# *Have/Be* Raising, Move F, and Procrastinate

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This article proposes a simple modification to Chomsky's (1995:chap. 4) account of Move F(eature): that this operation is able to occur before Spell-Out. This idea has numerous potential consequences. Two theoretical consequences are explored here: that Move F corresponds to weak features and Move Category to strong features, and that Procrastinate is not required. The empirical motivation for overt Move F comes from English *have/be* raising; it is argued that the auxiliaries are simple feature bundles moved as free riders with the overtly moved (weak) V-feature.

*Keywords:* auxiliaries, features, movement, Spell-Out

## 1 Introduction

In this article I propose a new account of why auxiliaries (in particular, *have* and *be*) undergo movement to T in English, whereas main verbs do not. Specifically, I propose that the movement is ''overt Move F,'' affecting auxiliaries and not main verbs because auxiliaries are just collections of formal features whereas main verbs have intrinsic content in addition to their formal features. In section 2, I consider two recent analyses of *have/be* raising (Chomsky 1993 and Lasnik 1994) and show that both are unsatisfactory. In section 3 I introduce the mechanism of Move F from Chomsky 1995:261ff. and, after making one emendation to Chomsky's assumptions, present the analysis of *have/be* raising as ''overt Move F.'' The emendation concerns the conditions governing ''generalized pied-piping,'' that is, when Move F must give rise to Move $\alpha$. Whereas Chomsky proposes that Move F is always instantiated as Move $\alpha$ prior to Spell-Out, owing to the nature of PF, I propose that Move $\alpha$ is a property of strong features (i.e., Move $\alpha$ = Move Strong F). Assuming (a) that English T has weak V-features (standardly) and (b) that auxiliaries are just collections of formal features, and leaving aside the principle Procrastinate, I propose that V-features undergo Move F prior to Spell-Out in English. Since auxiliaries are nothing but formal features, they will be spelled out in the position targeted by Move F, giving *have/be* raising. *Have* and *be*, and probably other auxiliaries too, thus prove to be ''free riders'' in Chomsky's sense of that term. The proposals are supported by an analysis of *do*-support. In section 4 I reanalyze Pollock's (1989) evidence for optional *have/be* raising in French infinitives, and in section 5 I relate the absence of *have/be* raising in Mainland Scandinavian languages to the verb-second

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nature of those languages. The two theoretical conclusions of the article are (a) that Procrastinate can be done away with and (b) that ''overt Move F'' exists.

In the rest of this section I go over the well-known evidence regarding the lack of main verb movement in English (and its presence in French).

It was originally argued by Emonds (1978) that French has a rule moving finite verbs out of VP, whereas English does not. The basic form of the observation is as follows: there is a class of elements X that, at a first approximation, can be regarded as positioned on the left edge of VP. These elements include VP adverbs, clausal negation, and floating quantifiers. In French, finite main verbs must precede X; in English, main verbs always follow X. The relevant paradigms are as follows:

(1) *Adverb*
  a. Jean *embrasse souvent* Marie.
     *Jean *souvent embrasse* Marie.
  b. *John *kisses often* Mary.
     John *often kisses* Mary.

(2) *Negation*
  a. Jean (ne) *mange pas* de chocolat.
     *Jean (ne) *pas mange* de chocolat.
  b. *John *eats not* chocolate.
     John does *not eat* chocolate.

(3) *Floating quantifiers*
  a. Les enfants *mangent tous* le chocolat.
     *Les enfants *tous mangent* le chocolat.
  b. *The children *eat all* chocolate.
     The children *all eat* chocolate.

The evidence clearly shows that finite verbs are in different positions in the two languages. (The alternative is to suggest, as Williams (1994) does, that the X-elements differ between the two languages; I will leave this possibility aside, however.)

Emonds also showed that English auxiliaries behave like French verbs, as the following examples illustrate:

(4) a. John *has often* kissed Mary.
  b. John *has not* kissed Mary.
  c. The kids *have all* eaten the chocolate.
  d. *Has John* seen Mary?

Emonds formulated a rule of *have/be* raising in order to account for this.

Pollock (1989) developed Emonds's proposal in terms of principles-and-parameters theory. He also observed that French infinitives show a kind of *have/be* raising, in that the aspectual auxiliaries can appear to the left of X-elements, whereas main verb infinitives cannot.

(5) a. N'*avoir/*posséder pas* de voiture en banlieue crée des problèmes.
'(NE) to have/possess not a car in the suburbs creates problems.'
b. N'*être/*sembler pas* heureux est une condition pour écrire des romans.
'(NE) to be/seem not happy is a condition for writing novels.'

Pollock, developing an idea in Roberts 1985, attributed the essential difference between auxiliaries and main verbs to θ-theory and developed an account of verb movement that was sensitive to this module (see Pollock 1989:385ff. for details).

Chomsky (1993) proposes that the relevant parameter concerns the value of an abstract morphological feature that licenses verbs and is associated with the I-system (either T or $Agr_S$; for present purposes the choice is not crucial, and I will assume henceforth that the target of verb movement is T). This feature is called T's V-feature. In Chomsky's system such features are generated both on V and on T; they must be canceled out by a checking operation prior to LF since they have no semantic content and will thus violate Full Interpretation unless eliminated. The feature has two parametric values, strong and weak. If it is strong, it is visible to the PF component and hence must be eliminated prior to the mapping to that level of representation, Spell-Out. Since feature checking takes place in a highly local domain, V must move to T in order for feature checking to take place. Thus, where the V-feature is strong, V raises overtly to T. Where the V-feature is weak, Procrastinate—which delays movement until the covert, post-Spell-Out part of the grammar wherever possible—prevents this movement from taking place overtly. In these terms, then, French T has a strong V-feature and English T has a weak V-feature.

## 2 Two Analyses of *Have/Be* Raising

Why do auxiliaries raise in English while main verbs are unable to? In the context of the ''split-I'' approach to clause structure, this question arguably extends to other auxiliaries in addition to *have* and *be*. Modal auxiliaries clearly appear in T, following Pollock's and Emonds's diagnostics, and yet there is evidence that some modals occupy a position lower than sentential negation. Some modals (e.g., *can* and *need*) inherently take narrow scope with respect to negation, whereas others (e.g., *must* and *might*) inherently take wide scope, as the following contrasts show:

(6) a. There can't be a unicorn in the garden. (NOT - POSSIBLE)
b. There mightn't be a unicorn in the garden. (POSSIBLE - NOT)

(7) a. You mustn't do that. (OBLIGATION - NOT)
b. You needn't do that. (NOT - OBLIGATION)

Rather than make negation sensitive to the presence of modals, the best account of these interactions seems to be to suppose that certain modals are generated in T, and therefore higher than Neg, whereas others are generated lower than T or Neg. At LF, narrow scope modals are ''reconstructed'' into the lower position. (This operation is obligatory, for reasons that are unclear. One might speculate that it is an instance of the general requirement that verbal material be interpreted in situ; some such requirement clearly applies to moved main verbs, for without it, to the extent that argument structure is configurational, their argument structure could not be

recovered after movement.) Narrow scope modals do not differ from wide scope modals regarding Pollock's and Emonds's diagnostics, and so they must raise overtly to T. (It is also possible that wide scope modals raise to T but have different interpretive properties; this is not the place for a full-fledged analysis of the different classes of modals, however.) In that case the same question arises for these elements as for *have/be* raising.[1]

Chomsky's (1993) proposal is that auxiliaries are deleted at LF because they have no interpretation. Hence, unlike most main verbs, they are unable to put off feature checking to LF, and so they move overtly. However, the assumption that *have* and *be* lack an interpretation seems dubious. First, as pointed out by Lasnik (1994), existential *be* seems to have a semantic interpretation in sentences like *There is a solution*. Similarly, the fact that, for example, *John has a father* does not mean the same thing as *John is a father* (see Kayne 1993) shows that *have* means something different from *be*. Therefore, at least one of them must mean something. Second, the aspectual auxiliaries can also form a single word with the reduced negation (*n't*). Clearly, we do not want negation to be deleted in LF, nor do we want deletion to affect only parts of words.[2] Third, there is little doubt that modals have an interpretation, and modals raise to T. For these reasons, Chomsky's proposal should not be adopted.

A different possibility is to propose a special morphological property of *have* and *be* (and perhaps the other auxiliaries) that requires these elements but not main verbs to raise to T. Lasnik (1994:13) proposes this, arguing that the auxiliaries are inflected in the lexicon and raise to T for checking, whereas main verbs in English are syntactically inflected (by a version of affix hopping). French main verbs are also lexically inflected and raise to T. On this view, finite T has strong features in both English and French.

Lasnik's evidence for his proposal comes from some striking facts about VP-ellipsis, some of them noticed by Warner (1986). The first observation is that there is a kind of sloppy identity at work with VP-ellipsis, in that the elided verb does not have to be morphologically parallel to its antecedent; this is shown in (8), where the elided form is given in parentheses.

[1] Bob Borsley (personal communication) points out that *ought* might provide a further argument that at least some modals raise. This element appears to have a sentential (IP or CP) complement, given the obligatory presence of *to* in its complement. If functional elements (aside from C itself) cannot have sentential complements, then we are obliged to treat *ought* as being raised from V.

[2] One reason to doubt that the contracted form of negation is derived by a PF process is that attaching an auxiliary to reduced negation frequently triggers an irregular stem form of the auxiliary (e.g., *will* → *won't*). A natural way to handle this is to form *won't* (etc.) in the lexicon and to require that it check with Neg in the syntax (cf. Zwicky and Pullum's (1983) analysis of *n't* as an inflection). Note that this account favors both the idea that (some) modals are generated lower than T and the idea that auxiliaries are not deleted at LF. It also implies that *do* is generated lower than T, given the irregular stem of *don't*. In these terms, we can easily accommodate the first person singular negative interrogative auxiliary *aren't* (as in *Aren't I clever?* vs. **I aren't clever*; thanks to Bob Borsley for pointing this out); this element must check both with Neg and with an interrogative C. We must also allow that positive forms of auxiliaries can check with Neg (containing *not*) to allow for noncontracted negated auxiliaries such as *will not*. So there is good motivation for the idea that auxiliaries have a Neg feature (see below).

Note also that deleting Aux in the configuration in (i) will save the interpretation of Neg at LF but not that of Aux, and since, for example, *won't* doesn't mean the same thing as *can't*, this is not enough to meet the objections raised in the text.

(i) $[_{\text{Neg}}$ Aux Neg]

(8) John slept, and Mary will (sleep) too.

However, this kind of possibility only exists for main verbs; auxiliary *have* and *be*, although they have nonfinite forms, do not allow a counterpart to (8). Very strikingly, as (9c) shows, this prohibition applies exactly to those cases of *have* that raise to T. Where *have* does not raise, a counterpart to (8) is possible, as shown in (9d).

(9) a. *John was here, and Mary will (be here) too.
b. *John has left, but Mary shouldn't (have left).
c. *John hasn't a driver's license, but Mary should (have a driver's license).
d. John doesn't have a driver's license, but Mary should (have a driver's license).

Lasnik shows that his account can take care of these facts in terms of a simple formal identity condition on VP-ellipsis. Since main verbs are always and only inserted as bare stems, deletion (which takes place before syntactic affixation) is always possible; in (8) *sleep* has not undergone affixation to form *slept* when deletion under identity applies. On the other hand, since auxiliaries are inserted fully inflected, the identity condition is not satisfied in cases like (9).

An alternative account for these restrictions that readily comes to mind is that a VP containing a trace of V cannot be an antecedent for VP-ellipsis. This would mean that only VPs headed by (auxiliary) *have* and *be* would fail to antecede elided VPs. Lasnik argues against this idea by pointing out that VPs containing both *wh*-traces and NP-traces can antecede elided VPs and that even nonfinite *be* fails to antecede VP-ellipsis.

(10) a. ?*The children have been very good here. I wish they would (be good) at home.
b. *John was being obnoxious, and Mary will (be obnoxious) too.

However, *wh*-trace and NP-trace are not Verbs, and it seems clear that what is at stake in all these cases is the identity condition between the head of the antecedent VP and the head of the elided VP—that is, between the two V positions. Moreover, (10a–b) are in fact cases of Akmajian and Wasow's (1975) BE-shift operation; that is, they are cases where *be* appears to have raised. This can be shown with VP-fronting. It is well known that VP-fronting can only front the lowest of a series of stacked VPs (assuming that this is in fact the structure of complex auxiliary sequences in English; see below). In cases like (11a–b), involving so-called main verb *be*, only the lowest predicate can be fronted, and *be* is obligatorily stranded.

(11) a. I told the children to be very good, and [very good] they have been.
*[been very good] they have.
b. John said he was going to be obnoxious, and [obnoxious] he will be.
*[be obnoxious] he will.

We thus have independent evidence that *be* raises in these cases. This means that we can handle Lasnik's and Warner's data with (12).[3]

[3] If we assume the structure for transitive verbs proposed by Chomsky (1995:305 and passim), or any variant of the VP-recursion structures proposed by Larson (1988) and Hale and Keyser (1993), then *VP* throughout this discussion

(12) $[_{VP}[_{V}$ e] X] (where X may be null) cannot antecede VP-ellipsis.

(12) can be reconciled with the copy theory of head movement if we regard it as an identity condition on formal features of the two Vs: a raised V has different features from a nonraised V, at least in that the raised V has the feature F that triggers movement by needing to be checked, and the copy does not.

Another drawback of Lasnik's approach is that it does not relate the fact that auxiliaries have a special morphological property to their nature as auxiliaries (i.e., to their lack of argument structure). Note too that, if the above idea that at least some modals also undergo *have/be* raising is correct, then we must say that these elements are lexically affixed; however, modals are largely invariant in form.[4] Saying that auxiliaries are lexically affixed, but not main verbs, does not really go much beyond a restatement of the fact that only auxiliaries move.

## 3 Auxiliaries and Move F

In this section I would like to propose a different analysis of the movement of auxiliaries, which relies on proposals about movement made by Chomsky (1995:chap. 4). Chomsky proposes that movement should be regarded as movement of features; a syntactic category is moved with those features just when this is forced by some further requirement, an operation referred to as *generalized pied-piping*. Chomsky suggests that overt movement of features always entails movement of the category associated with those features owing to properties of the PF component: ''Isolated features and other scattered parts of words may not be subject to [PF] rules, in which case the derivation is canceled'' (Chomsky 1995:262–263). Covert movement, on the other hand, is not subject to PF constraints and therefore most often involves purely the movement of features. Thus, weak features are moved independently of the category they are associated with. In other words, English main verbs do not move at LF, but their V-features are ''stripped away'' from them and moved to the relevant checking position. Chomsky also proposes that Move F always carries along all other formal features of the lexical item in question. He shows that this idea has a number of interesting empirical consequences.

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must refer to the biggest VP (i.e., vP for Chomsky). Ellipsis of the lower VP in a Larsonian structure is impossible precisely because of (12) (given V-to-v movement). Assuming that direct objects are in the lower VP at Spell-Out, such ellipsis would give (i), for example.

(i) *John washed the car and Mary washed (the car) too.

The antecedent of the elided VP here would be $[_{VP}\ [_{V}\ e]$ *the car*] on the assumptions made by Chomsky. This antecedent violates (12).

[4] Several modals have (irregular) past tense forms. However, with the exception of ''dispositional'' *would* (as in *I would always go to the movies on Friday*) and ''ability'' *could* (as in *I could do that when I was younger*), none of these forms is synchronically past in meaning, as the following examples show:

(i) I may/might leave tomorrow.

(ii) I shall/should leave tomorrow.

(iii) I could/would leave tomorrow.

Therefore, these forms, and the corresponding diachronic present tense forms, are probably best treated as distinct, invariant lexical items.

The basic properties of Move F can be summarized as follows (adapted from Chomsky 1995: 269–270):

(13) a. F is an unchecked feature.
b. F enters into a checking relation as a result of the movement.

(14) a. All formal features of F's category are raised along with F.
b. A category α containing F moves only as required for convergence.
c. Covert operations are pure feature raising.

Under (14b), as we have seen, Chomsky proposes that quite general properties of PF require ''pied-piping'' of α. The idea of sensitivity to PF recalls the difference between strong and weak features, since strong features are those that cannot be interpreted at PF. Suppose, then, that the same property determines ''generalized pied-piping.'' In other words, let us consider the following proposal:

(15) Weak features do not require pied-piping of α, whereas strong features do.

(15) is very close to Chomsky's proposal, given that weak features are checked at LF, but is not quite identical to it. A very important difference is that (15) allows us to claim that V-features are checked before Spell-Out even in Modern English. Since the V-features are weak, V is not required to pied-pipe; I will exploit precisely this difference in what follows. The overt effects of the weak versus strong distinction are exactly as in Chomsky's account.

Now, as (14a) states, Move F moves all formal features of α, not just those that require checking. The features that are carried along with the feature that triggers movement are called free riders. It is common to regard auxiliaries as functional elements, particularly since they lack θ-roles. Developing Kayne's (1993) work on *have/be* alternations, let us regard auxiliaries as collections of formal features (some of which are of course Interpretable at LF, as we saw in section 2). It has often been argued (see, e.g., Ross 1969, Pullum and Wilson 1977) that auxiliaries are a kind of defective verb. Let us suppose that this is true. We then take auxiliaries to be collections of formal features associated with V positions. *Be*, for example, can be thought of as [+V, −N, BE] (*BE* can probably be further decomposed but will serve our present purposes as an ''archiauxiliary'' feature). *Have* is the same as *be* with an extra abstract Dative feature (see Kayne 1993). Both *have* and *be* can be further endowed with φ-features, Tense features, Case features, Q-features, and Neg features; but these are features that are freely associated with these items when they enter the numeration. (φ-, Tense, and Case features are freely associated with any Verb, whereas Neg and Q are restricted to auxiliaries; see below.) Modals are all inherently finite and presumably contain some kind of Modal feature (related to quantification over possible worlds, perhaps; see footnote 6), whereas *do* has no intrinsic features and simply picks up Tense, Case, Neg, Q-, and φ-features in the numeration. Following Roberts (1995) and Pollock (1989), I assume that none of the auxiliaries have θ-role features. Given this characterization of auxiliaries, the fact that Move F moves all features of the element it moves will imply that checking the weak feature of the V node causes the entire auxiliary to move. Since formal features are ''stripped away,'' rather than copied, as part of the movement process, no features will be left in the

position(s) vacated by the auxiliary. For this reason, I take it that Spell-Out will associate a phonological matrix with the auxiliary *in its moved position.* In this way, I account for the fact that auxiliaries overtly move to T even though Modern English T has a weak V-feature.[5] In saying this, I am supposing that weak V-features are in fact checked prior to Spell-Out in English; see section 6.[6]

This account rejects Chomsky's assumption (quoted above) that PF cannot see ''scattered parts of words.'' There is in fact evidence that scattered features *can* be interpreted at PF. Perhaps the most striking such evidence comes from the consonant mutation systems of the Celtic languages (see Roberts, forthcoming). Chomsky's assumption guarantees that Move F always entails Move $\alpha$ prior to Spell-Out, but I am precisely proposing an alternative view of when and how Move F gives rise to Move $\alpha$.

My approach makes possible an interesting analysis of *do*-support, which favors the idea that V-features are raised before Spell-Out. Suppose, *pace* Chomsky (1995:chap. 4), that Move F is subject to the Head Movement Constraint (or whatever that constraint derives from).[7] Move F raises V-features from V itself to T. Suppose that Neg appears between V and T. The V-features cannot skip this position and move directly to T, as this would violate the Head Movement Constraint. If the V-features move to Neg, the derivation will crash because they cannot be checked by Neg; that is, Greed (=(13)) is violated. (The same can be said for a head bearing

[5] We need to say something more to square this with the idea mentioned earlier that narrow scope modals undergo obligatory reconstruction. If reconstruction takes place because movement is a copying operation, then we have to explain why the higher copy of a narrow scope modal is realized at PF, whereas only the lower copy is realized at LF. This must be related to the fact that modals have a slightly richer set of formal features than *have* and *be* (and *do*). In particular, it seems that modals have a quantificational property that is lacking in other auxiliaries. This at least accounts for the possibility of reconstruction, assuming that only quantificational elements can undergo reconstruction (cf. the assumption that A-dependencies can be reconstructed, but not A-dependencies). The requirement for reconstruction may be just the reflex of certain interpretations of certain modals; again, to fully explore these issues would take us too far afield here. To account for why modals are always spelled out in T, we could assume that all formal features raise without being copied except for the one feature susceptible of reconstruction, which we might as well call the *Modal feature*. The complex of formal features is then amenable to Spell-Out in T, but not in the base position, since presumably not enough content is left in this position to ensure Spell-Out.

[6] It might seem that this idea undermines the account of VP-ellipsis given in section 2, specifically the condition in (12). However, this is not true. Compare the representations of (8) and (9a) after Move F. I have indicated the feature matrices associated with verbal heads in square brackets labeled *FF*.

(i) John T *[$_{FF}$ fin, past]* has [$_{VP}$ slept *[$_{FF}$ Ø]* and Mary will *[$_{FF}$ fin, M]* [$_{VP}$ sleep *[$_{FF}$ Ø]* too.

(ii) John was *[$_{FF}$ fin, past, sing, BE]* [$_{VP}$ t$_{was}$ *[$_{FF}$ Ø]* here] and Mary will *[$_{FF}$ fin, M]* [$_{VP}$ be *[$_{FF}$ BE]*] here too.

[BE] moves as a free rider in the first conjunct of (ii); the features [fin, past, sing] all have to be checked against parts of the I system, and so, in accordance with (14a), [BE] is moved along with them.

It is easy to see that the two VPs in (i) are headed by Vs with the same formal features ([$_{FF}$ Ø]), whereas those in (ii) are headed by Vs with different formal features. So (12) blocks VP-ellipsis in the second conjunct of (ii); here nothing causes [BE] to move, since it does not itself require checking and there are no other features associated with bare *be* to trigger movement into the I system. (Strictly speaking, since formal features exhaust the content of auxiliaries, there is nothing except an empty feature matrix heading the first VP in (ii).)

[7] This is necessary for Chomsky's account of ''expletive replacement'' as Move F attaching features of the associate to T, since examples like (i) must be excluded.

(i) *There seem that it is likely to have arrived many students.

Since the landing site of (the features of) the associate is T, I take it that associate movement is like head movement and hence subject to whatever locality condition the Head Movement Constraint is a case of.

Q-features in interrogatives.) The only way for the V-features to be checked is by moving to another V heading a VP dominating the main V. Hence, an auxiliary must appear lower than Neg. If there is no contentful auxiliary, then *do* must appear. The V-features are checked by the auxiliary, and the auxiliary then moves in the way described above.[8] (I am assuming that V-features are Interpretable and can thus be checked more than once since checking does not erase them.) For this account to work, we must assume that the auxiliary itself has features to check with Neg, which legitimates raising to this position (see footnote 2). A central property that underlies the differences between auxiliaries and main verbs is the fact that auxiliaries have Neg features. The evidence for this—both for the linguist and for the language acquirer—is the existence of negative auxiliaries like *don't, can't,* and *won't* (which I take to be reasonably salient in the trigger experience. It may be that since auxiliaries are functional V elements and so intrinsically ''closer'' to the I system than main verbs, they can bear functional features more readily than main verbs; by assuming this, we can establish a connection between the auxiliaries' lack of argument structure and their ability to check features like Neg and Q). Overt raising beyond Neg is triggered by the V-features moved from V, however. The fact that the presence of intervening heads between V and T is always associated with overt movement of auxiliaries to T supports the idea that V-features raise before Spell-Out. If checking of V-features were a purely covert process, it would be hard to see why overt auxiliary raising is required (beyond Neg).

We see, then, that English auxiliaries can raise to and beyond Neg because they are able to combine morphologically with Neg. Since all French verbs can raise to and beyond Neg, we need to say something about this case. The natural suggestion is that Neg has some distinct property in French; specifically, we can observe that the French counterpart of the affix *n't* is the clitic *ne*. Without going into a detailed analysis of how *ne* combines with verbs and interacts with *pas* and other elements (see Pollock 1989, Belletti 1991), I propose that *ne*, as a nonaffixal head, does not impose a feature-checking requirement on material that passes through Neg. This will allow material to move through Neg in French without violating Greed. This connection between the affixal nature of a functional head and the imposition of feature-checking requirements needs to be elaborated further, but I will not do so here.

To recapitulate, I am assuming that the basic difference between auxiliaries and main verbs is that the content of the former is exhausted by formal features, whereas the latter have inherent lexical content (e.g., θ-roles), which I take to be distinct from formal features. Both auxiliaries and main verbs have V-features, which, being weak (in English), move to T for checking without pied-piping V. However, following (14a), all formal features of auxiliaries and of main verbs raise with the V-feature. This means that the whole auxiliary is effectively raised—hence *have/be* raising. I am assuming here that weak V-features are not required to procrastinate—a point I will take up in more detail in section 6.

[8] There is no excorporation here. The features of the lower verb move with the features of the auxiliary (the upper V node) to the higher functional positions.

## 4 French Infinitives

As noted earlier, French has the equivalent of *have/be* raising in infinitives. I repeat the relevant examples for convenience.

(16) a. N'*avoir/*posséder pas* de voiture en banlieue crée des problèmes.
'(NE) to have/possess not a car in the suburbs creates problems.'
b. N'*être/*sembler pas* heureux est une condition pour écrire des romans.
'(NE) to be/seem not happy is a condition for writing novels.'

The absence of movement of main verb infinitives (over the sentential negator *pas*)[9] indicates that nonfinite T has a weak V-feature in French. The movement of auxiliaries can be accounted for exactly as above—the weak V-features move and take the auxiliary along as a free rider (Pollock (1989) also shows that infinitival modals can marginally raise over *pas*).

Pollock (1989) claims that movement of the infinitival auxiliaries is optional, unlike *have/be* raising in English. However, it appears that the more accurate observation is that there is a register difference at work here: the auxiliaries are able to precede *pas* in a ''higher,'' more literary, and more conservative variety of French. Many younger French speakers do not accept (16), requiring instead the order *Neg-Aux* (see Pollock 1995). This suggests that there is one variety of French with *have/be* raising to T in infinitives, and another without it, rather than a single variety with optional *have/be* raising. The difference between the two varieties must reside in whether nonfinite T has a V-feature to check. In the more conservative variety, it does; *have/be* therefore raise in nonfinite clauses exactly as they do in finite clauses in English. In the less conservative variety, nonfinite T presumably lacks this feature.[10]

There is some evidence that *have/be* raising is found in the less conservative varieties of French, but that raising takes place to a lower position. As Pollock (1989) showed, main verb infinitives can undergo ''short'' movement, so that they can either precede or follow certain adverbs (see footnote 9 on the alleged optionality of this operation). However, *avoir* (at least) cannot follow manner adverbs (it can follow aspectual adverbs, suggesting that these occupy a higher position; see Laenzlinger 1996:90–91 for discussion).

[9] Pollock (1989) also shows that French has ''short'' movement of main verb infinitives, over certain adverbs, but not over *pas*. This movement, too, is apparently optional. However, Laenzlinger (1996:90ff.) shows that ''short'' infinitive movement is a reflex of differential adverb placement. The adverbs in question are required to modify either the verb or the verb trace. If the verb consistently moves to the head of the next functional projection up (AspP, according to Laenzlinger), then the adverbs attach either to this projection or to VP, giving the possibilities of *Adv-V* or *V-Adv* order. See Laenzlinger 1996 for details (and an analysis of past participle positions in French).

[10] The situation in English infinitives is unclear. Assuming that *to* is in T and, following Kayne (1994), that heads can only left-adjoin to other heads, it is clear from the absence of forms like **have-to* and **be-to* that *have/be* raising to T is impossible. However, *not* can appear before or after *to* and, perhaps more marginally, after the auxiliary.

(i) Not to have read Shakespeare is a shame.
(ii) To not have read ...
(iii) ?To have not read ...
(iv) *To read not ...

These facts suggest that *have* (and presumably *be*) raises in infinitives, but not as far as T. In these respects, the situation exactly parallels that of the more ''advanced'' varieties of French; see below.

(17) *Jean espérait ainsi correctement/facilement avoir répondu à la question.
John hoped thus correctly/easily to-have answered to the question
(Laenzlinger's (150c), p. 92)

It seems, then, that a VP-external head lower than T, perhaps Asp, has weak V-features that trigger *have/be* raising as free riders.

## 5 Mainland Scandinavian

The Mainland Scandinavian languages seem to pose a problem for what has been proposed so far, since they show no differences in verb movement between auxiliaries and main verbs: in main clauses the inflected verb or auxiliary must be second, and in subordinate clauses it apparently remains in VP (see Vikner 1994). The following Danish examples illustrate:

(18) a. Peter har aldrig drukket kaffe.
Peter has never drunk coffee
b. Jeg trør ikke på at Peter aldrig har drukket kaffe.
I believe not that Peter never has drunk coffee

In general, we want to say that in these languages T has a weak V-feature. Given what was said above about English, this creates the expectation that auxiliaries move to T in both embedded and main clauses; but this is clearly incorrect.

The solution to this problem may lie in the fact that the Scandinavian languages, unlike English and French, are verb-second (V2) languages. Zwart (1994) proposes that V2 is a property of $Agr_S$ (recall that I am identifying $Agr_S$ with T here). In V2 languages this element is required to be lexicalized, either by hosting verb movement or by moving to C where C is already filled. Thus, where C is not filled, V must move to $Agr_S$ (i.e., T); where C is filled, as in an embedded clause, V need not and therefore must not move to C. It is important to note that the verb movement that takes place in matrix clauses is triggered not by a V-feature but by the lexicalization requirement (which Zwart attributes to an N-feature). Zwart provides evidence from cliticization and complementizer agreement patterns in West Germanic in favor of this approach. Although such evidence is not available in Mainland Scandinavian, I know of no reason not to adopt Zwart's account of V2 for these languages.[11] It is thus the fact that T is lexicalized by movement to C in embedded clauses that prevents auxiliaries from moving to that position.

We can understand this account in terms of the following constraint on the derived structure of heads (see Roberts 1997):

(19) *$[_W\ W_1\ W_2]$, where $W_n$ are morphological words.

(19) should be taken as a constraint on Spell-Out (or perhaps a well-formedness condition of Morphological Structure (MS), where MS follows Spell-Out and precedes PF on the left side of

[11] Roberts and Roussou (1996) explore a different approach to V2, making assumptions that are not directly compatible with those being entertained here.

the derivation; see Halle and Marantz 1993). It will prevent overt movement of the auxiliary to C in embedded clauses where C is morphologically realized (this implies that there is a morphologically present null *wh*-complementizer in indirect questions). Since the auxiliary cannot overtly move, it is spelled out in its merged position. Presumably, Tense features are checked by covert movement, which is not affected by the essentially morphological constraint in (19).

## 6 Conclusion: The Role of Procrastinate

Finally, the role of Procrastinate in this system needs to be clarified. Although I proposed in the account of English *have/be* raising (section 3) that weak features do not trigger generalized pied-piping, I made no claim about whether weak features should or should not procrastinate. I now propose that all features (or at least all V-features), whether weak or strong, must be checked before Spell-Out. In fact, we can suppose (a) that Move F is always and only overt and, consequently, (b) that there is no such principle as Procrastinate (or, at least, that it does not affect Move F). These ideas account for all the data examined here.

We see how a minor modification of the proposals regarding movement made by Chomsky (1995:chap. 4) can give an interesting account of *have/be* raising, one that has a number of consequences for our understanding of how English verb and auxiliary movement works. This sort of account could be extended to other empirical domains; another obvious place to look for the effects of ''overt Move F'' is the area of clitics and cliticization.

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