

ALL LANGUAGES ARE TENSE SECOND¹

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1. Introduction

One of the most remarkable properties of the Germanic languages, with the apparent exception of English, is the so-called Verb Second phenomenon. Ignoring some complications, it can be said that, by and large, the finite verb is moved from its VP-internal position to the VP-external second position of main clauses. Following earlier work by Bach and Bierwisch, a theoretical account was proposed in Koster (1975), which was refined and given its classical form in Den Besten (1977). Although Den Besten's analysis is generally seen as the standard analysis, it is curious that one of its key insights was largely ignored in the decades that followed. What I have in mind is Den Besten's formulation of the Verb Second rule as a *substitution* operation. More often than not, Verb Second is seen as some kind of adjunction.

Formulating Verb Second as a form of adjunction completely ignores what Den Besten's perceptive analysis was all about. The background theory that was adopted in those days by Den Besten and his Amsterdam colleagues was Joseph Emonds's theory of root and structure-preserving transformations (Emonds 1976). Structure-preserving transformations were substitutions, which substantially restricted the class of possible transformations. From a general theoretical perspective, then, it was seen as somewhat disappointing that root transformations were not constrained in a similar way. In order to overcome this problem, Den Besten proposed that Verb Second is a structure-preserving substitution as well, with the promising further assumption that all major transformations (both root and non-root) could be seen as completely restricted to the narrow set of structural possibilities already given by X-bar theory.

Den Besten's key insight was that Verb Second in root clauses replaced the complementizer position (C) shown by dependent clauses and that it was a structure-preserving substitution, because both C and the finite V could be seen as expressions of Tense.

In this article, I will focus on Den Besten's original insight and propose that it is essential to the explanation of verb movements in general, not only of the many Verb Second operations found in many different languages, but also of the "short" verb movements in English and Romance, as studied by Emonds (1976), Pollock (1989) and many others. Studying verb movements from this perspective, I believe, has a direct bearing on the question why there are movement rules in the first place. In particular, I will argue that the short verb movements in languages like French are instances of partial movement, analogous to the partial Wh-movements studied by Van Riemsdijk (1982), McDaniel (1989) and others

¹ This paper is dedicated to Hans den Besten as a small token of appreciation for more than 30 years of linguistic inspiration and friendship. Congratulations, Hans!
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(see Lutz *et al.* 2000). Next, I will argue that English is more like the other Germanic languages than thought so far in that it has a \emptyset -tense marker in second position, where the other Germanic languages express tense by Verb Second. This \emptyset -tense marker sometimes blocks movement of verbs to this position. I will conclude with the speculation that perhaps all languages are Tense Second, which would make the Germanic Verb Second rule a realization of a universal position.

2. Why movement?

Noam Chomsky has often remarked that “displacement” (movement) is one of the most striking characteristics of natural language, particularly if compared to artificial languages. It is therefore surprising that, after almost half a century of generative grammar, there is no clear and generally accepted answer to the question why natural languages have this property. Early attempts to explain movement highlighted the reduction of center embedding and other complexity (see, for instance, Miller and Chomsky 1963). It seems to me that the most satisfactory answer to date was given within the framework of the so-called Extended Standard Theory (EST), the dominant paradigm of generative grammar between, say, 1966 and 1979. It was generally thought in those days that movement modified linear order for semantic reasons such as scope. Thus, by selective highlighting of elements from the underlying argument structure, movement rules were thought to greatly increase the semantic expressiveness of the given material (see Jackendoff 1972, 384-386).

To the extent that there was consensus on this, it gradually lost terrain to feature checking approaches, which are now central to the Minimalist Program. According to such approaches, movement serves to check or eliminate certain features, for instance to prevent “uninterpretability” at the interfaces with the sound and meaning systems. It seems to me that the older EST approach was more revealing and that the feature checking approach not only contributed little in terms of insight but also always runs the risk of being (nearly) circular.

It is not my intention here to give a full answer to the question why the earlier EST consensus was gradually overshadowed, but it seems to me that it has to do with the emergence of “invisible” (LF)-movement in the late 1970s and 1980s.² In order to produce semantic effects, movement rules must create “visible” differences in terms of linear order. In fact, the entire EST idea of differential surface interpretation had much to do with the Prague School tradition of theorizing about information structure (“given” vs. “old” information, etc.), which is crucially based on stress patterns and perceivable word order differences. Such theories lose significance when displacement can also be “invisible”, as created by LF-movement.

There are numerous independent reasons to be skeptical about LF-movement, but the reason that deserves special attention here is that the effects of “visible” movement are linearly asymmetrical. It would be odd to try to explain movement without focusing on one of its most striking properties, namely that it is always to the left. Since Kayne (1994) it has become increasingly doubtful whether there any rightward movement rules at all in grammar.³ The fundamental left-right asymmetry of movement operations is naturally combinable with an information structure perspective: moving something to the left (to an “earlier” moment in the speech stream) gives it a more prominent position. For feature checking, on the other hand, it is hard to see what difference it would make whether movement is to the left or to the right.

² See for instance May (1985).

³ Extraposition phenomena, for instance, are not properly characterized by movement to the right. See De Vries (2002) and Koster (2000a).

For these and related reasons, then, I would like to shift focus from the feature checking rationale of movement and return to some version of the EST perspective:

- (1) *The purpose of movement is to selectively highlight meaningful constituents*

This is most commonly translated as saying that movement affects “relative aboutness”, which can be expressed as follows:

- (2) For each pair of adjacent projections [α β], β is about α

The definition of relative aboutness is not without problems of its own, but in most cases, as expressed by (2), it corresponds with linear order in a straightforward way. Thus, (3a) and (3b) have the same underlying argument structure, but it can be plausibly said that (3a) is a sentence about *John*, while (3b) is a sentence about *beans*:

- (3) a. [α John] [β doesn't like beans]
b. [α Beans] [β John doesn't like]

Similarly, a fronted Wh-phrase highlights the portion of a sentence to which an answer is sought:

- (4) [α Which book] [β did you read t]

In some obvious sense, this is a sentence about a book, namely the book of which the identification is requested.

Although highlighting (in terms of relative aboutness) seems to be the main function of movement rules, this does not fully determine the landing site. Even if elements are moved to the left to give them a more salient position, there is often more than one possible landing site. Wh-movement, for instance, also highlights the scope of the Wh-element. Although it has been observed since *Syntactic Structures* (Chomsky 1957) that there is a relation between linear order and scope (and therefore, according to (2), between relative aboutness and scope), actual scope is often determined by the presence of scope markers in designated positions. These scope markers determine the actual landing site, which suggests a second highlighting function of movement, namely indicating where (often invisible) elements (such as the [+wh] scope marker in (4)) are located.

The two highlighting functions (indicating what is salient and signaling the scope marker associated with the salient element) are closely related and fully compatible if we assume that scope is always linear, i.e., from left to right and never from right to left: the more an element is to the left, the wider its scope.⁴

For Wh-movements (and perhaps also for NP-movements) notions of relative aboutness and scope are more or less straightforward. It has been much more difficult to interpret verb movements (such as Verb Second and short verb movement to Infl in English and French) along such lines. Sometimes, verb movements are even relegated to the phonological periphery of grammar.

In contrast, I would like to claim that the verb movements in question are very much like other movements in that they have a semantic function, i.e., verb movements highlight the content of a chain with respect to a scope marker, in this case the Tense marker of the

⁴ There are several apparent counterexamples to the hypothesis that scope is linear, for instance inverse linking (May 1985) and adverbial scope to the right of the VP. As for an alternative to May's (1985) treatment of inverse linking, see Rullmann (1988). For adverbial scope, see Koster (2000b) and (2001).

sentence. Before showing the parallels in more detail, I first have to discuss partial movements and mixed chains, as well as the general requirement of sentences to be “typed” in the sense of Cheng (1991).

3. Partial movement and mixed chains

It was first discussed by Tappe (1980) and Van Riemsdijk (1982) that in some languages, like German, Wh-movement can be partial instead of total. By total Wh-movement I understand Wh-movement all the way to the position from which the scope of the Wh-element(s) is computed. This is what is found in standard Wh-movement in English. As described in detail by Van Riemsdijk (1982) for German and by McDaniel (1989) for Romani, some languages have Wh-movement to a position lower than the position from which scope is computed. Van Riemsdijk shows that this is the case when the COMP positions all the way up to the scope position are filled with other elements, particularly with what he identifies as the scope marker *was*.⁵ Thus, the following sentences all have the same meaning, with the scope of the Wh-phrase *mit wem* computed from the COMP of the highest clause:

- (5) a. **Was** glaubst du, **was** Peter meint, **was** Hans sagt, **was** Klaus behauptet, **mit wem**₁
 What think you what Peter believes what Hans says what Klaus claims with whom
 Mary *t*₁ gesprochen hat
 Maria spoken has
- b. **Was** glaubst du, **was** Peter meint, **was** Hans sagt, **mit wem** Klaus behauptet, dass
 Maria gesprochen hat
- c. **Was** glaubst du, **was** Peter meint, **mit wem** Hans sagt, dass Klaus behauptet, dass
 Maria gesprochen hat
- d. **Was** glaubst du, **mit wem** Peter meint, dass Hans sagt, dass Klaus behauptet, dass
 Maria gesprochen hat
- e. **Mit wem** glaubst du, dass Peter meint, dass Hans sagt, dass Klaus behauptet, dass
 Maria gesprochen hat

Of these variants, only (5e) has total Wh-movement (as in English), while all other sentences move the Wh-phrase *mit wem* to the Spec of a lower CP. This is interesting because the Wh-phrase ends up as the Spec of a C that is obligatorily [-wh]. There is no [+wh] feature to check here, which, just as the intermediary steps in Wh-movement in English, makes it questionable that movement checks features. Only in (5e) is the Wh-phrase in a position where an adjacent [+wh] feature can be directly checked. In (5a-d), the rest of the chain to the scope position in the highest clause is filled with successive instances of the scope marker *was*. I will refer to the “movable” Wh-phrase itself (*mit wem* in (5)) as the main content of the chain and to elements such as *was* as the auxiliary elements of the chain:

(6) *Chain auxiliary elements*

Chain auxiliary elements are specialized elements other than the main content of the chain that mediate between the main content and its scope position

⁵ There is some discussion in the literature about the question whether elements like *was* are actually scope markers or weak expletives of some sort. Horváth (1997) advocates the first view, while the second view is defended by Dayal (1994), among others. The elements in question do not necessarily have the same status in all languages with mixed chains. In this paper, I will follow the scope marker idea for ease of exposition, without special commitment.

With chain auxiliary elements defined, we can now also define full and mixed chains:

- (7) a. *Full chains*
Full chains are chains that are lexically fully characterized by their main content and do not contain chain auxiliary elements
- b. *Mixed chains*
Mixed chains are chains containing chain auxiliary elements together with their main content

Standard Wh-movement in English and German (5e) involves full chains, while the type of Wh-movement shown by the German examples (5a-d) shows mixed chains. I will allow for chains without movement and traces, so that the chains shown by languages with Wh-phrases *in situ*, connected to some scope marker, are also subsumed by the definition of mixed chains. Among the languages of the world, mixed chains --with or without movement-- are at least as common as the full chains found in English.

Mixed chains with movement (as in 5a-d) are a problem for a theory that seeks to explain movement in terms of feature checking, because only full chains, with movement all the way to the scope position, provide an appropriate environment for the direct checking of the Wh-features involved. Assuming that a derivation cannot “look ahead”, there is nothing to check against in the landing environments of Wh-phrases in mixed chains. In fact, the complementizers targeted by partial Wh-movement are obligatorily [-wh] instead of the [+wh] required for feature checking.

One can of course stipulate that as soon as a moved Wh-phrase has landed, its Wh-features can still move on, but that would be a highly artificial extension of the notion of “movement” (and the class of possible grammars), meaning that at any given moment one could decide whether to move the targeted constituent itself or only its feature content. But even with this implausible solution, the intermediate movements do not seem to be motivated by feature checking. Partially moved Wh-phrases can only be brought in touch with the relevant features at a sometimes much later point in the derivation, i.e., not earlier than when the Wh-scope position expressed by the [+wh] feature is introduced.

Although I believe that scope is most naturally described in terms of representations and chains, my argument so far is not an argument against movement *per se*, but only an argument against the idea that movement is triggered by local, cyclical feature checking.⁶ If movement is not necessarily to a local feature-checking environment, it can still be said that is compatible with the older EST approach that assumed that movement serves to create scope domains. If a Wh-element has scope over a certain domain, it also has scope over each of its subdomains. So, it could be said that in successive cyclic Wh-movement, each step builds up the Wh-element’s scope over the subdomain, as part of the eventual full scope domain.

All in all, I believe that mixed chains favor some version of the EST explanation of movement (whether seen in representational or derivational terms) over an explanation based on feature checking. Movement seems to give salience to elements in terms of the “visible” left-right order: the more to the left, the higher the salience. Scope itself is not determined by movement, but by designated elements like scope markers. Movement only serves to highlight elements, most commonly for reasons of scope. One way to highlight an element, to give it a scope in association with its scope marker, is to move it all the way to the local environment of the scope marker (full movement). Association with the scope marker can

⁶ For an argument against “movement”, see Koster (2003).

also be without any movement whatsoever (*Wh-in situ*, possibly with a larger chain of intermediate scope markers up to the target scope marker) or by partial movement. Partial *Wh*-movement is a kind of hybrid between full *Wh*-movement and *Wh-in situ* in that the chain to the target scope marker is filled up with intermediate scope markers.

4. Typing and Tense marking

In what follows, I would like to show that Verb Second is exactly like *Wh*-movement in that it associates a verb with a scope marker, in this case the marker indicating the Tense of the sentence. Verb Second, as found in many languages, is the full version of this highlighting process, while the small verb movements studied by Emonds and Pollock are the partial movement versions of this process. This scope-highlighting view of verb movements is given initial plausibility by the fact that it is, exactly like *Wh*-movement, always movement to the left.

At least for Verb Second, the scope-highlighting view was proposed before, namely by Evers (1982) (cited in Koenenman 2000, 106). In fact, also for small verb movements, the similarity with *Wh*-movement was clearly seen, namely by Pollock in his important paper on these movements (1989, 392):

The intuitive idea [...] is that Verb Movement to Infl in tensed clauses and *Wh* movement are similar in that they each provide an abstract operator ($[\pm Q]$ and $[\pm Past]$, respectively) with an appropriate variable.

In other words, others before have realized that Verb Second is a great deal more interesting than suggested by views that it is some kind of syntactically peripheral, even phonological process (cf. Chomsky 2001). It is most typical of core syntax and very similar to *Wh*-movement, with a very similar function (scope highlighting) and a similar range of variation across languages. It is my goal to bring out the similarity suggested by Evers and Pollock even further, by claiming that also V-chains can be mixed, with auxiliary elements preceding the main chain content (expressed by the verb itself). An important element of this overall view is that Pollock's "Movement to Infl" is a form of partial movement and, as such, the V-chain counterpart of partial *Wh*-movement in *Wh*-chains. Verb Second, in this view, is the full movement version and the V-chain equivalent of full *Wh*-movement. Before going into this, I will first introduce an essential element of the analysis based on Cheng's (1991) insights about sentence typing.

Cheng (1991) has formulated an important insight about, possibly, all natural language sentences:

(8) ***Clausal Typing Hypothesis:*** every clause needs to be typed

The idea is that all clauses contain formal means to indicate whether it is declarative, a question, or any other type. This is most easily demonstrated with subordinated clauses, which are often introduced by complementizers that fulfill the typing function. Thus, the complementizer *that* types the subordinate clause in (9a) as a declarative clause, while *if* in (9b) types the following clause as a question:

- (9) a. Mary says [*that* he will come]
b. Mary wonders [*if* he will come]

Crucially, a typing complementizer can also be \emptyset , in which case its feature content is contextually determined:

- (10) a. Mary says [\emptyset he will come]
 b. Mary knows [what \emptyset he has done]

In (10a), the \emptyset -complementizer is thought to have the typing feature [-wh], while in (10b) it is [+wh], as contextually determined by the Wh-phrase in its Spec. In several languages the complementizer can even be overtly expressed with questions, as (optionally) in Dutch:

- (11) Marie weet wat (of) hij gedaan heeft
 Mary knows what (if) he done has
 “Mary knows what he has done”

Complementizers typically also mark the following clause as “dependent”. To this we must add, I believe, Den Besten’s (1977) idea that complementizers also code Tense (or finiteness). Thus, the complementizer *that* indicates that a sentence is [+TNS], while the complementizer *for* indicates that the clause is [-TNS]. The \emptyset -complementizer can be both [+TNS] and [-TNS] in English, so that we minimally need the following system ([+DEP] expresses that a clause is “dependent”):

- (12) a. *that*: [+DEP, -WH, +TNS]
 b. *for*: [+DEP, \pm WH, -TNS]
 c. *if*: [+DEP, +WH, +TNS]
 d. \emptyset : [+DEP, \pm WH, \pm TNS]

Taking the results of Cheng and Den Besten together, we may say that complementizers are combined Type/Tense markers, marking both the type of the sentence and the scope of its Tense operator.

On the basis of Den Besten (1977), we can further say that in Verb Second languages the tense marking in (independent) main clauses is done by the finite verb itself, which thereby fills the [-DEP] slot. In other words, main clauses in these languages are tense marked in the same position as subordinate clauses. This is the implication of Den Besten’s V-to-C substitution account of Verb Second.

The interesting question that arises at this point is whether main clauses only mark Tense, or Type as well. As is generally known and also shown by Cheng (1991) and Lutz, Müller and von Stechow (2000), many languages of the world mark main clauses explicitly as questions [+wh] by a question (scope) marker. We have already seen examples of that in German (5a-d) and Lutz, Müller and von Stechow (2000, 7-8) further show that overt question markers frequently also occur with the partial Wh-movement that we demonstrated for German. Hindi (13) and Hungarian (14) are examples:

- (13) **Hindi** (Mahajan 1990, 171)
 [_{CP} Raam-ne **kyaa** kahaa thaa [_{CP} ki kis-ne kis-ko maaraa]]?
 R._{erg} WH said who whom hit
 “Who did Ram say hit whom?”

- (14) **Hungarian** (Marácz 1990, 330):
 [CP **Mit** gondolsz [CP hogy János₃ [CP kinek₁ mit₂ adott t₃ t₁ t₂]]]?
 WH you think that János whom_{dat} what_{acc} gave
 “What do you think that John gave to whom?”

Interestingly, and of crucial importance for what follows, Lutz, Müller and von Stechow (2000, 7-8) cite Cole and Hermon (2000) to show that partial Wh-movement also occurs with non-overt (\emptyset) question markers, as in Malay:

- (15) **Malay** (Cole and Hermon 2000)
 [CP \emptyset Kamu fikir [CP ke mana₁ (yang) Mary pergi t₁]]
 WH you think to where that Mary go
 “Where do you think that Mary went”

For main clauses, then, we find, among numerous others in other languages, the following question markers:

- | | | | | |
|------|----|---------------|-------------------|-----------|
| (16) | a. | <i>was</i> : | [±DEP, +WH, +TNS] | German |
| | b. | <i>kyaa</i> : | [±DEP, +WH....] | Hindi |
| | c. | <i>mit</i> : | [±DEP, +WH....] | Hungarian |
| | d. | \emptyset : | [±DEP, +WH....] | Malay |

As with dependent clauses, Type markers in main clauses mark sometimes Tense as well, like the German marker *was* (that only occurs with [+TNS] clauses). For dependent clauses, overtly typing the clause as [-wh] is just as common as typing it as [+wh]. In main clauses, however, [+wh] type marking is very common, while [-wh] marking is rare. Nevertheless, main clause declarative markers seem to exist (possibly as “evidential” markers), as in Capanahua (courtesy Jan-Wouter Zwart):

- (17) **Capanahua** (Camacho and Elías-Ulloa 2001)
 Juan **ta?** nokot -aş -bi ka -?iki
 Juan **DECL** arrive -SR_a then go 3p.pres.fact
 “Juan came and left”

It makes a lot of sense to see the declarative main clause as the most unmarked sentence type, which would make explicit morphological typing superfluous. I will assume, in accordance with Cheng (1991), that *all* clauses are typed, including main clauses, and that \emptyset -marking is almost universally seen as the most economic solution to the typing of declarative main clauses. Questions are more marked, explaining the relatively greater frequency of morphologically overt typing in questions cross-linguistically. This widely attested difference between the marking of questions and the marking of declarative clauses plays a big role in unraveling the structure of English in this respect, as I will show in a moment.

5. Small verb movements as partial movements

Before discussing Verb Second phenomena, I will briefly mention some main facts of the (non-Verb Second) verb movements in English and French, as discussed by Emonds (1976, 1978) and Pollock (1989). If we take the position of the negation marker as a fixed point in

the sentence, we observe the well-known difference in the behavior of main verbs in English and French:

- (18) a. *John *likes*₁ **not** [t₁ Mary]
 b. John **does not** [like Mary]
 c. John *has*₁ **not** [t₁ [liked Mary]
 d. John *is*₁ **not** [t₁ happy]

- (19) Jean (n') *aime*₁ **pas** [t₁ Marie]

In French, the main verb *aime* can be moved across the negative element (*pas*), as in (19), while in English such movements are impossible (see (18a)). The landing site of the verb to the left of Neg was originally characterized as Aux or Infl and has, since Pollock (1989), often been subdivided into a Tense and an Agr position. The details of such analyses are of little interest for current purposes, as long as it is assumed that there are one or more positions between the original, VP-internal V position and the C position more to the left, which has been seen as the landing site of the V in Verb Second languages since Den Besten (1977). For ease of exposition, I will assume, then, that there are at least three V positions that can form a chain somehow: V, Infl and C (see Kosmeijer 1993).

If in Verb Second languages the verb moves all the way to the left, English and French have at least partial movement, namely to fill the Infl position. The difference between English and French tensed clauses is that French allows all verbs in the Infl position, while English only allows specialized elements in this position, namely verbs from the special class of auxiliary verbs and the verbs *have* and *be* (see (18a-d)).

One of the most interesting aspects of Pollock's (1989) analysis is his demonstration that in infinitival clauses, French is more like English in that only the verbs *have* and *be* can be moved to the Infl position to the left of Neg:

- (20) a. **Not** to be happy is a prerequisite for writing novels
 b. ?To *be*₁ **not** t₁ happy is a prerequisite for writing novels
 c. **Not** to seem happy is a prerequisite for writing novels
 d. *To *seem* **not** t₁ happy is a prerequisite for writing novels

- (21) a. Ne **pas** être heureux est une condition pour écrire des romans
Ne to not be happy is a prerequisite for writing novels
 b. N' *être*₁ **pas** t₁ heureux est une condition pour écrire des romans
 c. Ne **pas** regarder la télévision consolide l'esprit critique
Ne not to watch television strengthens one's independence
 d. *Ne *regarder*₁ **pas** t₁ la télévision consolide l'esprit critique

Pollock explains the different status of *have* and *be* in terms of theta theory. I will not quite follow Pollock in this but simply assume that, unlike what we find in the standard Verb Second languages, English and French have the possibility of mixed verb chains, in which the initial elements of the chain are filled by specialized auxiliary elements (including the main verbs *have* and *be*). Thus, I see English auxiliary verbs as chain auxiliary elements analogous to such elements found in Wh-chains, as defined by (6), repeated here as (22) for convenience:

(22) *Chain auxiliary elements*

Chain auxiliary elements are specialized elements other than the main content of the chain that mediate between the main content and its scope position

The verb itself represents the main content of the chain, while the auxiliary verbs only represent some aspect of the clause's verb chain and furthermore mediate between the main content and its scope position, which corresponds to the C position in subordinate clauses. In a mixed chain, the initial auxiliary elements block full movement of the main content of the chain, allowing this main content to stay *in situ* or to move only partially.

In Dutch and German finite subordinate clauses, the verb stays *in situ*, in its clause-final position, because movement to C is blocked by the presence of the complementizer --the chain auxiliary element in this case--, while partial movement to Infl is blocked because the Infl position is either absent altogether or emptied by some other operation (as proposed by Zwart 1993). French has partial movement (to Infl) for finite clauses, while in English even *partial* movement is denied to main verbs, thanks to the blocking effect of the obligatory selection of specialized auxiliary elements in the potential landing positions.⁷

This raises a very intriguing question: **what is the nature** of the C position in English and French? Before going into this question (for English, discarding French), I would like to mention in passing that I explain the similarity between English and French in infinitival clauses (13-14) in terms of a requirement in both languages to limit the realization of the Infl position in infinitival clauses to specialized auxiliary elements. These elements may include *have* and *be* and an optional \emptyset -element. If this latter element is present, movement of *be* (*être*) is blocked (as in 20a and 21a), while the more marginal absence of this element makes possible the equivalent of *have-be* raising, while still blocking the movement of the non-specialized main verbs (20d and 21d).

6. Tense/Type marking in English root clauses

I will now turn to the question what blocks full movement (Verb Second) in English. All Germanic languages are analyzed as Verb Second languages, with the intriguing exception of English. Thus, unlike Dutch and the other Germanic languages, English is not Verb Second in that it allows, for instance, adverbs between subject (23a) or topicalized object (24a) and the following verb:

- (23) a. John probably **read** a book
b. *Jan waarschijnlijk **las** een boek Dutch
c. Jan **las** waarschijnlijk een boek
- (24) a. Books, John never **reads**
b. *Boeken Jan nooit **leest** Dutch
c. Boeken **leest** Jan nooit

The Scandinavian languages are more like English in other respects, but all show the Verb Second phenomenon in main clauses, as has been known for a long time and is for instance demonstrated by Swedish examples given by Holmberg and Platzack (to appear):

⁷ With Koenenman (2000), I will assume that English has a \emptyset -auxiliary that can be replaced by *do* (as was also proposed in Koster 1988). This auxiliary must be distinguished from the \emptyset -tense marker discussed in the text.

- (25) a. Han **hittade** faktiskt pengarna under sängen (subj + tensed verb)
 he found actually money-the under bed-the
 ‘He actually found the money under the bed’
- b. Under sängen **hittade** han faktiskt pengarna (adverbial + tensed verb)
 under bed-the found he actually money-the
- c. Faktiskt **hittade** han pengarna under sängen (adverbial + tensed verb)
 actually found he money-the under bed-the
- d. Pengarna **hittade** han faktiskt under sängen (object + tensed verb)
 money-the found he actually under bed-the

Why is English different? According to the framework set out so far, this question can be rephrased as: Why does English not have full verb chains? The predicted answer is that English has mixed chains, with auxiliary elements blocking full movement. In English, with the exception of *have* and *be*, main verbs can never leave the VP because the initial chain positions, C and Infl, can only be filled by specialized elements, the auxiliary verbs plus *have* and *be*. The presence of auxiliary verbs in Infl (including a \emptyset -auxiliary in the absence of *do*-support; cf. Koenenman 2000), keeps the main verb in the VP.

For the auxiliary verbs themselves, however, English shows both full movement and partial movement, depending on a very interesting pattern, which, at some level of abstraction, is also found in other languages, perhaps even in natural language in general. Recall first that we combined the insights of Cheng (1991) and Den Besten (1977) by assuming that all clauses, including main clauses, are marked for Type and Tense. Consider furthermore that the general Verb Second rule of all Germanic languages (except English) indicates the position of the scope of Tense but not the Type of the sentence. The verb in second position, the head C, bears tense and creates the environment for typing. The actual typing in Verb Second languages comes from the Spec of C, as we also found in English subordinate clauses with \emptyset -complementizers. Recall, for instance, (10), repeated here as (26):

- (26) a. Mary says [\emptyset he will come]
 b. Mary knows [what \emptyset he has done]

Assuming that \emptyset occupies the C position, its type features come from its Spec, a Wh-phrase in (26b) and nothing visible at all in (26a). Main clauses with Verb Second can be distinguished as to type in exactly the same way, as in the following sentences of Dutch:

- (27) a. Marie leest een boek
 Mary reads a book
- b. *Wat* leest Mary *t* ?
 what reads Mary
 ‘What does Mary read?’

Thanks to the Verb Second operation, both sentences are marked as [+TNS], while Type is determined by the Spec: a [-wh]-Spec (*Marie*) in (27a) and a [+wh]-Spec (*Wat*) in (27b).

A third fact to recall is that many languages of the world have overt question (scope) marking, while overt declarative markers are very rare. With declarative sentences, it was assumed, we mostly find \emptyset -markers to indicate Tense and Type.

With these background facts and assumptions, let us now move to English. The relevant fact in this context is that English does have Verb Second, but only for auxiliary verbs and only in questions (and also with negatives and some other marked sentence types):

- (28) a. What **did** he see
 b. Never **has** he seen his son

The auxiliary verbs have been moved across the subject *he*, indicating the application of Verb Second. Verb Second is strikingly absent in declarative clauses, both in “simple” declarative sentences (29a) and with topicalization (29b):

- (29) a. He probably **has** not read the book
 b. The book, he probably **has** not read

In neither case is the verb in second position, unlike what we observe in questions and negatives (as in 28). How can we account for this difference?

It seems to me that English follows exactly the pattern we find across languages, namely that the type marking for questions is usually lexical while the marking for declaratives is mostly \emptyset . In other words, we can explain the absence of Verb Second in (29) by assuming that English, perhaps like all other languages without Verb Second, has instead a \emptyset -marker in the second position of *declarative* clauses, to carry the Tense and Type features:

- (30) a. He \emptyset probably **has** not read the book
 b. The book \emptyset he probably **has** not read

Since this \emptyset -marking is typically a property of declarative clauses, we expect some form of overt lexical expression for non-declarative sentences, such as questions and negatives. This is why we see Verb Second in questions and negatives (28), but not in declaratives (29) in English. In English declarative sentences, the \emptyset -marker in C, universally available in languages that do not follow the Verb Second option, blocks further movement of the auxiliary verbs, as does the complementizer for all finite verbs in Germanic subordinate clauses. Essentially, then, I explain the absence of Verb Second in English declarative main clauses by following the insight first formulated by Den Besten (1977): the C position is already filled.

If I am correct, the presence of a Tense marker in its second position, makes English more similar to the other Germanic languages than realized so far. More importantly, we may speculate now that the second position of all languages is similar, namely in that it is a position marking Type and the scope of Tense, like the complementizer position of embedded clauses. Before making some concluding remarks about this issue, I will first present an independent argument showing that English has indeed a Tense marker in second position.

So far, the evidence for English as a Tense Second language has been somewhat circumstantial, largely based on considerations of Universal Grammar and what is found across languages. Perhaps we can do even better than that and derive a concrete empirical prediction from the proposed hypothesis. My argument is based on the following empirical generalization (cf. Müller and Sternefeld 1993):

- (31) *Scope Island Condition*
 Scope markers are barriers for the movement of elements in their chain (an element cannot be moved across its scope marker)

Brandner (2000, 52), for instance, shows that what I called the main content of a Wh-chain (the movable Wh-phrase, like *wen* in (32)) cannot be moved across the scope marker *was* in German:

- (32) a. **Wen*₁ glaubst du [*was* Maria denkt [dass Peter *t*₁ eingeladen hat]]?
 whom believe you what Mary thinks that Peter invited has
 b. **Was* glaubst du [*wen*₁ Maria denkt [*was* Peter *t*₁ eingeladen hat]]?
 what believe you whom Mary thinks what Peter invited has

If the generalization is correct, which I believe it is, we can explain an important fact about VP-preposing in English, brought to my attention by Jan-Wouter Zwart: it never applies to VPs with a [+TNS] verb. Thus, Emonds (1976, 115) discusses the following contrast:

- (33) a. We thought she would lose her temper, and **lose it** she has (Emonds 1976, b.
 b. *We thought she would lose her temper, and **lost it**₁ she *t*₁

Similar facts can be given for Dutch, in this case facts involving extraction of a VP from a subordinate clause headed by the complementizer *dat* (“that”):

- (34) a. **Boeken lezen**₁ denk ik niet *dat* hij *t*₁ daar wil
 Books read think I not that he there wants
 b. **Veel boeken gelezen**₁ denk ik niet *dat* hij *t*₁ daar heeft
 Many books read think I not that he there has
 c. ***Een boek las**₁ denk ik niet *dat* hij daar *t*₁
 A book read think I not that he there

Only extraction of the VP with a tensed verb (34c) is blocked, while VPs with bare infinitives (34a) or past participles (35) can be fronted without problems. These facts are very similar to the German Wh-facts (32) discussed by Brandner and can be seen as another instantiation of the empirical generalization (31). As discussed above (following Den Besten 1977), complementizers like *dat* not only mark the type of the sentence but also function as a scope marker for tense. The complementizer *dat* is [+TNS] and therefore only has [+TNS] verbs in its scope chain. According to the Scope Island Condition (31), then, tensed verbs cannot be moved across the scope-marking complementizer.

If English has a Tense and Type marker in second position, as proposed in this article, Emonds’s facts (33) and similar facts like (35) can be explained in the same way:

- (35) a. John [_{VP} **saw Mary**] there
 b. *_{[VP} **Saw Mary**]₁ John *t*₁ there

If English has a rule of VP-preposing, as usually assumed, it is a complete mystery why (35b) cannot be derived. The facts are explained, however, if we assume that English has a hidden Tense marker (\emptyset) in second position:

- (36) ***Saw Mary**₁ \emptyset John *t*₁ there

Under the assumption made, this is once more an instantiation of the Scope Island Condition (31): the [+TNS] marker \emptyset in C position prevents the tensed VP from moving across, just as the complementizer *dat* in (34c) blocks the extraction of the tensed VP in Dutch.

In sum, then, we not only have circumstantial evidence, on general and comparative grounds, that English has a Tense/Type marker in second position, we also have direct empirical evidence.

7. Conclusion

I would like to conclude with the speculation that not just English and the Germanic languages, but *all* languages have a Tense/Type marker in second position, comparable to the universal first position of fronted Wh-elements. If this speculation turns out to be correct, we will see an even closer similarity between Wh-movements and verb movements: both are core processes of grammar building the clause's fundamental scope chains.

It has occasionally been observed since the 19th century that there is something peculiar about the second position of sentences, often referred to as the Wackernagel position (see Anderson 2000 for recent discussion). Whether the second position discussed in this paper is what Wackernagel had in mind, remains to be seen. Similarly, I do not take the notion "second position" as literally as Anderson (2000) suggests. The position I have in mind is more appropriately described as the C position, along the lines of Den Besten (1977). I have proposed in earlier work (Koster 1978) that, because of the existence of hanging topics and other elements, the C position often is the third position of main clauses. A further differentiation of the left periphery of the sentence has been proposed by Zwart (1993) and by Rizzi (1997), proposals I do not take issue with, except that I believe that the existence of \emptyset -markers, as proposed above, will naturally lead to a more refined picture of the left periphery in future research.

With these qualifications in mind, it can be said that there is substantial comparative evidence that natural languages have a Tense/Type marker in second (or C) position. First of all, if my conclusions about English are correct, the Tense Second generalization holds for the entire family of Germanic languages. One of the most intriguing facts about Australian Aboriginal languages that Ken Hale used to point out is that several of them have a strong Verb Second constraint of some sort. This is the more remarkable because these languages have an otherwise very free word order. Thus, Hale (1992) gives the following facts about Warlpiri:

- (37) a. Karnta-ngku **ka** yarla karla-mi
woman-erg pres yam dig-nonpast
"The/a woman is digging yams"
b. Yarla **ka** karla-mi karnta-ngku
c. Karla-mi **ka** karnta-ngku yarla
d. Yarla **ka** karnta-ngku karla-mi
e. Karla-mi **ka** yarla karnta-ngku

All constituents can be scrambled in this sentence as long as the auxiliary *ka* remains in second position. Similar facts have been reported for Wambaya (Nordlinger and Bresnan 1996). Lexicalization of Tense (with V or some auxiliary marker) in second position (or the Wackernagel position or the C position) has not only been reported for the speakers of Germanic and their Australian antipodes, but also for numerous other language families. See, for instance, Franks and Progovac (1995) and Tomic (1996) for Slavic, Mohammad (1989), Fassi Fehri (1989), Koopman and Sportiche (1991) and Aoun *et al.* (1994) for Arabic, and Sproat (1985), Hendrick (1988) and Borseley and Roberts (1996) for Celtic. So rich is the comparative evidence for tense marking (with or without V movement) in second position that there is a fair chance that the Tense Second Constraint is a true universal.⁸

⁸ I put "second" between quotes here because of the qualifications given above: "second position" should not be taken too literally if further differentiation of the left periphery is in order.

(38) *Tense Second Constraint*

All languages mark Tense/Type in the “second” position (C) of the main clause

Verb Second is the full movement realization of this universal form of scope marking, while with auxiliary elements like complementizers, auxiliary verbs or non-verbal scope markers, the chains are mixed and we find partial verb movement at best (as in English and French). To summarize, we have come to the following conclusions:

- (39)
- a. Movement is overt because it establishes relative aboutness (linear salience), for instance, to indicate scope. Covert movement (LF movement) does not make sense from this point of view
 - b. Leftward verb movements are analogous to Wh-movement and are part of the scope chain formation of a clause’s Tense-operator
 - c. Both Wh-movements and verb movements can be partial if the chain is headed by specialized auxiliary elements (complementizers, scope markers, auxiliary verbs) blocking “full” movement
 - d. English has an \emptyset -marker for [+TNS] in the “second” position of declarative root clauses
 - e. All languages are Tense Second

The fundamental idea behind the research leading to these conclusions has been the concept of mixed chains for verbs, which goes back to Den Besten’s insightful, classical article of 1977.

Groningen, 1 December 2003

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