1986) and many others according to which auxiliary *have*, contrary to past-participles, can introduce an agent argument.

10. Interestingly, Butt (1993:fn 7) points out that ergative subjects are not absent of all "intransitive perfective constructions". If 'intransitive' here means 'unaccusative', then it is not astonishing that some unaccusative verbs in French select the auxiliary *avoir*.

11. Note that no EA is merged in the specifier of the ErgPP in the case of unaccusative verbs. Providing an account of this difference between (26) and (30) would require a close study of the conditions underlying auxiliary selection in French, which is far beyond the scope of this paper. I only make the tentative assumption that the specErgPP of (30) could host a silent causer argument. According to Kayne (2008:16), anticausative verbs such as *exploser* ('explode') (or *cuire* ('cook') in the present case) should be attributed "a derivation involving a silent causative/activity verb"). Interestingly, whilst *disparaître* ('disappear') can only take the auxiliary *have*, suggesting the presence of a silent causer DP in specErgPP, *apparaître* ('appear', 'surface') is only compatible with *be*. The verb *paraître* ('appear', 'to be published') can take either *be* or *have*.

Now that the proposal for the structure of a perfective clause is in place, I present the conditions under which I take S/OPPA to occur in French.

3.2. The conditions for the occurrence of S/OPPA

Largely inspired by Bobaljik (2006)'s paper on the realization of Finite Verb Agreement in the Phonological Component of the Grammar, I assume that the realization of Subject and Object PPA depends on the fulfillment of the following conditions:

32. S/OPPA occurs at PF iff the DP trigger of agreement on the past-participle (or one of its copies):
    (i) bears accessible case and
    (ii) is in the same Spell-Out domain as the past-participle and
    (iii) is the highest (left-most) DP bearing accessible case in this Spell-Out domain.

I use the conventional definition of Spell-Out domain (Chomsky 2001, 2008), that is PPA will take place at PF if the DP trigger of agreement on the participle and the participle itself are situated in the complement of the same phase-head (v* or C) and are thus transferred to PF together[12]. I take the little v* of transitive verbs to be a phase-head and the little v of unaccusative/passivized verbs to be a defective phase-head. I adopt the first version of the Phase Impenetrability Condition (PIC$_1$, Chomsky 2000) and thus consider that the complement of a phase-head is sent to PF as soon as the whole phase is completed.

Concerning case-accessibility, it seems that both nominative and accusative case are accessible for PPA in French. Indeed, looking at the French examples of section 2, we see that subjects presumably bearing nominative case and direct objects presumably bearing accusative case can trigger PPA (6, 15), albeit not always (5,14) (cf. the account in sections 4 and 5). On the contrary, dative objects can never trigger PPA even if they precede the past-participle (33). This suggests that dative case is not accessible for agreement [13].

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12. See D'Alessandro and Roberts (2008) for a similar proposal. This view departs from Bobaljik's (2006) definition of agreement domain in which the v*P phase does not count. The domain of finite verb agreement in his analysis is composed of the whole clause and the highest specifier of the following clause.

13. The point is more visible in Icelandic in which, contrary to French, case-marking has a morphological reflex: the following sentences show that DPs bearing

33. Jean lui   a   offert /*e   un manteau, (à Marie).
    Jean her_{FEM.SG} has offered_{DFT/*FEM.SG} a coat_{MASC.SG} (to Marie)
    '(Marie), Jean has offered her a coat.'

In the next sections I show how the patterns of S/OPPA in French can be accounted for if we adopt the clausal structure and the conditions on the realization of PPA outlined in this section.

4. An account of Subject PPA

As section 2 has shown, the patterns of SPPA in French (and in the other languages observed) are not dependent on the base-generated position of the subject but only on the auxiliary which is selected to form the present perfect of a verb: when the auxiliary selected is *be*, SPPA is obligatory; when the auxiliary is *have*, SPPA is ungrammatical[14]. I give an account of this phenomenon in this section.

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nominative and accusative case can trigger PPA (i, ii) while oblique case-marked DPs cannot (iii).

(i) Henni hafa verið   sendir   peningarnir
    her_{DAT} have_{PL} been_{DFT} sent_{NOM.MASC.PL} money-the _{NOM.MASC.PL}
    'The money has been sent to her'   Thráinsson (2007:153)

(ii) Ég tel   Maríu   hafa verið tekna   af lögreglunni
     I believe Mary_{ACC.FEM.SG} to.have been_{DFT} taken_{ACC.FEM.SG} by police.the
                                                        Baker (2008:211)

(iii) Var   þeim ekki hjálpað?
      was_{DFT} them_{DAT} not   helped_{DFT}
      'Were they not helped?'   Sigurðsson (2009:2)

Although I take the distinction between 'Case licensing' and 'morphological case', i.e post-syntactic case assignment (Marantz 1991, Mac Fadden 2004, Bobaljik 2006) to be crucial in general, I will not make accessibility for agreement depend on morphological case assignment here (contra Bobaljik 2006).

14. Note that, in French, auxiliary *be* itself selects *have* in the present perfect. Accordingly, the participle of *be* is invariable. However, the participle of the main verb does agree with the subject, since the auxiliary it selects is *be*, albeit in a compound form.

(i) La viande   a   été   cuite   par Jean.
    The meat_{FEM.SG} has been_{DFT} cooked_{FEM.SG} by Jean
The same pattern is observable in Icelandic:
(ii) Ég tel   Maríu   hafa verið tekna   af lögreglunni.
     I believe Mary_{ACC.FEM.SG} to.have been_{DFT} taken _{ACC.FEM.SG} by police-the
                                                        Baker (2008:211)

Let us first consider examples where the auxiliary is *be*. In French, this is the case in sentences containing a passivized or an unaccusative verb. Such a sentence and its base structure are repeated below for convenience:

34. Marie est arrivée.

    Marie is arrived$_{FEM.SG}$

35. [$_{TP}$ [est] [$_{vPrtP}$ [-é] [$_{VP}$ [arriver] Marie]]]

The derivation proceeds as follows and is schematized in (36). First, the verb raises to vPrt and attaches to the participial morpheme *é*. Second, given that *arriver* is an unaccusative verb, the IA is not assigned case in its base-position, it therefore raises to specTP where it receives nominative case. I assume that the IA does not pass through specvPrtP: since vPrt is not a strong phase-head, its complement is not sent to Spell-Out when vPrtP is completed, hence the movement of the IA does not need to proceed via an escape hatch.

36. [$_{CP}$ ⌐ PF$_1$
    [$_{TP}$ Marie$_{NOM}$ [est] [$_{vPrtP}$ [arriv-é] [$_{VP}$ [~~arriver~~] ~~Marie~~]]]]

PPA with the derived subject here is straightforwardly accounted for given that the configuration fulfills the conditions listed in (32): (i) the derived subject bears nominative case, which is an accessible case, (ii) it is in the Spell-Out domain of the past-participle: the complement of the phase-head C, namely TP.

In the Czech transitive sentence (37), the accusative object seems to have left the VP. This means that it is part of the complement of the phase-head C at the time of Spell-Out, as are the past-participle and the nominative subject. The fact that PPA occurs with the subject and not with the DO, despite the latter's position on the left of the past-participle, is expected: given condition (iii) of (32), it has to be the subject, as the highest accessible DP in the Spell-Out domain of the past-participle, which triggers PPA:

37. Já   jsem obraz   koupila.   R. Simik (p.c.)

    I$_{NOM.FEM.SG}$ be$_{1SG}$ painting$_{ACC.MASC.SG}$ bought$_{PART.FEM.SG}$

    `I bought a painting.'

It seems that *have* prevents the occurrence of SPPA only on the verb it is the auxiliary of. I leave to future research an account of this phenomenon which would be compatible with the present line of analysis.

I now consider transitive clauses where the auxiliary is *have* such as the following one from standard French:

38. Nous l'   avons achetée / *s,   (la peinture)
    We   it$_{CL.FEM.SG}$ have   bought$_{FEM.SG /*MASC.PL}$ (the painting$_{FEM.SG}$)
    '(The painting), we have bought it.'

Contrary to the sentence in (37), in this example, PPA takes place with the DO, not with the subject. This suggest that in (38), the highest accessible DP in the domain of the participle is not the subject but the DO. In other words, this means that the subject is not in the complement of the same phase-head as the past-participle, otherwise, being higher than the DO and bearing accessible case, it would trigger SPPA as the subject does in the Czech example. I will now show why SPPA is not possible in (38) (and in sentences containing the auxiliary *have* in general). In section 5, I propose an account of OPPA.
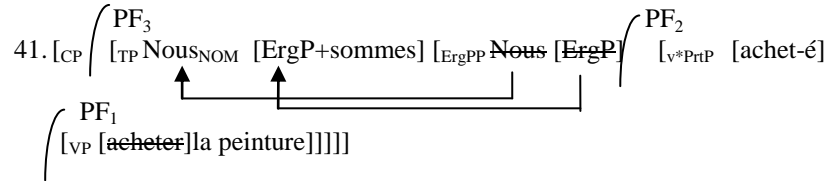
Recall from section 3.1 that the difference between the auxiliaries *have* and *be* is the presence of an ergative adposition 'ErgP' in the base-structure of clauses in which the verb selects the auxiliary *have*. Given that SPPA occurs when the auxiliary is *be* (34) but not when auxiliary is *have* (38), the absence of SPPA must be related to the presence of ErgP.

Now recall that PPA can take place only if the DP trigger of agreement and the past-participle are in the same Spell-Out domain, i.e in the complement of the same phase-head. Hence, the impossibility of SPPA in (38) indicates that the subject and the past-participle are not in the same Spell-Out-domain.

If the absence of SPPA is linked both to the presence of ErgP and to the fact that the subject and the past-participle are not in the complement of the same phase-head, one can conclude that ErgP is the element which prevents the subject and the past-participle from being sent together to PF in clauses where *have* is selected. I suggest that this effect of ErgP can be formalized in saying that ErgP is the head of a strong phase. In this way, ErgP creates a phase boundary. Hence, when the ErgPP-phase is completed, the complement of ErgP is sent to Spell-Out, while ErgP and its specifier remain in the syntax until the next strong phase (CP) is merged.

The base-structure of a transitive perfective sentence such as (39) is given in (40). (41) illustrates (i) the derivation with the cyclic Spell-Out of the complements of the phase-heads, (ii) the incorporation of the ergative adposition into the auxiliary *be* (*sommes* in 40) yielding *have* (*avons* in 39) and (iii) the movement of the EA from specErgPP to specTP.

39. Nous avons acheté /*s   la peinture.
    We   have   bought$_{DFT /*MASC.PL}$ the painting
40. [$_{TP}$ [sommes] [$_{ErgPP}$ Nous [ErgP] [$_{v*PrtP}$ [-é] [$_{VP}$ [acheter] la peinture]

41. [$_{CP}$ [PF$_3$ [$_{TP}$ Nous$_{NOM}$ [ErgP+sommes] [$_{ErgPP}$ ~~Nous~~ [~~ErgP~~] [PF$_2$ [$_{v*PrtP}$ [achet-é]

[PF$_1$
[$_{VP}$ [~~acheter~~]la peinture]]]]]

We see in (41) that, because ErgP creates a phase boundary, the past-participle is sent alone to PF in the Spell-Out domain I called 'PF2' when the ErgPP-phase is merged. The subject, on the other hand, is sent to the phonological component when the CP phase is completed, in the Spell-Out domain 'PF3'. As they belong to two different domains at PF, the subject and the past-participle cannot agree.

Before closing this section, let us return to unaccusative (and passivized) verbs. In (34), as the auxiliary *be* is selected, the clausal structure does not contain an ErgPP projection. Hence, no phase boundary is created between the subject and the past-participle. The latter are therefore sent to PF simultaneously and this gives rise to SPPA[15]. Now, as already mentioned,

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15. In French expletive constructions, finite verbs agree with the expletive and not with the associate DP:
(i) Il   poussa / *poussèrent beaucoup de fleurs   l'année dernière.
    There$_{EXPL}$ grew$_{SG/*PL}$ lots   of flowers last year.
Past-participles also agree with the expletive and not with the associate DP:
(ii) Il   est arrivé /*s   trois hommes.
    There$_{EXPL}$ is   arrived$_{MASC.SG/*MASC.PL}$ three men
(iii) ?Il   est mangé/*es   beaucoup de fraises   chaque été en France.
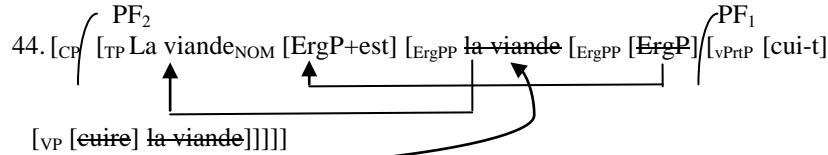   There$_{EXPL}$is eaten$_{MASC.SG/*FEM.PL}$ lots of strawberries$_{FEM.PL}$each summer in France
It seems that the lack of PPA with the IA in sentences like (ii) and (iii) can also be explained by the proposed analysis. Although the IA is in the same phase as the past-participle and presumably bears nominative case assigned by T via the expletive, it cannot trigger PPA since PPA should occur with the highest accessible DP in the Spell-Out domain of the past-participle, which corresponds in (ii) and (iii) to the expletive.
Similarly, lack of PPA in (iv) is expected if the IA *combien de fraises* raises to CP without stopping (and thus without leaving a trace) in the specifier of the defective vPrtP as assumed in the discussion of example (34) in the text. As the IA is in CP, it is not part of the complement of the phase head C, i.e TP, which contains the past-participle. PPA instead takes place with the expletive, this being the highest accessible DP in the Spell-Out domain of the participle.

French also has unaccusative verbs which select the auxiliary *have*. We have observed that, in these cases, SPPA cannot occur contrary to with unaccusative verbs that select *be*. This is accounted for given the analysis proposed here: the ErgP contained in the auxiliary *have* creates a phase boundary. This prevents the IA, which has been raised to specTP, from belonging to the complement of the same phase-head as the past-participle and thus prevents it from triggering PPA. The derivation of (30), repeated here as (42), is illustrated in (44).

42. La viande   a   cuit.   French
    The meat$_{FEM.SG}$ has cooked$_{DFT}$
43. [$_{TP}$ [est] [$_{ErgPP}$ [ErgP] [$_{vPrtP}$ [-t] [$_{VP}$ [cuire] la viande]

44. [$_{CP}$ [$_{TP}$ La viande$_{NOM}$ [ErgP+est] [$_{ErgPP}$ ~~la viande~~ [$_{ErgPP}$ [~~ErgP~~] [$_{vPrtP}$ [cui-t]

PF$_2$ PF$_1$

[$_{VP}$ [~~cuire~~] ~~la viande~~]]]]]

Two remarks are in order here. First, as *cuire* ('cook') in (42) is an unaccusative verb, the vPrt-head is defective and so, the IA does not need to stop in specvPrtP. However, ErgP is a strong phase-head. It is logical therefore to suppose that the movement of the IA to specTP proceeds via specErgPP (if we assume here the presence of a silent causer DP in the first specifier of ErgP (see footnote 11), then we must resort to multiple specifiers). Second, given that vPrtP is defective, it is sent to PF together with the trace of the IA. However, the trace of the IA does not bear case, case being assigned to the IA only when it has raised to specTP. I assume that 'no case' is equivalent to 'unaccessible case' for matters of agreement. Consequently, the trace of the IA, despite being in the same PF-domain as the past-participle, cannot trigger agreement.

(iv) Je me   demande combien de fraises   il   est mangé /*es.
     I myself ask   how many of strawberries$_{FEM.PL}$ there is eaten$_{MASC.SG//*FEM.PL}$
Finally, the ungrammaticality of (v) with PPA as well as without could receive the following explanation. In (v), the IA *trois hommes* would presumably have raised to specvPrtP. But this movement seems never to be necessary since the IA can either stay in situ and receive case from the expletive as in (i) or raise directly to specTP without stopping in specvPrt.
(v) *Il est trois hommes arrivé/*s.

To sum up in this section I have given an account of SPPA that relies uniquely on auxiliary selection and not on the argumental structure of a verb. I have shown that postulating the presence of a head which creates a phase boundary and subsequently raises and incorporates into *be* accounts for the impossibility of SPPA in French with all the verbs that select *avoir*. Conversely, the absence of a phase-head in the structure of a clause in which auxiliary *be* is selected results in the obligatory occurrence of PPA with the DP which occupies the canonical subject position, i.e the derived IA of unaccusative and passivized verbs and the expletive in French impersonal constructions.

In the next section I suggest an account of the patterns of object PPA in standard and colloquial French.

5. An account of Object PPA

Object PPA in French is often taken to be optional. It seems to me that the realization of PPA is a matter of register rather than of optionality[16]. Thus, although there is no clear division between speakers of the two varieties, here I will distinguish standard French from colloquial French.

5.1. The data in more details

As observed by Obenauer (1994), PPA in standard French takes place with wh-raised DOs provided that they are interpreted as specific:

45. Je sais   combien   de ces   pommes tu   as cuites.
    I   know how many of these apples   you have cooked$_{FEM.PL}$

Hence, as pointed out by Rizzi (2000:13), when a modifier is added which excludes a specific interpretation (46b), PPA is ungrammatical (47):

46. a.How many mistakes have they made this time?
    b.*How many mistakes fewer (than last time) did they make this time?
47. Combien   de fautes   en moins ont-ils   fait / *es   cette fois?
    How many of mistakes$_{FEM.PL}$ less have-they made$_{DFT/*FEM.PL}$ this time

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16. More precisely, this means that the same speaker might realize OPPA in formal situations whilst not doing so in casual ones. Importantly, this distinction does not apply in the case of SPPA. In both registers, SPPA is realized when the auxiliary is *be* and absent when the auxiliary is *have*.

As most clitics are associated with a specific interpretation, they also trigger PPA in standard French[17]:

48. (Les pommes,) je les   ai   cuites/*-
    (The apples)   I them$_{CL.FEM.PL}$ have cooked$_{FEM.PL/*-}$

Finally, observe that DOs in situ never trigger agreement, regardless of their interpretation[18]:

49. J'ai   cuit   des pommes / quelques pommes   du jardin.
    I have cooked$_{DFT}$ apples$_{FEM.PL}$/ some   apples$_{FEM.PL}$ of-the garden

In colloquial French, OPPA does not takes place, even when the DO is associated with a specific interpretation:

50. Je sais combien de ces pommes tu as cuit.
51. (Les pommes,) je les ai cuit.

5.2. The formal analysis

Recall that in the analysis proposed here, PPA takes place at PF if an accessible DP is situated in the same Spell-Out domain as the past-participle. If agreement occurs at PF, agreement cannot be responsible for the specific interpretation that DOs receive at LF. Similarly, the specific meaning of a DO cannot give rise to agreement in the PF component of the grammar. I therefore suggest that specificity and OPPA are the interpretation by the interfaces of a certain syntactic structure. Thus the occurrence of OPPA and specificity are only indirectly related.

In this subsection, I propose that DOs which trigger PPA and those which do not are associated with two different syntactic configurations which are diachronically related. Interestingly, similar syntactic configurations have been claimed to be linked to the specific vs. non-specific interpretation of

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17. The clitic *en* ('of-it/them') does not trigger OPPA:
(i) J'en ai   cuit /*es, (des pommes).
    I *en* have cooked$_{DFT/*FEM.PL}$ (of apples)
    '(Apples), I have cooked some'
This is expected as *en* is not compatible with a specific interpretation:
(ii) *Je sais combien de ces pommes tu en as cuit/es.
18. Note that, contrary to OPPA, SPPA is not contingent on specificity. In (i), the auxiliary is *be*, thus the derived subject obligatorily triggers agreement in spite of its non-specific interpretation.
(i) Combien de pommes   en moins ont été cuites /*-   aujourd'hui?
    How many of apples$_{FEM.PL}$ fewer   have been cooked$_{FEM.PL /*-}$ today?

DOs in other languages. I briefly address this matter at the end of the section.

   Let us start with the DOs which trigger PPA in standard French, namely specific clitics and wh-objects. I wish to relate their ability to trigger PPA to a particular syntactic construction which existed in Latin, the ancestor of the Romance languages.

   Salvi (1987) argues that the origins of the Romance present perfect lies in the Latin construction which was used to express possession (52). The clause was composed of the lexical verb *habeo* ('I have') and its complement phrase, which was headed by an adjectival participle. The possessed entity was referred to by the IA of the participle. Given its adjectival character, the participle could not assign case and its IA had to raise to the left of the complement phrase to be case-marked by *habeo*. This is illustrated in (53).

52. Habeo epistulam scriptam   adapted from Salvi (1987:226)
       (I) have (a) letter$_{ACC}$ written$_{ACC}$
      'I have a written letter' = 'I have a letter which is written'

53. EA [$_{VP}$ habeo [$_{adjPrtP}$ IA [adjPrt] I̶A̶]]   adapted from Salvi (1987:228)
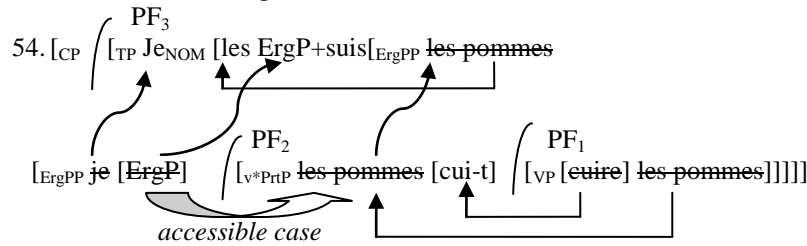
In this construction, as (52) shows, the participle agreed with the raised IA.

   Salvi (1987) explains that this construction underwent semantic changes which were followed by modifications in the clausal syntactic structure. These gave rise to the modern Romance periphrasis which expresses anteriority. The lexical verb *have* first underwent a semantic bleaching: according to Salvi (1987:230), "*habeo* does not enter into the semantic interpretation of the construction [anymore, thus] the predication axis is transferred to the participle". This enabled perfective verbal participles to appear in the construction. Salvi assumes that, at this stage, despite its on-going auxiliarization, *habeo* is still responsible for case-marking the IA, the participle not being able to do so.

   I would like to suggest that the cases where a raised DO triggers agreement on the past-participle in standard French (cf. (45), (48)) are the last traces of this Old Romance construction[19]. The derivation of a sentence like (48) proceeds as follows and is illustrated in (54): the DO needs to raise to the clitic position (or to CP in the case of wh-phrases). The participle is not able to assign case to the DO but it is transitive, so it heads a strong

19. Grevisse (1993:1333) gives for old French *ai letres escrites* ('(I) have letters written').

phase (v*PrtP). Hence, the DO has to proceed via specv*PrtP [20]. There, it is assigned case by *have*, or more precisely by the adposition which is a part of *have* (cf. section 3). As OPPA occurs the case assigned by the adposition must be accessible. OPPA is triggered at PF by the trace left by the DO when it raised further up.

54. [CP [TP Je$_{NOM}$ [les ErgP+suis[ErgPP ~~les pommes~~

[ErgPP ~~je~~ [ErgP] [v*PrtP ~~les pommes~~ [cui-t] [VP [~~cuire~~] ~~les pommes~~]]]]]

accessible case

This account of OPPA in standard French is supported by the fact that in certain Slavic languages like Polish and Czech, a construction involving *have*, which takes as a complement a defective (passive) participle and its raised IA, is also available. Migdalski (2006) explains that this construction still often expresses possession, albeit not always as the following example shows (note that the raised IA triggers OPPA):

55. Mam   wszystkie jabłka   sprzedane   Polish
    have$_{1SG}$ all   apples$_{NV.PL}$ sell$_{PASS.NV.PL}$
    "All my apples have been sold"   Migdalski (2006:157)

According to Migdalski (2006), this construction, which he calls 'stative perfect', is an intermediate step toward the total grammaticalization of the use of *have* as an auxiliary to form the perfect tense[21].

I now turn to the DOs which do not trigger PPA, that is the in-situ DOs in both standard and colloquial French, the raised specific and non-specific

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20. The idea that a participle can head a strong phase while not being able to assign case to its IA recalls Richards' (to appear) notion of "partially defective phases" which, in spite of having a defective v head, are strong phases for matters of Transfer to the interfaces.

21. In French, the DO never appears between the auxiliary and the past-participle:
(i) *J'ai   les pommes   cuites.
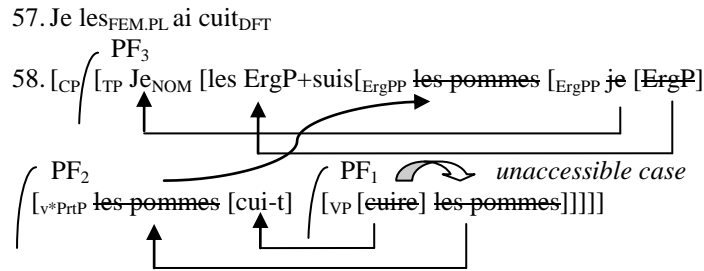   I have the apples$_{FEM.PL}$ cooked$_{FEM.PL}$

I suggest that this could be explained by the fact that the DO does not need to raise via specv*PrtP to get case, but to reach the clitic position or the left-periphery of the clause. Thus, case-assignment by the adposition is a side effect of the need of the IA to raise via an escape hatch.

DOs in colloquial French and the non-specific DOs in standard French. Salvi (1987) argues that the late Latin/old Romance pattern in which *have* still case-marks the IA but has already turned into an auxiliary undergoes a last syntactic change leading to the modern structure: the order participle-IA becomes prevalent, making *have* lose its ability to assign case but turning the past-participle into a case-assigner in the presence of *have*:

56. NP [$_{VP}$ 'habeo' [$_{VP}$ V NP]   adapted from Salvi (1987:233)

I propose that it is in this syntactic configuration that the in situ DOs and the non-agreeing raising DOs are merged. I further suggest that the case assigned by the participle, contrary to the case assigned by the adposition in (54), is not accessible for agreement[22]. Thus, when a raising DO leaves a trace in specv*PrtP, i.e. in the Spell-Out domain of the past-participle, this trace is not able to trigger OPPA.

57. Je les$_{FEM.PL}$ ai cuit$_{DFT}$

58. [$_{CP}$ [$_{TP}$ Je$_{NOM}$ [les ErgP+suis[$_{ErgPP}$ ~~les pommes~~ [$_{ErgPP}$ ~~je~~ [~~ErgP~~]
PF$_3$

PF$_2$
[$_{v*PrtP}$ ~~les pommes~~ [cui-t]   PF$_1$ *unaccessible case*
[$_{VP}$ [~~cuire~~] ~~les pommes~~]]]]]

Again, it seems that Slavic languages offer support to the analysis proposed. Migdalski (2006) shows that the use of *have* in perfective constructions in Madedonian has reached a higher level of grammaticalization than in Czech or Polish for instance. He explains that in Macedonian, the auxiliary has lost its verbal semantic and syntactic characteristics and that it is therefore the past-participle which assigns case to the IA. Crucially, in Macedonian, neither DOs in situ nor raised DOs trigger PPA.

59. Jas imam   kupeno   knigi.
    I   have$_{1SG}$ buy$_{PTP.NEU.SG}$ books$_{FEM.PL}$

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22. It has been proposed that the DOs that are not able to trigger agreement bear an inherent case (Belletti 2001, Sportiche 1990). However, according to Woolford (2006), inherent Case is never assigned to IAs. Thus, I wish not to give a precise label to this case assigned by V and just to refer to it as 'unaccessible case'.

60. Petar   ja   ima   završeno   taa rabota.
    Petar$_{MASC.SG}$ it$_{CL.ACC}$ have$_{3SG}$ finish$_{PTP.NEU.SG}$ that work$_{FEM.SG}$
    "Petar has finished that work"   Migdalski (2006:129)

The questions now arise why the non-specific raised DOs do not trigger OPPA in standard French, while the specific ones do and why in colloquial French both specific and non-specific DOs do not give rise to OPPA. I proposed in this section that DOs triggers of PPA are assigned case by ErgP on their way to the clitic position or to CP. DOs which do not trigger agreement on the other hand receive case in the complement position of V. At present I can only point out that these two positions involved in DO case assignment in French resemble the two syntactic positions which are claimed to be linked to the specific vs. non-specific interpretations of DOs in various languages. Ramchand (1993) shows that in Bangla and Scottish Gaelic, objects that are case-marked in specVP are always interpreted as specific while objects case-marked in the complement of V may receive either a non-specific or a specific interpretation. Similarly, Butt (1993:89) explains that in Hindi/Urdu, "non-specific objects can only appear as complements to a V, while specific objects are generally situated in the Spec of VP". If the DPs triggering OPPA at PF in French are indeed assigned case in specv*P and if DPs in this position may only receive a specific interpretation at LF, then the strict correlation between specificity and occurrence of OPPA is established. Similarly, if DPs case-marked in VP may receive either a specific or a non-specific interpretation at LF, and if these DPs receive a case that makes them unaccessible for agreement, then we explain why lack of agreement can be linked to both specificity and non-specificity.

To sum up, in this section I have suggested that the occurrence vs. non-occurrence of OPPA at PF in French is related to the availability of two diachronically related syntactic structures. I have also tentatively proposed that the interpretation at LF of these syntactic configurations give rise to the specific vs. non-specific interpretation of the DOs.

6. Conclusion

In this paper I have proposed an account of subject and object past-participle agreement in French. Based on a set of cross-linguistic data, I have argued that PPA in French does not depend on the argumental structure of a verb but only on the auxiliary which is selected to form the present perfect. I have showed that the presence of an ergative adposition 'ErgP' in the syntactic structure gives rise to the formation of an additional

phase boundary in clauses where *have* is selected. This prevents the subject from belonging to the same Spell-Out domain as the past-participle and thus from triggering SPPA. I have then suggested that direct objects which trigger PPA receive an accessible case from ErgP while DOs which are not able to trigger agreement receive an unaccessible case from V. This, I have argued, is not a matter of optionality but reflects the existence in standard French of two distinct diachronically related syntactic structures. Last, I have briefly addressed the strict link existing between the occurrence of OPPA and the specific interpretation of DOs.

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