

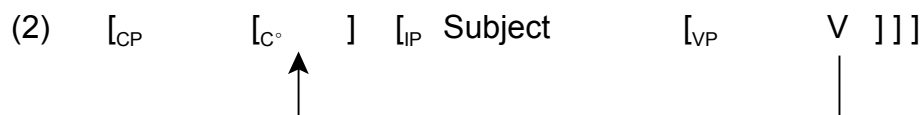
Agreement and remnant movement in the domain of West-Germanic verb movement

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This essay in honor of Hans den Besten highlights what seems to me to be his major contribution to the study of West-Germanic syntax: the analysis of verb placement in strict adherence to the structure preserving hypothesis. What Den Besten discovered, seemingly out of nowhere, was that, behind the confusing data of the left periphery of West-Germanic sentences, lies a regular alteration of heads and phrases, dictated by the rules of phrase structure, yielding positions to be filled out by various types of elements moving to the left. This specifier-head configuration was adopted in Chomsky (1986), who (on p. 6) makes explicit reference to the verb-second phenomenon as one of its prime motivations, and, in one form or other, it has been a key ingredient of syntactic theory ever since.

I am referring, of course, to that much cited manuscript of 1977, 'On the interaction of root transformations and lexical deletive rules', most famous for its analysis of verb-second, illustrated in (1) from Dutch, as involving a single rule moving the verb to the left (2):

- (1) a. Jan *heeft* Marie gekust
John has Mary kissed
'John kissed Mary'
- b. *Waarom heeft* Jan Marie gekust ?
why has John Mary kissed
'Why did John kiss Mary?'



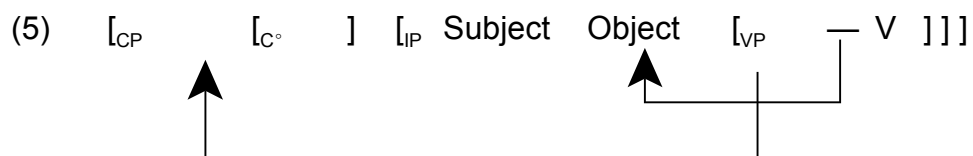
The architecture of the clause in (2) is slightly updated from the original 1977 paper so as to reflect common views on clausal phrase structure from the mid-1980s on. But the idea, as readers of the Festschrift are undoubtedly aware, was that the verb in West-Germanic main clauses moves into the complementizer position C° , followed by subsequent movement of the subject to the specifier position of CP, yielding the SV-order in (1a). Both movements are subject to availability: if the specifier position of CP is already taken, as in (1b) by the question phrase *waarom* ‘why’, the subject stays in the specifier position of IP, and if the complementizer position is occupied by the complementizer, the verb stays down inside the VP, yielding the typical embedded clause verb final word order:

- (3) ... dat Jan Marie gekust heeft
 that John Mary kissed has
 ‘...that John kissed Mary.’

But I am also referring to a later contribution by Hans den Besten, this time in collaboration with Gert Webelhuth, where he showed that leftward movement of the participle, as in (4), is of a different type than the finite verb movement in (1) (Den Besten and Webelhuth 1987):

- (4) *Gekust* heeft Jan Marie niet
 kiss-PART has John Mary not
 ‘John never *kissed* Mary.’

In the influential Den Besten & Webelhuth analysis of this pattern, the participle *gekust* does not move as a verb (i.e. as a head), but as a verb phrase that has shed all its excess material. The object *Marie* has been moved out of the VP (to a VP-external object position, as we came to understand later—cf. Vanden Wyngaerd 1989), and the participle moves to the specifier position of CP as a ‘remnant VP’ (with the auxiliary moving to C° , not indicated here):



Interestingly, recent approaches to verb movement in Germanic show attempts to unify the two movement processes (verb movement and remnant VP-movement) which Hans den Besten's work so neatly distinguished. The unification takes place at the expense of verb movement, which in these approaches plays a limited part (Haegeman 2000, Hallman 2000, Koopman and Szabolcsi 2000, Nilsen 2002), or is taken not to exist at all (Müller 2002; see also Mahajan 2000). In the most radical versions of these approaches, the verb movement indicated in (2) is hypothesized to be some kind of covert VP-movement of the type in (5).

The motivation behind this encroachment of VP-movement upon V-movement appears to be twofold. First, there is the question of the propriety of head movement in general. Chomsky (2001a) argues that head movement is of a distinctly different type from phrasal movement, so much so that it might have to be regarded as a phenomenon outside of narrow syntax. One of the relevant issues here is that head movement, involving adjunction of one head to another, cannot be described as an instantiation of Merge, the single syntactic operation in the strictest version of the minimalist program. Merge takes two elements and combines them into a set, with the explicit proviso that merger internal to a constructed set is impossible (the Extension Condition). Since head movement targets a term of a constructed set (i.e., a head of some projection), it invariably violates the Extension Condition (see Mahajan 2000, Müller 2002—note that the argument assumes that head movement involves adjunction, which may be debated; see Zwart 2001:55, Fanselow 2002).

Second, the traditional approaches to head movement in Germanic fail to account for the fact that a finite verb in embedded clauses (as in (3)) is still fully inflected for tense and agreement features. In the remnant movement approach of Koopman and Szabolcsi (2000:128f), there is a ready solution to this problem, assuming that remnant VP-movement to the specifier position of a functional head may be followed by subsequent leftward movement of whatever is to the right of the landing site of the remnant VP. In this way, the verb (inside the remnant VP) may be taken to occupy a position in close proximity to the functional heads licensing the relevant tense and agreement features in both main and embedded clauses, with the size of the constituent moving past the remnant VP in a subsequent operation determining the difference between main and embedded clauses. Other approaches assume head movement of the verb to the relevant functional head in both main and embedded

clauses, with subsequent remnant movement of various sized elements to the left across the raised verb; the uniform head movement is again motivated by the identical morphology of the verb in main and embedded clauses (Haegeman 2000:86, Hallman 2000:296.)

In this essay I want to take issue with both types of motivation for a remnant movement approach to the 'verb movement' pattern in (1)/(3)—mostly, however, with the second type of motivation, which seems to me to be totally unfounded, once the nature of tense and agreement marking is properly understood. (I am ignoring here a third type of motivation underlying remnant movement approaches to verb movement in Germanic, which capitalizes on unexpected deviations from the verb second pattern; cf. Nilsen 2002.) I am defending, then, the strict separation between head movement and phrasal movement brought out in Hans den Besten's earliest work, as well as his idea that finite verb movement is absent in verb-final embedded clauses in languages like Dutch and German. It appears to me that in light of this controversy over the nature of verb movement, differences between Den Besten's original analysis and my later attempts (hinging on the question of whether the verb invariably moves to C° or not), are of a distinctly minor significance.

Finite verbs in West-Germanic are inflected for tense and subject (person/number) agreement. In some cases, such as West-Flemish, there is additional morphology expressing negation. Tense, agreement, and negation are standardly taken to be features at the clause level, residing in designated functional heads outside of the verb phrase (T, Agr, and Neg, respectively). Let us assume this to be correct (below, I argue for a different view, but this does not affect the general argument). The question then is, how the verb comes to express in its morphology the feature values of the relevant functional heads. In early minimalist work, as in work dating from the Principles and Parameters period, the answer involved movement of the verb to the relevant functional heads, thereby checking off or matching the relevant features. Parametric variation was then reduced to a property of these functional heads, call it strength, triggering overt movement in some languages, but not in others.

A problem with this approach was that the morphology of the finite verb did not seem to care about the presumed strength of the relevant functional heads. Put differently, finite verbs in West-Germanic are inflected for tense and agreement regardless their position. Thus, in Yiddish, the verb seems to always occupy a position

outside VP (hence, potentially in one of the relevant functional heads), in English, the (lexical) verb invariably stays inside VP, and in Dutch (as in German and Frisian), as we have seen, the verb moves out of the VP in main clauses, but appears to remain inside VP in embedded clauses. In short, strength (i.e. verb movement) does not appear to correlate with morphology.

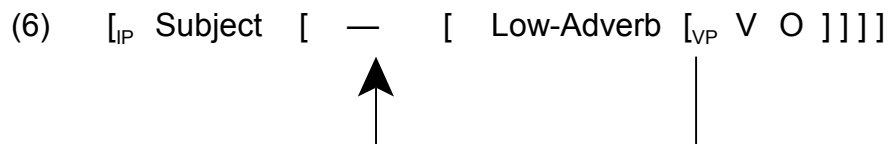
At this point it is perhaps relevant to mention that Hans den Besten's earliest treatment of verb movement in Germanic (the famous 1977 paper) did not attempt to establish a morphological 'trigger' for the phenomenon. Only in a later paper, presented at GLOW 1978, did Den Besten explicitly associate the C° position with tense, thus introducing morphology as the driving force for the movement (see Den Besten 1989: 88f). But as it turns out, the exact morphosyntactic features triggering verb-second are not easily identified (see Vikner 1995:64). This leaves open the possibility that verb second is something special, as in Chomsky's (2001a) treatment of it as a 'phonological' process (i.e. a process outside of 'narrow syntax').

I submit that this view of verb movement as independent of morphosyntactic features offers a more promising perspective on the phenomenon. There are two reasons for this. First, we can show that the absence of verb movement in English presumably has nothing to do with morphology, but can be explained by syntactic conditions on head movement. Second, I want to argue that a more minimalist approach to the phenomenon of agreement should steer clear of movement to a functional head Agr (or to a functional projection AgrP) in trying to capture the phenomenon. This is because the specifier-head relation between the subject and the verb, established by moving the verb to Agr (which by assumption hosts the subject in its specifier position), simply is not an optimally local relation. Instead, it seems to me that subject-verb agreement is a relation between the subject and its sister, a phrase containing the verb, which, in the West-Germanic languages, happens to be the designated element spelling out the agreement dependency. This view of agreement can easily be extended to cover tense, negation, and other morphosyntactic categories which may be expressed on the verb.

English differs from all other West-Germanic languages (as well as from Old English) in two, I believe related, aspects. First, the verb and the object invariably appear in a VO order, with the verb and the object necessarily adjacent to each other. Second, the combination of the verb and object precedes certain adverbs and adverbials (such as

manner adverbs like *fast* and time adverbials like *yesterday*), which in other West-Germanic languages clearly appear to the left of the VP. The relevance of the adverb placement data is that—accepting Cinque’s (1999) generalization that adverbs are merged in specifier positions in the functional domain of the clause, i.e. outside and to the left of the VP—we would have to conclude that the V+O combination in English occupies a position in the functional domain, i.e. has moved to the left (Cinque 1999:178 fn 59, Koster 2000). The relevance of the adjacency phenomenon is that it suggests that the verb and the object have moved as a unit.

Koster (2000) exploits these observations in arguing for a theory of parameterization that involves just a single variable: the size of the category that moves (ironically, the same theory of parameterization is pursued in Koopman and Szabolcsi 2000, with rather different results for the analysis of verb movement in West-Germanic). Accepting that West-Germanic languages have a process of object shift (illustrated in (5)), we can understand the position of the V+O complex in English as the outcome of this common object shift process applied to a language which is unable to move the object by itself. In other words, the category that moves must be larger than the object in English: it must include the VP (ignoring movements of the A'-type, which seem to march to a different drum):



Taking this ‘collective’ VP-movement to be a fact of English, we could try to relate to it a further difference between English and the rest of West-Germanic, namely the complete absence of movement of lexical verbs out of VP in English. Interestingly, auxiliaries in English do show head movement phenomena—such as subject-verb inversion of the type in (1b)—so it would be difficult to argue that no trigger for verb movement exists in English. Crucially, however, auxiliaries are taken to be generated outside the VP—both in the tradition of Chomsky (1957) and in the more recent investigation of Cinque (1999). Presumably, then, being trapped inside a collectively moved VP is what precludes head movement of the lexical verb.

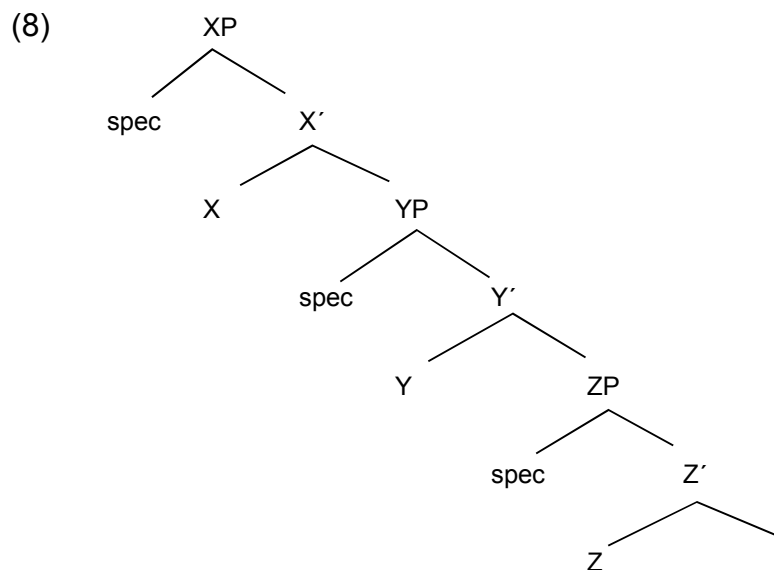
I submit that these observations help us to understand the exact nature of head movement. Fully in line with Harley (2003), who independently developed a similar view,

I propose that head movement is the outcome of an automatic chaining process of heads of connected projections, with 'phonological' considerations determining which head of the chain gets to be spelled out (see also Zwart 2001, 2003a).

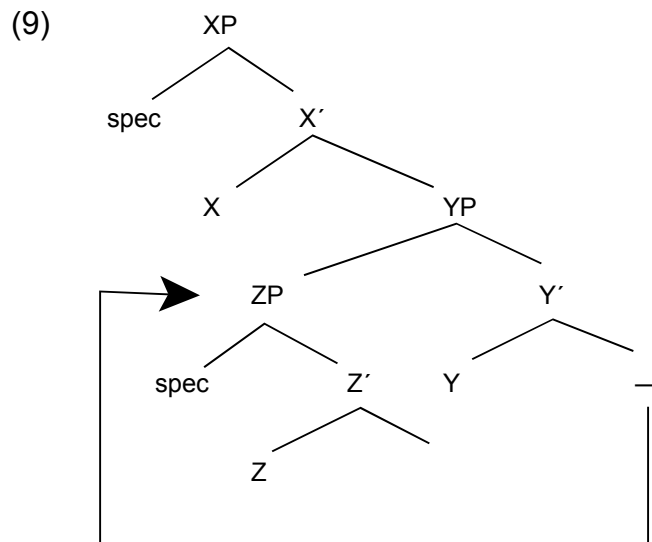
The automatic chaining process applies whenever a head is merged to existing structure (taking structure to be created in a step-wise, bottom up process à la Epstein 1999), and it specifies the following:

(7) When a head α is merged to β , α and the head of β , γ , form a chain (α, γ)

We further stipulate that lexical material of a chain may be spelled out on each member of the chain (essentially deriving the conflation process of Hale and Keyser 2003, as pointed out by Harley 2003). The idea is that every newly merged head extends the chain, so that a tree comprising three projections as in (8) implies the existence of a chain (X, Y, Z) :



Assuming current views of the functional domain, every clause contains quite an extended automatic head chain, with concomitant variation in spell-out possibilities. In English, however, the VP moves to a specifier position, thereby removing the head V from the chain of heads (see (9), where ZP=VP).



(This in fact requires that we view chain formation as an operation on representations, rather than as an automatic function of the operation Merge, perhaps underscoring the special nature of head movement discussed in Chomsky 2001a.)

It follows, then, that English lacks lexical verb movement *because* it involves collective object movement (i.e. VP-movement), trapping the verb inside the VP. None of this has anything to do with morphosyntactic feature checking or with the strength of functional heads.

This leads to the further question of how English lexical verbs can show markings for tense and subject agreement. Accepting that VP-movement blocks verb movement, we cannot bring the lexical verb into association with the relevant functional heads by way of verb movement. There is, however, an alternative, which has the advantage of exploiting to the full the step-wise bottom-up derivational structure building procedure which, according to Epstein (1999), is instrumental in explaining core syntactic relations within the minimalist program.

The minimalist program identifies the recursive procedure of the faculty of language as the iterative application of a single rule, Merge (Chomsky 2001b). Merge takes two elements and combines them yielding a set. (I have argued elsewhere [Zwart 2003b] that Merge can be conceived of as an even simpler operation, which transfers one element at a time from various sources—a Numeration, or a parallel derivation, or the current derivation—to a ‘work space’, which is the current derivation. At first Merge, this transfer implies ‘merger with nothing’—*pace* Collins 1997:78f—but at second Merge, it implies merger to already existing material. The relevance of this is that Merge can

now be defined as yielding an ordered pair rather than an unordered set, which yields all kinds of asymmetries for free, including linear ordering and asymmetric c-command. But this is immaterial to the discussion at hand.) The most local relation, then, is that between two elements being merged together, i.e. between sisters. From this it follows that, ideally, the only existing dependency relations in the grammar are those between sisters (Zwart 1993:373).

Agreement between the subject and the verb is standardly considered to be mediated by a functional head (Agr in early minimalist work, T in later proposals). The functional head is associated with the subject (via the specifier-head relation in the earlier proposals, or via c-command in later minimalist work) as well as with the verb (via movement or c-command). But in none of these implementations is the subject a sister to the relevant functional head, or to the verb. Can we do better?

It seems clear that the prominent element in the subject-verb agreement relation is the subject. The relevant features (number, person) are inherent to the noun phrase (or 'interpretable', in the sense of Chomsky 1995). The agreement relation, then, is asymmetric (*pace* Chung 1998:178), and starts out from the subject. The minimalist approach then dictates that the dependent element in the agreement relation is the subject's sister. Assume this to be so. Assume furthermore that agreement entails feature sharing, to the effect that the sister of the subject comes to share the subject's relevant features (in this case, person/number). Then various things may happen.

The subject's sister may refrain from spelling the agreement features out. This is presumably what occurs in languages without subject-verb agreement. More relevant to our concerns is the situation where the subject's sister does spell out the agreement features. The subject's sister is not a head, so it depends on one of its terms for actual morphological realization of the agreement features. Again, various possibilities may be suggested (among which spell out by phrasal clitics, multiple spell out, etc., which all occur in the world's languages), but in Germanic the designated element for spelling out the agreement features appears to be the verb.

Importantly, this does not imply that the verb is in an agreement relation with the subject. That is only how it appears to be, because the verb is the designated spell-out element of the features of the subject's sister (which is the actual element in agreement with the subject).

If this is the correct view of subject-verb agreement, it is immediately clear how the verb in English (stuck inside a raised VP) can show agreement with the subject: the

verb is a term of the subject's sister, whether it is contained within a raised VP or not. (Incidentally, when an auxiliary is present, then *that* is the designated spell-out element, suggesting that English, and Germanic languages more generally, pick the 'highest' potential spell-out element for the agreement features.)

Similarly, then, in the other West-Germanic languages: the subject agrees with its sister, a phrase, which is dependent on the verb for spell-out of the agreement features. The fact that these languages show verb movement, then, is not related to morphosyntactic features, but to the absence of collective movement: if the verb does not raise with the VP to the object position, it is free to undergo head movement.

Importantly, functional heads do not seem to play any role in subject-verb agreement, other than that they may host the designated spell-out element (the verb or auxiliary) in languages with verb movement. It follows that there is no reason to believe that verb movement is triggered by morphosyntactic features residing in functional heads: these functional heads are arguably not involved in the agreement process at all.

It also follows that the presence of agreement morphology is no indication that a verb has moved to the relevant functional head. Hence, the fact that inflected verbs appear in various positions in the clause (in clause-final position, right-adjacent to the subject, or in subject-verb inversion) is not a problem: in each of these positions, the verb is an eligible spell-out element for the agreement features of the subject's sister. (The fact that inversion has no effect on agreement shows that the spell-out element is marked as such in the course of the derivation.) Recall that this perceived problem forms a large part of the motivation for remnant movement approaches to finite verb movement in Germanic.

The analysis of agreement as involving sisterhood is easily extended to other morphosyntactic dependencies. In fact, there is reason to believe that the tense morphology on a finite verb is also the spell-out of a tense agreement relation. That is to say, tense is not an inherent feature of the verb, witness the fact that nominalized verbs lack tense (cf. Alexiadou 2001:59f).

One could assume, following a long-standing tradition in generative grammar, that the clausal functional domain contains a head T (for tense). From our point of view, then, this element T is a tense operator which is merged to some constituent, and enters into a dependency relation with it (with, again, the sister being the dependent

and T the 'antecedent'). T then shares its features with its sister, which looks for a term to spell these features out: the verb (or an auxiliary).

It is tempting, however, to downplay the agency of functional heads in the domain of tense agreement as well. The tense operator could be a phrase, with the same effect on verbal morphology (the verb spells out the agreement features of the tense operator's sister). If so, there is even less reason to believe functional heads to be active in triggering head movement.

At any rate, it seems quite possible to view tense morphology in Germanic as an agreement phenomenon (with T or with an operator). The verb placement facts are the same as with subject agreement: English lexical verbs show tense agreement even if they are not eligible for head movement, and in the other Germanic languages tense morphology appears on the verb irrespective of the verb's exact position in the clause.

Negation is relevant to the discussion because the negative morphology on finite verbs in West-Flemish is explicitly mentioned as offering support for verb movement in embedded clauses in West-Germanic (Haegeman 2000:75 and references cited there). The relevant fact is that a negative prefix shows up on the verb in clause final position:

- (11) ... da Valèredienen boek nie en-kent (W-Flemish)
that Valery that book not NEG-knows
'...that Valery doesn't know that book.'

Haegeman's work on negation in West-Flemish assumes a clausal functional projection NegP, the head of which is associated with the morpheme *en*. The fact, then, that this morpheme shows up on the verb in clause final position is taken as evidence that the verb has in fact raised into the functional domain.

Alternatively, however, we may suggest that the clause contains a negative operator (perhaps the adverb *nie*), which is merged to the structure at some point, and enters into a dependency/agreement relation with its sister. That sister, then, spells the relevant features (negation) out on an eligible element: the verb. In other words, the negative morpheme in West-Flemish may just be an agreement morpheme, in line with tense and subject agreement.

If this approach is on the right track, the functional head Neg can be dispensed with, as well as the problematic Neg-Criterion (on which see Haegeman 2000:76 and Rullmann 1997), which states that negative elements must be in the specifier position

of the Neg-Phrase at some point in the derivation. The Neg-Criterion is modeled on the Wh-Criterion of Rizzi (1990:378), which states a similar requirement on Wh-elements (*mutatis mutandis*). It can easily be seen that the upshot of the line of thinking presented here is that, ultimately, there are no contentful functional heads: meaningful functional elements are phrases which enter into an agreement relation with their sisters, leading to various spell-out patterns. The advantage of this approach is that a duplication of functional material is avoided: as soon as there is a phrase α agreeing with an element β and carrying identical features as a proposed functional head γ , we can eliminate γ .

These last remarks apply with equal force to the influential proposal of Cinque (1999), according to which the functional domain of the clause contains a relatively large number of Adverb Phrases, functional projections hosting adverbial features in their heads and adverbs in their specifiers. The compelling empirical evidence for this organization of the functional domain comes from languages which express these adverbial notions in their verbal morphology. These languages show Mirror Principle effects, i.e. the morphemes are ordered on the verb in such a way that the elements closest to the stem correspond to the functional heads closest to the VP (i.e. to the lowest adverbs). However, if we are on the right track, the morphology on the verb is just the spell-out of an agreement relation between an adverbial operator and its sister, which contains the verb. Again, the evidence for functional heads is reduced.

This approach also solves a nagging problem raised by IJbema (2002), who argues that modal verbs in Dutch are functional elements because they express the modality that is associated with some of the functional heads identified as Adverb heads by Cinque. IJbema in fact very nicely shows how the modal verbs in the history of Dutch progressed along a grammaticalization path which mirrors the hierarchy of Cinque's adverbial notions exactly. The problem this raises is that the modal verbs in Dutch cannot possibly be taken to occupy the functional heads in the Cinque hierarchy with which they are associated, because that would imply that they precede the adverbs that are lower on the Cinque hierarchy, e.g. manner adverbs. But in embedded clauses, manner adverbs *must* precede the verb, and it does not matter whether that verb is a modal or not. Again, the solution could be that the modal verbs in Dutch acquire their particular modal readings by agreement with the relevant adverbial operator (where 'agreement' is in fact the spell-out of the agreement relation between the adverbial operator and its sister, which contains the modal verb).

In conclusion, it seems to me that morphosyntactic phenomena have no bearing whatsoever on the position of the finite verb in West-Germanic. I concur, then, with Bobaljik (2002), who finds evidence for a relation between agreement and verb movement to be lacking in all of Germanic. This eliminates what appears to be one of the prime motivations behind the analyses of finite verb movement as involving remnant VP movement.

Our reasoning leads to considerable skepticism regarding the content of functional heads (not only the 'uninterpretable' ones, such as Agr, but also the contentful ones, such as T and Neg). From a minimalist point of view, then, it would seem desirable to pursue an analysis without any functional heads. I am, however, not prepared to argue in support of such a course, mainly in view of the need to describe verb movement phenomena in a non-ad hoc fashion. In an earlier paper along similar lines, I have argued that verb movement is the effect of spell-out of a chain of connected heads (Zwart 2001), which acknowledges the relevance of 'phonology' as proposed by Chomsky (2001a), but at the same time restricts spell-out to a set of syntactically defined positions. This still seems a desirable position to take, as it preserves the configurational perspective on verb movement that we owe Hans den Besten.

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