1. Introduction
In this paper, I examine what I call the subjunctive-infinitive alternation in French. These are cases where a matrix verb can take either a subjunctive or infinitive complement. I propose that subjunctives and infinitives are derivationally related in that they represent two possible outputs of the same set of formal features.\(^1\)

The motivation for this claim comes from several sources. Perhaps the most striking - and the one that will be the focus here - is the fact that, in certain environments in Romance, the subjunctive and infinitive are in complementary distribution with each other. For example, volitional verbs take an infinitive complement if the subjects of the matrix and subordinate clause co-refer, but a subjunctive otherwise. This is illustrated in (1) for French:

1a. Jean veut partir
   ‘John wants to leave’

b. Jean\(_i\) veut qu’il\(_i\)_j parte
   ‘John wants he to leave’

This complementary distribution illustrates the kind of functional equivalence of the subjunctive and the infinitive, the presence and identity of the subject being the determining factor. Complementary distribution in phonology is generally taken as evidence that two entities are derived from the same source. I follow Luján (1999) in taking the distribution here as evidence for a similar conclusion but applied to structures rather than phones.

Another interesting point which suggests a kind of 'mutual compatibility' between the subjunctive and infinitive is that Balkan languages use a subjunctive in environments where we see the SI-alternation in Romance. This is shown in (2) for Bulgarian (Krapova, 1999):

\[^1\] Note that I limit my discussion here to complement clauses that show the subjunctive-infinitive alternation, leaving so-called secondary subjunctives (those induced by negation or an interrogative element in the matrix), subjunctives in relative clauses and subjunctives in root clauses aside.
2. Ivan iska (e) da dojde
‘Ivan wants to come/for him to come’ (ambiguous)

Numerous authors have addressed the subjunctive-infinitive connection either within a language/language family or cross-linguistically. Wharram (1997, 1999, 2000), for instance, argues for the existence of a ‘subjunctive infinitive’ which alternates with the subjunctive proper in certain environments in European Portuguese and Modern French. Luján (1999) suggests that in Spanish, subjunctives are ‘infinitives in disguise’ (p. 112) and that both have basically the same structure. Her approach in particular is in many ways a forerunner of the analysis proposed here. Rochette (1988) proposes that both subjunctives and infinitives in Romance are IPs, whereas indicatives are CPs. Roussou (2001) pursues a cross-linguistic approach, arguing that control and raising constructions in the Balkan languages, which are realized with a subjunctive complement, should be analyzed in basically the same way as the corresponding infinitival constructions in Romance.

However, there are several clear differences between subjunctives and infinitives, the main one being that subjunctives are generally classified as finite. In this regard, they are introduced by the same kind of complementizer (in French, *que*) as other finite clauses and, unlike infinitives, display subject-verb agreement and nominative case assignment.

In addition, because we are focussing our attention on data from French, we need to point out a language-specific difference regarding word order and negative elements. Consider the following data:

3a. Jean veut ne pas faire ses devoirs.
‘John wants to not do his homework’

b. Jean veut que Paul ne fasse pas ses devoirs.
‘John wants for Paul not to do his homework’

The important thing to note here is the placement of *pas*, which appears before the verb with the infinitive but after the verb with the subjunctive. These word order facts illustrate a difference between subjunctives and infinitives specific to French, and can be added to the more general differences relating to finiteness noted above.

Despite these differences, I nevertheless wish to maintain that subjunctives and infinitives are ‘the same’ in an important respect: they are variant derivational outputs of identical formal features. In other words, subjunctives and infinitives are only derivationally – as opposed to inherently – different from each other. In this
regard, a Late Insertion view of spell-out is assumed (Halle & Marantz, 1993), whereby lexical items do not enter the derivation with phonological features.

Assuming that subjunctives and infinitives arise from a shared source, the primary goal of this paper is to address the issue of how it is they come to differ. The following differences need to be accounted for through derivational means:

4. a. presence of S-V agreement
   b. availability of nominative case
   c. differences in verbal spell-out
   d. differences in complementizer (C) spell-out
   e. differences in word order (French)

2. Theta features and control
I assume, following Manzini & Roussou (2000) and Hornstein (2001) that theta roles are features and so are subject to operations such as ‘Attract’ and ‘checking’ within a given derivation. Both M&R and Hornstein allow for the possibility that a single DP may, in the course of the derivation, engage in a checking relation with more than one theta feature. This possibility is instantiated in Control constructions. Removing the one-to-one requirement of arguments and theta roles allows both approaches to eliminate PRO from Control constructions, arguably a desirable result. Under M&R’s account, Control constructions - which represent one half of the SI-alternation - involve the Attraction of more than one theta feature by a single DP.

In M&R’s system, arguments always merge into Case positions and check the relevant theta feature(s) via Attract. I adopt a hybrid view whereby theta features can be checked either by Merge or by Agree\(^2\). Checking via Merge is accomplished by a DP merging into either the complement or specifier of a theta-assigning head. The other option, in the absence of a DP, is that the theta feature is checked at a later point in the derivation via Agree. This occurs when the theta-feature fails to be checked via merge of a DP into the appropriate position.\(^3\)

\(^2\) Following Chomsky (DbP, etc) I use the term Agree instead of ‘Attract’ – I will actually remain agnostic here as to whether the features Move, as in M&R’s account, or whether a long-distance relation is simply established but without any actual movement of the feature. I don’t think anything hinges on this within the particular analysis proposed here.

\(^3\) I assume that something along the lines of Pesetsky’s (1989) Earliness Principle ensures that if a DP is available in the array to merge and check the theta feature then it must do so – checking must happen as soon as possible. In non-control, mono-clausal constructions, therefore, checking of the theta feature will only be via Merge as there is an argument in the array for every theta feature. There is no choice at any given point to check either via Merge or Agree – this is something determined by the elements in the array. Adopting this restriction together with an analysis whereby Control constructions involve checking of the lower theta feature via Agree
We are now in a position to propose the possible trigger for the cascade of derivational differences that ultimately determine whether the derivational output will be a subjunctive or an infinitive: the presence or absence of a subject DP in the array of the embedded clause. If a DP is present, then the relevant theta feature must be checked via Merge; if not, then checking will be via Agree. The following illustrate the beginnings of the derivations for what will ultimately be a subjunctive (5a) and infinitive (5b):

5a.  
\[
\begin{array}{c}
v_{\text{max}} \\
DP \quad v' \\
v_{\theta} \quad \text{VP}
\end{array}
\]

5b.  
\[
\begin{array}{c}
v_{\text{max}} \\
v_{\theta} \quad \text{VP}
\end{array}
\]

3. Case, AGR, and word order differences

The presence or absence of a subject DP has been proposed as the trigger, the ‘environment’, if you will, that determines how the rest of the derivation will proceed. In this section, I show how this might occur, given certain assumptions regarding Case and Agreement. This section will cover differences noted in 4a, b, and e. I leave differences 4c,d to section 4.

Differences 4a and 4b are intimately connected with each other and are dealt with the most easily. As for 4a, quite simply, the absence of a DP to engage in an agreement with AGRs results in the absence of agreement morphology. As for 4b, I assume, following Chomsky (2000), that Case is assigned under agreement. In the absence of an agreement relation, Case is not assigned. Case is not a feature of T or v or AGR, thus no problem arises in the event that agreement does not occur and Case is not assigned (as in the infinitive). Looking to the structures in 5, in the embryonic infinitive structure, there is no DP to engage in an agreement relation with AGRs – therefore no subject-verb agreement will surface and no case will be assigned. The presence or absence of the DP is what determines whether agreement (4a) and therefore case assignment (4b) will occur. These two differences, then, can be accounted for very simply, with no assumptions other than what is currently accepted. Accounting for word order differences, however, will require some modifications.

Regarding 4e, I assume first that AGR and T are two distinct feature bundles that can be merged separately into the derivation to yield separate AGR and T

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4 Although it remains a feature on a DP/N – until deleted, it is what renders the DP active.
phrases (Pollock, 1989, 1997), with T merging before AGR (Belletti, 1990). Second, I assume that the AGR head, following Chomsky (1995, 1998, 2000), is inherently unvalued (anaphoric or in minimalist terms, uninterpretable) and requires valuation. This is typically accomplished via a relation with a DP.

If we consider the trees given above in (5), the AGR node, which merges in above TP, will be able to be valued in (5a) because of the presence of an available DP, but not in (5b). This much we have already noted above. The question is how this state of affairs results in word order differences.

I propose that the answer lies in a derived structural difference between subjunctives and infinitives: infinitives, but not subjunctives, end up with an IP, as opposed to separate AGRsP and TP projections.

Recall that AGR, composed only of uninterpretable features, is dependent on some other element for valuation of its features. Chomsky’s (1995) position on AGR is that because AGR has no semantic content, it should not project as a functional head. Let us assume, then, that a projection with only uninterpretable features as its head is not a legitimate entity, and moreover that the presence of such a projection is sufficient to halt the derivation because the root is uninterpretable. I depart from Chomsky (1995), however, in that I allow for a projection headed by AGR to be legitimate, so long as its features are valued. In practical terms, this means that AGR must be valued immediately upon Merge by an Agree relation with a lower entity (a DP). If such an entity is unavailable at that point, i.e., if AGR’s uninterpretable features cannot be so valued, the projection with AGR as its head is an illegitimate object.

Assuming this, and given the current proposal so far, the structure lacking a subject DP (the embryonic infinitive) should not be permissible because AGRs’s features are not able to be valued. However, I propose that a way of rescuing such an object is via incorporation of T to AGR. If T incorporates with AGR, and T and AGR form co-heads of a hybrid projection (Roberts, 1993), the projection is now headed by interpretable features as well and becomes a legitimate projection, IP.

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5 There is no AGR projection in Chomsky (1998, 2000). The agreement features are features of T or v, and are uninterpretable.
6 I leave open the possibility that in some cases (namely, Control constructions) it can be achieved via a relation with another already valued AGR head as in Borer (1989) and Landau (1999).
7 I assume that T, with both a subjunctive and infinitive, has an interpretable feature of some kind. However, it is not immediately clear what this feature should be. One possibility is that tense specifications on an infinitive simply end up inert, i.e., that regardless of the presence or absence of a tense feature, the only spell-out available is the infinitive. This in fact works well with the upcoming proposal that T-incorporation is only possible if at PF no instructions regarding a tense feature are required.
The word order facts are now accounted for in the following way: NegP selects T as its complement. This results in NegP merging in between TP and AGRP if INFL is split, but above IP if not. Notice, then, that the subjunctive structure will have an additional projection above NegP (namely AGRP) to which the verb can raise (past *pas*), whereas the infinitive lacks such a projection.

6a. 

```
                      NegP
                        \   /  \   /  \   /
                        pas Neg’ ne IP
                         \   /  \   /  \   /
                          ne IP T/Agr TP
```

---

8 My main concern here is the relative order of the verb and *pas*, however, given that *ne* always precedes *pas*, I assume that *ne* must raise to a functional projection outside of NegP, possibly for scope reasons (Pollock, 1989).

9 Note, assuming that T-incorporation requires adjacency, if NegP intervenes between IP and TP, incorporation of T to AGR will be blocked and the derivation will be halted (due to the root being uninterpretable). So the only possible position for NegP with the infinitive is above IP.

10 This accounts for the word order facts with infinitive main verbs. However, it does not capture the facts for auxiliary/copular infinitives which are optionally realized as either *ne-pas-Aux* or *ne-Aux-pas*, as shown here (though the former is preferred):

i. Marie regrette de ne pas avoir pu te voir
   ‘Marie regrets that she could not see you’

ii. Marie regrette de n’avoir pas pu te voir
   ‘Marie regrets that she could not see you’

To deal with these cases, Pollock (1997) proposes that auxiliaries may optionally move to MoodP in non-finite clauses, and I will essentially follow him in this regard, having no further insight into the optionality (and why finite auxiliaries – including subjunctives - do not exhibit it). Under his approach, the auxiliary is inherently specified as non-finite. This cannot be the case here, however, it might be differentiated from a finite auxiliary by other means, i.e., the status of the AGR node (i.e., unvalued) and lack of thematic saturation percolating up through the tree. This, in conjunction with its auxiliary status, might somehow enable it to move to MoodP, a move that is otherwise not permitted.
There is nothing we have said so far that would prevent T-incorporation from occurring even after AGR’s features are valued, i.e., with the subjunctive. This must be prevented, because otherwise we predict two possible positions for NegP in the subjunctive: one between AGRP and TP (as in 6b), and the other above IP, as with the infinitive. This prediction is not borne out.

Suppose that in order for PF to be able to spell-out a verb with a particular tense feature, T must be in an unambiguous position. In an incorporation structure, T’s position is not unambiguous as it is simultaneously the sole head of a TP and also the co-head of an IP (Roberts, 1993). Spell-out as a subjunctive requires some instruction to PF regarding tense – otherwise PF cannot ‘decide’ which form to insert. If T has incorporated to AGR, then this information will be inaccessible, because of T’s indeterminate position. On the other hand, an infinitive spell-out does not require such an instruction and so T’s status has no negative PF fall-out. In effect, then, the presence of a subject DP (which results, at PF, in a subjunctive spell-out) is incompatible with T-incorporation because of PF requirements.

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11 This is in fact a different spin on Roberts’s original proposal. He suggests that this kind of incorporation is restricted to environments where there is no ‘morphological selection’. Morphological selection is involved when both heads have a morphological realization. Here we are basically reanalyzing this as a PF constraint. The incorporation itself is free, but is ruled out later if a head requires morphological realization but is in an indeterminate position.

12 The problem of expletives, (Elizabeth Cowper, p.c.), is dealt with in a similar fashion. The problem is this: French, unlike other Romance languages, has expletives. French expletive ‘il’, unlike English ‘there’, triggers agreement (3 person singular): Il y a trois hommes (‘There are three men’). The problem is that expletives are not merged in the thematic subject position; hence, when AGR merges, the expletive DP will not be present in the tree to value AGR’s features. And yet, derivations with an expletive subject in the array will be subjunctive, not infinitive. How do we ensure that T-incorporation does not occur in this instance?. If French expletives can value AGR, AGR’s features will be valued, as soon as possible, given the Earliness Principle. Because of this, the verb is spelled-out as subjunctive and PF requires an unambiguous position for T. If T-incorporation occurs, this will result in a PF violation for the same reason as above.
So far, then, we have dealt with differences 4a, b and e: Given the trigger difference, together with our assumptions about theta features, no PRO in Control structures, and the nature of AGR, we have been able to derive the fact that, given the same formal features, there can exist derivational differences in terms of subject-verb agreement, nominative case and number of projections.

4. Deriving the subjunctive-infinitive difference

Before considering the remaining differences - spell-out of V and of C – and showing the derivations, I will briefly sketch into view my assumptions regarding the left edge of the clause that allows the SI-alternation.

So far I have been concentrating on derivational differences that yield the difference in spell-out as either an infinitive or a subjunctive. However, we must also ensure that we can maintain a difference between subjunctives and indicatives, something we have not yet addressed. Various approaches have been put forward in this regard (see Picallo, 1985; Raposo, 1992; Nichols. 1999; Lujan, 1999 for a tense dependency approach; Wharram, 1997, 1999, 2000 for an approach involving a subjunctive feature on V in both subjunctives and infinitives). Following Philippaki-Warburton (1992), Rivero (1994), Terzi (1992), Roussou (2001), among others, I am going to assume that subjunctive is the head of a MoodP situated below CP but above TP.

I assume that the head of MoodP is, like Wharram’s subjunctive feature, compatible with either infinitive or subjunctive spell-out. I further assume that the head of MoodP is endowed with a V feature which enables it to engage in an Agree relation with V, accounting for why it is V that realizes either subjunctive or infinitive morphology when MoodP is present.

I will now show the derivations for the following two sentences, concentrating on those parts of the derivation that differentiate the subjunctive from the infinitive:

7a. Jean veut faire ses devoirs.

b. Jean veut que Marie fasses ses devoirs.

The embedded clause in (7a) is associated with the array noted below. The phasal array lacks a DP that can check the external theta feature via Merge, so it remains unchecked. When AGRs merges, after T, there is no DP available to value AGRs’s uninterpretable features. AGRs cannot legitimately head a projection with uninterpretable features. At this point, T incorporates to AGRs and together they project an IP, as in (8a):
8a. Array: ses, devoirs, faire, v, AGRs, T, M, C

\[
\begin{align*}
T+\text{AGRsP (IP)} \\
T+\text{AGRs} & \quad TP \\
T & \quad \text{vmax} \\
v\theta & \quad \text{VP}
\end{align*}
\]

In addition, \( V \) raises to \( v \), and then to \( T \) and T/AGRs, resulting in the complex indicated below, with MoodP and CP merged in above.

8b.

\[
\begin{align*}
\text{CP} \\
\text{C} & \quad \text{MoodP} \\
\text{M} & \quad \text{IP} \\
\text{T/AGRs} & \quad \text{vmax} \\
T & \quad \text{T/AGRs} \\
v\theta & \quad \text{T} \\
V & \quad v\theta
\end{align*}
\]

Bringing into view the remaining differences to be accounted for – spell-out differences – note that the verbal complex has an unassigned theta feature and unvalued AGR. Note that both of these arise in the same circumstance: absence of a subject DP. Because of this, we cannot construct a scenario where one is present but the other is not to test the effect on spell-out. So I will actually leave the issue open and say simply that these factors (unvalued AGR and lack of thematic saturation), either jointly or singly, contribute to the spell-out of \( V \) as an infinitive and to the concomitant spell-out of \( C \) as null. The relation between \( M \) and \( V \) is what further specifies this as being a subjunctive infinitive (Wharram, 1997, 1999, 2000).

The next lexical array (\textit{vouloir}, \textit{Jean}) then comes into play as the matrix verb merges in with its associated theta feature. The DP \textit{Jean} must check this feature via

\[\text{AGRo would also be present but I leave it out here for ease of exposition.}\]
Merge. The lower unassigned theta feature is then checked via an Agree relation with Jean. In addition, the lower AGRs's features, which require valuation, are valued via Agree with either the matrix AGRs or the matrix DP – I leave this particular choice open.\textsuperscript{14} Now let us consider the subjunctive derivation.

9a. Array: Marie, faire, ses, devoirs, v, AGRs, T, M, C

\[
\begin{array}{c}
\text{vmax} \\
\text{DP} \\
\text{v'} \\
\text{vθ} \\
\triangle
\end{array}
\]

\[\text{VP}\]

Note that the array for the first phase has one additional DP. Otherwise, though, the two arrays are identical – importantly, they are identical in terms of formal features. This additional DP forces the external theta feature to be checked via Merge instead of via Agree. In addition, when AGRs merges in, there is a DP available to value its features. Thus, AGRs projects independently. At the same time, the DP is assigned Case as a reflex of the agreement relation. This Case is later identified by T, which also merges and projects independently. After head movement and merging of MoodP and CP, we end up with the following structure:

\textsuperscript{14} Given that I have assumed that the lower array is phasal, the question arises as to how it is possible for the lower theta feature and AGRs to be associated across a phase boundary (a CP) with an entity (or entities) in the matrix clause. One possibility would be to explore ways of ensuring that the phase can in some cases be overridden (see Nichols, 1999; Cowper & Hall, 2001).

On the other hand, it seems to me that the issue is a more general one, stemming from the current conception of Agree as being a long distance relation without movement (Chomsky 1998, 2000). Movement to the edge (the head or specifier) is the only way for an element that originates within a particular phase to ‘escape’ that phase. Covert movement is assumed not to exist in Chomsky (1998, 2000), being replaced by simple Agree. Therefore we expect no ‘covert’ relations to be able to apply across phase boundaries, and that an entity within a phase engaging in any kind of relation with an entity in a higher phase will necessarily depend on overt movement of the former having taken place.

If this is in fact generally true - that cross-phasal Agree relations are not found - then we need to say something about how the relations noted above (theta feature assignment/checking and AGR valuation) are to be established across a phase with the infinitive. If this is not generally true, however, if Agree is different from Move with respect to sensitivity to phase boundaries, then we do not necessarily require such a mechanism here (although we do not rule out the possibility that de-phasing may nevertheless be a property of these constructions).
9b.

It is the relation of V with M that determines that the spell-out is subjunctive as opposed to indicative. Within the verbal complex, AGR is valued and all theta features have been assigned/checked. These latter two factors, again either jointly or singly, result in the spell-out of V as a subjunctive proper, as opposed to a subjunctive infinitive, and also in the spell-out of C as que. The unambiguous position of T allows for the verb to be specified morphologically as present tense.

5. Conclusion
I have sought in this paper to provide an analysis whereby the subjunctive and infinitive are unified through shared formal features and differ only derivationally. The motivation for this claim comes from the various pieces of evidence that subjunctives and infinitives appear to be functionally equivalent to each other. Within a language this can be manifested in a complementary distribution relationship. This analysis explains this relation through the claim that subjunctives and infinitives are essentially the same and differ only in whether a subject DP is in the array.

I noted five differences between subjunctives and infinitives that would have to be accounted for derivationally if the proposal was to be maintained. In dealing with these differences, the nature of theta features and of the AGR node have proved critical. It remains to be seen whether this kind of analysis can fruitfully be applied to explain relations between other structures (e.g., active-passive pairs, etc.).
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