

Morphology and Word Order in Germanic Languages

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1. Introduction¹

One salient idea in the Minimalist program advanced in Chomsky (1992) is that syntactic representation (conceived as the interface with interpretation) does not essentially vary across languages. Word order, however, varies because, other things being equal, there is variation as to whether movement is visible (takes place before Spell-out) or not. Movement, in turn, is conceived as necessary in order for the functional features of inflected lexical items to be checked against the corresponding features in the functional heads. Given the sentence structure in (1):²

(1) [_{AGRSP} AGRS° [_{TP} T° [_{AGROP} AGRO° VP]]]

the inflected verb (the head of VP) has to move, overtly or covertly, to the functional heads AGRS°, T° and AGRO° to check its AGR and T features against the corresponding features in these heads. Similarly, the NP arguments in the VP have to move to the specifiers of the functional projections in order to check their Case and phi-features against the corresponding functional features. Then differences in word order between languages are predicted as a result from the different options of moving, overtly or covertly, the inflected verb and the NPs to the different heads and specifiers.

The predictive power of such a proposal depends on whether we can reduce other possible factors for word order variation to a minimum: if we allow for many other factors (a head-initial/final parameter, language specific rules of adverb placement, etc.), there will be good deal of indeterminacy for the derivation of a given pattern of word order, which will pose a problem for learnability. In this sense, a proposal like Kayne (1993), which provides a highly constrained X'-bar structure and does not allow for parameterization of the order of constituents, constitutes a good background against which the minimalist program can be implemented. A theory combining the minimalist program with Kayne's proposal has already been fruitfully developed in Zwart (1993), among others. Here I will adopt Kayne's proposal, and some of Zwart's crucial ideas on the nature of V-2 in West Germanic.

I will mainly concentrate on head movement. In the next section, I will review Chomsky's theoretical assumptions on head-movement parameterization.

2. Strong/Weak Features and Functional Projections

In Chomsky's (1992) proposal, whether a lexical head (or an NP) moves overtly or covertly depends on whether the corresponding functional features it has to check in the functional domain are strong or weak, respectively. As features are checked, they are eliminated. A strong feature has

¹ I would like to thank the following people for providing data and discussion: Laurie Stowe and Charlotte Koster (English), Jan-Wouter Zwart, Paulien Rijkhoek, Anko Wiegel, Jack Hoeksema, Elly van Gelderen, Dicky Gilbers (Dutch), Karin Lattewitz (German), Lily Grozeva (Bulgarian) and Anastasia Giannakidou (Greek). This research is being supported by the grant FPU of the Spanish Ministry of Education.

² In Chomsky's proposal, movement (at least overt movement) and structure-building transformations are manifestations of a single syntactic device, the Generalized Transformation. Here I abstract away from this fact, as has become usual practice.

to be checked (eliminated) overtly because otherwise it would be present in the phonological component (PF, the output of Spell-out), where it would be an illegitimate object. Weak features, instead, are harmless (by definition) at PF, and can be eliminated covertly, only at LF. Economy principles (procrastination) ensure that, if they need not be eliminated overtly, they cannot. In this way, strong/weak features uniquely determine overt/covert movement, respectively.

The idea that strength of features is the factor that determines movement can be traced back to Pollock's (1989) proposal (which was further developed and modified in Chomsky 1991) that inflectional heads be either transparent or opaque, and only the former allow movement of lexical verbs. Although Pollock is not very explicit about the issue, his suggestion seems to be that transparent/opaque is related to the robustness of the inflectional paradigm. In this way, French AGR (= AGRS in Chomsky 1992) is transparent because the verbal agreement in this language displays more morphological distinctions than the English one, which is opaque. Although this suggestion is vague, it constitutes an attempt at providing independent motivation for the strong/weak parameter, on the basis of observable facts in morphology.

In the minimalist proposal, no attempt is made at providing independent motivation (morphological or other) for the weak/strong parameter. It is clear, however, that if no independent motivation is provided, deriving overt/covert movement from the strong/weak character of features does not constitute an explanation, but simply a metaphoric restatement of the facts. In other words the claim that movement is driven by weak/strong parameter runs the risk of becoming circular, if any observable case of overt/covert movement can be accommodated by an empirically innocuous decision on the strength of the corresponding features.

There is a closely related aspect of Chomsky's proposal that deserves comment. The idea that inflected lexical heads have to move to the functional heads to check their functional features looks like a natural solution to the mismatch between the proposed sentence structure, where functional categories project separately from the lexical ones, and inflection, which, under the Strong Lexicalist Hypothesis, attaches the functional morphemes to the lexical head. It is clear, however, that Chomsky's proposal pays little attention to inflectional morphology: a finite verb is assumed to always contain AGRS, T and AGRO features, whether they are observable or not in the verb morphology.

The proposal in this paper is that features are present in an inflected word *only if* they are observable in the morphological alternations of the paradigm the word belongs to. As an illustration of this simple idea, the French verbal form *mangeons* 'we eat' contains agreement features (1st pl), as it alternates with *mangez* 'you eat' and *mange(s/nt)*, the default form. The English verbal form *ate*, instead, does not contain any agreement features, as it does not contrast with any other (past) form for these features. In the remainder of this paper, we will provide evidence that (overt) movement correlates with the presence of morphologically detectable features.

Finally, there is another aspect of the minimalist program that sooner or later has to be revised: it crucially relies on the existence of three inflectional categories (AGRS, T, and AGRO). On the one hand, most languages seem to display a richer ontology of inflectional paradigms (which includes Mood and Aspect). In some languages, as we will see, even COMP is an inflective category. On the other hand, it is not entirely clear to me that agreement should constitute an independent category: AGRS is suspiciously closely related to Tense (morphemes for AGRS and Tense are very often merged into a single morph).³ In general terms, we could think of agreement as a dependency between a (meaningful) functional head and its specifier, not as a functional category of itself.

³ The fact that Tense morphology can appear without subject agreement (as in Scandinavian languages) or that agreement can appear without Tense (Portuguese inflected infinitives) does not argue against the view that they are related. More serious counter-evidence would be that in a certain language they co-occur but systematically appear on different heads, or on opposite sides of the inflected word. I don't know of any such case.

3. On the nature of inflection

This proposal, like the minimalist program, is crucially based on the Strong Lexicalist Hypothesis: both derivational and inflectional morphology are dealt with in the lexicon. What is then the difference between inflection and derivation? Derivational morphology is a (more or less regular and productive) compositional device for obtaining new lexical items: as we combine morphemes or stems, we obtain a new item whose meaning is obtained compositionally. Inflection is different. Let me illustrate why. Consider the sentence in (2), with the bracketing indicating the relevant structure:

- (2) I wonder...
 if [he [will [be happy]]]

In (2), it is reasonable to assume that both syntactic and semantic compositionality are expressed by the bracketing: *will* is a head (a functor) which takes the proposition [x be happy] as its complement (its argument) and gives a 'future-marked' proposition. *If*, in turn, takes a clausal complement *he will be happy* as its complement (argument), and gives a conditional sentence or an embedded yes/no question. Now consider the Italian and Irish verbal forms in (3):⁴

- (3) a Italian: sar   he-will-be
 b Irish: an mbeidh: if-he-will-be⁵

We can see that the counterparts of morphemes that are free in English (*if*, *will*) are bound morphemes in these languages. Now, if we assume that Italian and Irish have essentially the same sentence structure as English, we have a mismatch between syntax/semantics (which require different positions for the morphemes 'if', 'will' and 'be') and inflectional morphology, which glues (some of) these morphemes together in a single word (we will call words that contain morphemes of different categories *multicategorical words*). My claim is that this mismatch is the trigger of head movement. Consider the Italian form *sar  *. Since it contains both the morphemes 'be' and 'will', it should be possible to tear these morphemes apart in order for them to appear in their respective syntactic positions. Suppose this is feasible in the following way:

- (4) In order to insert a multicategorical word in a syntactic structure:
 a Insert a copy of this word in each of positions it contains features of.
 b In each copy, read only the relevant features, and ignore the other features.
 c Pronounce only the highest copy.⁶

This is just a specific implementation of the traditional idea of movement: the different copies will constitute a Chain, which will be subject to locality conditions (which I will not discuss here). This notion of movement has at least two nice properties for comparative linguistics: a) it allows for a cross-linguistically uniform syntactic (and semantic) analysis and b) it predicts word order variation, as can be seen in (5) (where the silent copies are crossed out):

- (5) a if John will ever be happy
 b se Gianni sar   mai sar   contento
 c an mbeidh Se   ~~an mbeidh~~ ariamh ~~an mbeidh~~ s  sta⁷

⁴ The Irish data are taken from O Siadhail (1989).

⁵ Even if *an mbeidh* is spelled as two words, it is a single word, as we will argue below.

⁶ In Kayne's (1993) syntactic structure, the highest copy will usually be the first copy. I won't be dealing with any case where this distinction makes a difference.

⁷ Irish adverbs tend to appear in sentence final position more often than their English or Italian counterparts. This is anyway an independent factor I ignore here.

This notion of head movement, however, is intended to be much more restrictive than the traditional notion based on Move- α : overt head movement is triggered if and only if a word is multicategorical (contains morphemes that belong in different syntactic positions). The point I want to emphasize is the following: in order for this proposal not to become circular, movement, on the one hand, and the multicategorical status of a word, on the other hand, have to be independently motivated on empirical grounds. So we can not postulate that a word is multicategorical if the only piece of evidence for this claim is that it moves (overtly); or, conversely, we cannot assume that it moves (covertly) if the only evidence is that it is (supposedly) inflected for a feature. In other words, we need some independent criteria to identify movement, on the one hand, and the morphemes which are conveyed by a word, on the other hand. We therefore also need independent criteria to decide what is a word. The prediction should then be that, once they are independently identified, overt movement and word morphology correlate.

To identify what is a word is no easy task. For the purposes of this paper, and restricting myself to inflection, I will keep on the safe side and assume that the following are sufficient (even if not necessary) clues for the word status of a cluster of morphemes:

- (6) Two or more morphemes are in the same word if they are adjacent (form a cluster) and at least one of the following phenomena is detectable:
- a They can trigger allomorphy on each other.
 - b They are not separated by word-boundary phonological processes.
 - c They are merged into a single morph.

Consider then the Irish expression *an mbeith*: even if the spelling suggests that we are dealing with two words, (6) tells us otherwise: complementizer particles in Irish can trigger allomorphy (suppletion) on the verbal form:

- (7) a *a bhi*: that (s/he) was (relative clause)
 b *an raibh*: if (s/he) was

In addition, the complementizer particle sometimes redundantly expresses the past/present morpheme (*go* = 'that+present'; *gur* = 'that+past'). If allomorphy and morpheme overlapping are inflective phenomena to be dealt with in the lexicon, then these forms can only be inserted as a unit in syntactic structure, and head movement is the only option to interpret them.

Once we have identified words, we have to identify which morphemes they contain. There is no guarantee that this can be always done by morphological parsing (segmentation), as inflection is often too irregular. The criterion I will use is the following:

- (8) A morpheme (feature) can be identified in a word if this word minimally contrasts with another word for this morpheme (feature).

The set of all forms that contrast for a feature, we call a paradigm.

In the following sections I will present evidence and arguments to support the view that, once we identify the morphemes and paradigms in words, we can make predictions about head movement.

In order to make predictions about movement, we need some theory on what the structural positions in a sentence are and which morphemes they host. Let me sketch a proposal on what the functional structure of a sentence should look like in order to provide room for the functional morphemes we can identify in English. The English sentence seems to involve at least the following functional paradigms:

- a) Complementizer: *if, that*, possibly a null complementizer for main clauses.
- b) Mood: *can, may, will*, etc. The future marker (*will*) is in this paradigm, rather than in the Tense paradigm, which is for the [\pm Past] feature.

c) Tense (\pm Past): its morphemes are always attached to modals (*can/could, will/would, etc.*) or to other verbs (*is/was, has/had*). In the next section I will argue that in English lexical verbs are not inflected for Tense.

d) Relative tense: its only morpheme is *have*, which, in Reichenbachian terms, conveys the meaning $e > r$ (event time precedes reference time). Absence of *have* would be interpreted as the default value: $e = r$.

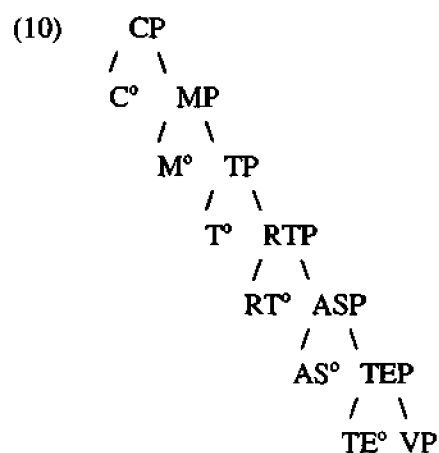
e) Aspect: the participial morphemes *-ed* and *-ing* (As in *John has worked/John is working*) are likely candidates to this category. In the next section we will make a crucial proposal on aspectual participles.

f) Telicity: particles such as *up, down* in *He ate it up, He wrote it down* seem to have a telicity import (they convey the meaning of telicity or terminativity). I will later suggest that, since objects seem to play a role the telicity, the Telicity functional category is what Chomsky calls AGRO.

To exemplify how these morphemes constitute independent paradigms that can combine in a sentence, let me illustrate it with the following example, where I stick to the assumption that inflected words are inserted in several positions:

(9) COMP^o MOOD^o TENSE^o RELT^o ASP^o TEL^o V^o
 if he would would have eaten it up eaten

In (9) there are only two inflected (multicategorical) words, *would* ('will' + Past) and *eaten* (verbal predicate + perfective aspect). It is beyond the scope of this paper to extensively argue for this view on the functional domain of the English sentence. However, it is not controversial that the structure of the English sentence has to allow for at least this much structural complexity: whether we call Relative Tense, Aspect or Telicity functional categories or not is, I think, a terminological issue of little importance. If we adopt Kayne's (1993) proposal about X'-structure, the above proposal on functional morphemes can only be given a structure as in (10):



where the order of constituents is fixed. We will see that a good deal of Germanic word order can be derived from this sentence structure plus the present proposal on head movement.

As we will see, if we compare this proposal with the minimalist proposal, one could say that strong features (which trigger overt movement) are features that are present in an inflected word, while 'weak' features are features that are absent in the inflected word (which does not mean that they cannot be present somewhere else in the structure). But if weak features are 'absent' in the inflected word, there is no reason why they should trigger covert movement. So, the present proposal, as we will see, casts doubts on the need for covert movement.

4. English lexical verbs

Pollock (1989), basing himself on previous work by Joseph Emonds in the late seventies, convincingly argued, on the basis of word order facts, that English lexical verbs differ from French lexical verbs in that only the latter move to inflectional categories, skipping over some adverbs and the negative morpheme:

- (11) a Jean voit, souvent Marie
 b John often sees Mary
 c *John sees often Mary
- (12) a Jean ne voit pas Marie
 b *John sees not Mary

Consider first French. It can be easily shown that the French finite forms can convey morphemes of the following categories (I exemplify it with the verb *aller* 'go'. I use the 3rd person singular form throughout):

	TENSE	
	<u>Present</u>	<u>Past</u>
MOOD:		
Indicative:	<i>va</i>	<i>allait</i>
Subjunctive:	<i>aille</i>	<i>(allât)⁸</i>
Future:	<i>ira</i>	<i>irait</i>

All these forms, in addition, have agreement distinctions, which we assume are also a manifestation of Tense morphology. Then we should expect that these verbal forms move to the Functional heads that host these features, Mood and Tense, and that this movement skips over the adverbs and negation.

Before addressing the issue why the English lexical verbs do not behave similarly, let us consider some historical facts. In middle English, lexical verbs behaved very much like in French:

a) they moved over negation (and adverbs):⁹

- (13) a I speak not
 b I spoke not

b) They had the same range of interpretation as French finite verbs: the examples in (13) could be interpreted as 'I'm not speaking' / 'I was not speaking'.¹⁰

c) Both the present and the past forms had agreement distinctions. According to what I proposed above, subject agreement is a Tense morpheme:¹¹

	<u>Present</u>	<u>Past</u>
1st sng	speak	spoke
2nd sng	speakst	spokest
3rd sng	speaks/eth	spoke
plural	speak (en/eth)	spoke(n)

⁸ Modern French has lost the subjunctive past Tense: the present form covers past and present.

⁹ These examples are made up and I use the modern spelling.

¹⁰ See for instance Visser (1973.II:711&746) for examples.

¹¹ See Görlach (1978:88).

In addition, Mood was still in the verb paradigm.

Modern English, after a transitional period,¹² lost all of these three characteristics: inflected lexical verbs do not move, they do not allow a progressive interpretation, and they do not show agreement in the past form (while they show a very limited form of agreement in the present form). Subjunctive Mood, we can assume, also disappeared and is nowadays an artificially preserved option outside the core grammar. My suggestion is that these three properties were lost together because they are manifestations of the same diachronic change. Let us see how.

The past form lost all of the agreement suffixes (the plural suffix was lost just as in the present, and the 2nd person singular affix was lost due to the disappearance of the pronoun *thou*). In addition, for regular verbs, the past form happened to become homophonous with the participial form. Suppose, then, that the past form was reanalyzed as a past participle. The essence of my proposal is then: if *worked* is a participle in both *John has worked* and *John worked*, then in the latter case it should not move any more than the participle does in the former case.

For this proposal to be made plausible, several issues have to be addressed: a) Why do some irregular verbs still have two differentiated forms (*ate/eaten*); b) what morpheme do these participial forms convey; c) How come a participial form can appear without an auxiliary (*John worked*); d) Why is *do* required in negative, interrogative and emphatic-assertive sentences?; and e) If the past form is a participle, what is the present form (*works*)? We will address these issues in turn.

Concerning the fact that some verbs have two differentiated forms, the claim that they are both the 'same' participle can be maintained at the cost of postulating that one form (*eaten*) is selected by the overt auxiliary, whereas the other is selected by a null auxiliary (or is the unmarked form). However clumsy this solution may seem, there is strong evidence that Modern English speakers tend to blur the contrast between the 'past participle' and the 'past' form. Several facts point in this direction.

First, the existence of a common form is not restricted to regular verbs (*loved*): according to my counts, out of some 135 irregular verbs in Standard English, only a 25% has a differentiated form (e.g., *stole/stolen*), while 75 % have a common form (e.g., *thought*).

Second, there has been, in the Modern English period, a strong tendency for the distinct-form paradigm to be replaced by the same-form paradigm. In some cases this is so because the verb has become a regular verb (*strovel/striven* -> *strived*). In many cases, though, neutralization of the two forms has taken place without the verb becoming regular (the changes in the examples are standard English or dialectal):

(14)	cleave	clove	cloven	->	cleft	cleft
	bid	bade	bidden	->	bid	bid
	stink	stank	stunk	->	stunk	stunk
	spin	span	spun	->	spun	spun
	sting	stang	stung	->	stung	stung

This tendency shows up in early Modern English.¹³ It is also very strong in colloquial American English, where almost all verbs have undergone this neutralization, and speakers seem to have trouble in learning the standard forms.¹⁴

¹² A 'transitional period' can of course mean a stage where the English grammar had changed w.r.t. Middle English but had not attained the present day status. But it can also mean that the grammar had already changed (in the relevant respects) but writers still tried to imitate their older classics, as they usually do, only that they often failed in their attempt, thus showing a 'mixed' grammar. Here I cannot address the details of the transitional period in the XVIth and XVIIth centuries, but probably both factors (intermediate stage and writers attempt at using an older grammar) play a role in the grammatical facts we can observe in this period.

¹³ See Jespersen (1927-VI:44): writers such as Shakespeare often used the etymological past form instead of the participle (*chose, broke, spoke*).

¹⁴ See Visser (1973-II:1297-98).

- (15) go went gone -> went went
 see saw seen -> seen seen

It is also significant that these changes tend to obey a general pattern: the new neutralized form is usually the one that looks more 'participial'. The changes tend to go from left to right in the following scale of participial morphs:

- (16) front vowel -> back vowel -> -n suffix -> -t suffix -> -d suffix

So in the colloquial American examples, *went* (-t suffix) is chosen over *gone* (-n suffix) and *seen* (-n suffix) is preferred over *saw* (back vowel). The reader can check that the same criterion applies to the changes in (14) (assuming that *bid* is a case of the irregular -t suffix: *bid+t*). The scale in (16) would be a scale of regularity/productiveness of the participial morphology. All these tendencies clearly suggest that the participial status of the 'past' form has some psychological reality that triggers language change.

We have argued that the 'past' form is a participle on the basis of diachronic change. Now let us address the issue of which morpheme is conveyed by this participle. My proposal is that these participles are inflected for Aspect, and convey the feature [-progressive]. The difference in meaning between *John has/had left* and *John left* should then be a function of the presence versus absence of the auxiliary, not of the meaning of *left* itself.

Before proceeding, let us consider the simple present form (*works*). If my proposal is correct that the 'past' form was reanalyzed as a [-progressive] participle, then the 'present' form had to be reanalyzed too: a Present morpheme cannot exist if it does not stand in opposition to a Past morpheme (just like singular cannot exist without plural). It should then also have been reanalyzed as a participle.

Here, we seem to face an obvious problem: the contrast between *arrives* and *arrived* seems to be a contrast in Tense. In fact, both seem to be marked for the feature [-progressive], as both allow an iterative and a perfective interpretation, depending on the context, but not the progressive interpretation:¹⁵

- (17) a John arrived at ten (iterative/perfective)
 b John arrives at ten (iterative/*perfective)
 c I hope that John arrives at ten (iterative/perfective)
 d When/before John arrives/arrived (*iterative/perfective)
 e If he comes/came at ten ... (iterative/perfective)
 f John comes to me and says... (iterative/perfective -historical present)

The restrictions on which readings we can get can probably be derived from general constraints. For instance, we can assume that referential present tense (i.e., when present is anchored in speech time) and perfective aspect exclude each other, which would account for the impossibility of a perfective reading in (17.b).¹⁶ If *arrives* and *arrived* do not contrast in Aspect (both are [-progressive], which allows for only the perfective and the iterative reading) and do contrast in Tense, then the proposal that they are both Aspectual participles seems to be on the wrong track. For in order to maintain the claim that they are Aspectual participles, we have to assume that they are selected by a null Tense morpheme: when [-Past], it would select *arrives*, when [+Past] it would select *arrived*. Then one should ask why we could not assume that these Tense morphemes are encoded in the verbal form itself.

¹⁵ Perfective and iterative are the [-progressive] options for eventive predicates, which I use in my examples. For simplicity, I will ignore stative predicates like *know* or *love*, assuming that their aspectual interpretation in *He loves/loved* is the stative counterpart of iterativity.

¹⁶ As pointed out by A. Giannakidou, the Greek present aorist, which is perfective, cannot be used in present declarative sentences: it can only be used when combined with subjunctive or future.

There is a reason why not, though: if our proposal is correct that the simple past form and the participle are the same form, then, since this form cannot be inflected for Tense features when it co-occurs with the auxiliary (it is the auxiliary that is inflected for Tense), then it cannot be inflected for Tense features when it occurs without an auxiliary either. The only option is then for the speaker to assume that a null [+Past] Tense morpheme selects this form when the auxiliary is not present. Then since the simple present form will not stand in opposition to a past form, it has to be analyzed as a participle which is selected by a null [-Past] Tense morpheme. My proposal is then that English has the following set of Aspectual participles:

	<u>Selected by:</u>	
[+progressive]:	<i>eating</i>	<i>be</i>
[-progressive]:	<i>eaten</i>	<i>have</i>
	<i>ate</i>	[+Past]
	<i>eat(s)</i>	[-Past]
	<i>eat</i>	modals, <i>to</i>

It can be shown that, except for the progressive form, all the other forms are interpreted as [-progressive], which allows for the perfective or iterative meaning only. This is shown in (17) and in the following examples:

- (18) a (Until now) John has come early (perfective/iterative)
 b (From now on) He will come early (perfective/iterative)
 c John wants (me) to come early (perfective/iterative)
 d To come so early was a mistake (perfective/iterative)

Since none of the lexical verbal forms in English allows for a progressive interpretation except for the progressive participle itself, we can conclude that all of them are marked for [\pm progressive]. The [-progressive] forms, however, are subject to selection by an Auxiliary or Tense.

It remains to be explained why the form *eat(s)* agrees with the subject in 3rd singular in finite sentences whenever no auxiliary or modal verb appears (*John works*). I will make two suggestions: that this agreement is not person agreement, but only number agreement; and that number (and gender) agreement between the subject and the participle is independent from standard subject agreement, and is attested in other languages.

That the 3rd person singular ending -s is just number (singular) agreement has been proposed by Kayne (1989). In a nutshell, he claims that agreement with *you* is always (formally) plural, even in the singular usage of this pronoun; and that 1st person agreement is radically unmarked. My suggestion is that the confinement of number agreement to 3rd person is related to the participial status of the agreeing form. That participle number (and gender) agreement can be restricted to the 3rd person is attested in Italian clitic-participle agreement, where 3rd person object clitics always agree with the participle, while for 1st and 2nd clitics there is variation as to whether there is agreement or not:

- (19) a *Le ha viste*
 Them-has seen-fem.-pl
 'S/he has seen them (fem.)'
 b *Ci ha viste/visto*
 us-has seen-fem.-pl./seen-msc.sng.
 'S/he has seen us (fem.)'

The existence of number agreement restricted to 3rd person is probably a marked option. Many English dialects have either lost this form of agreement or have generalized the -s morpheme to all persons.¹⁷ In the latter case, -s has simply become a participial suffix.

As for the possibility of agreement between subject and participle, it is attested in languages like Bulgarian:

- (20) a Toj e rabotil
 He is worked-msc.sng. 'He has worked'
 b Te sa rabotili
 They are worked-pl. 'They have worked'

How agreement between a subject and the a (non passive) participle takes place is no easy question. The answer should probably be based on the Internal Subject Hypothesis. The version of this hypothesis advanced by Koopman & Sportiche (1988) claims that the basic position of the subject can be identified by the distribution of floating quantifiers. Whether FQs are in the subject basic position or not, they can certainly appear right before the participial form in English, which suggests that subject-participle agreement can be established locally given some implementation of cyclic NP-movement of subjects:

- (21) The boys (have) both come to the meetings.

Let us now address the issue of the appearance of *do* in negative, interrogative and emphatic sentences. The present proposal that a null Tense morpheme selects a participial form is very similar to the classical idea that these constructions involve a null counterpart of *do*:¹⁸ both overt and null *do* would carry the Tense feature. The different distribution of null and overt *do* would be accounted for on the basis of structural differences in the sentence structure (presence of negation, movement to COMP) that determine the (im)possibility of null or overt *do*: this idea was developed in Pollock (1989). In Chomsky's (1991) account, insertion of *do* is forced whenever the option of lowering the inflectional affixes to V (with subsequent raising of V+INFL at LF) is not available.

In both Pollock's and Chomsky's account, the presence of *do* is determined by purely formal properties of the construction: the presence of negation or interrogation create configurations where null *do* or affix lowering are impossible. There is another view of the facts that has been advanced by Itziar Laka in her dissertation (1990): the contexts where *do* appears (negation, interrogation and emphatic assertion) share some interpretative feature having to do with the assertive force of the sentence. Laka locates these features in a functional category she calls Σ , which constitutes a functional projection of its own and replaces and generalizes Pollock's Negation Phrase. Adopting and adapting this proposal, we can assume that *do* is an inflected form which contains both Tense and Σ features. That *do* is a Σ morpheme explains that the negative morpheme can be affixed to it and even trigger allomorphy on it ([du:]/[dount]). Σ morphology is not restricted to *do*: all auxiliaries and modal verbs should be inflected for Σ in interrogative, negative and emphatic assertive contexts. Like *do*, all of them can be attached to the negative particle, which usually triggers allomorphy on them ([wil]/[wount]).

In sum, *do* is not just a pro-verb required as a last resort, as suggested in Chomsky (1991), but an inflected word that contains both Tense and Σ features. The reason why sentences containing *do* have the same [-progressive] interpretation as corresponding sentences without *do* is that, as we have seen in (18) b, c and d, the lexical verb bare form, which *do* selects, is also marked as [-progressive].

¹⁷ See Trudgill (1990:94).

¹⁸ The essentials of this idea are already in Chomsky (1957).

5. West-Germanic Morphology and Word Order

Dutch and German seem to pose a problem for the hypothesis that head movement is driven by inflection. As is well known, verb movement shows a clear contrast between main and embedded clauses: only the former involve verb movement to a fronted position. If we assume a sentence structure compatible with Kayne's (1993) proposal, the prediction should be that finite verbs, since they are inflected for Tense, should move to T, even in embedded clauses, and that movement to T should be visible as fronting. In addition, morphology seems not to predict at all whether a verb moves or not. I will argue, though, that in spite of appearances, morphology is crucially involved in determining whether (overt) verb movement takes place or not.

Zwart (1993), who develops a minimalist proposal on Dutch syntax compatible with Kayne (1993), argues that INFL categories (AGRS, T and AGRO) are head initial in Dutch (and German), and therefore precede the VP. One of his main proposals can be summarized as follows. Root clauses feature movement of the verb to INFL (specifically, to AGRS):

- (22) [_{AGRS} Jan [_{AGRS} leest] het boek]
 Jan reads the book

Additional movement to COMP only takes place in XP-V-S root clauses, where X'-movement to the specifier of COMP (Wh-movement or topicalization) triggers INFL to COMP movement. He provides both empirical and conceptual arguments for this view. The main conceptual argument, which had already been wielded by Lisa Travis in the early eighties, is that generalized verb movement to COMP is unmotivated, and only Wh- or topic movement should trigger it.

Adapting his proposal to the previous assumptions in this paper, similar conclusions should be reached: since verbs in Dutch (and German) are inflected for Tense (and agreement) movement to T⁰ should take place, which would show up as fronting. Additional movement to COMP is not in principle required.

The problem for both Zwart's analysis and its adaptation into the present proposal is then: why does verb movement to INFL (AGRS or T) not take place in embedded sentences:

- (23) *dat [_{AGRS} Jan [_{AGRS} leest] het boek]
 that Jan reads the book

Zwart's account for this is based on the observation that many West-Germanic dialects show complementizer agreement. Let us exemplify it here with West Flemish:¹⁹

- (24) a da-n-k ik komen
 that-1-sg I come
 b da-se zie komt
 that-3-sg-fem she comes

His proposal can be summarized as follows. On the one hand, complementizer agreement makes verb movement unnecessary, because it provides an alternative way of checking AGRS features (moving AGRS to COMP). Since it is unnecessary, economy principles make it impossible. This account extends to standard Dutch and German, where complementizer agreement is not apparent, by assuming that these languages have an abstract form of complementizer agreement.

I cannot go into a discussion of this analysis for reasons of space. I will assume, though, that it is on the right track, and try to make sense of it within the present proposal. I have proposed above that subject agreement is a manifestation of Tense morphology. This means that, in dialects

¹⁹ See Zwart (1993:160) for further examples of various dialects. He makes a distinction between complementizer agreement suffixes and complementizer pronominal clitics. I will crucially assume that clitics are also a form of agreement. I cannot address the issue of the different status of these two forms of complementizer morphology.

with complementizer agreement, both the complementizer and the finite verb are inflected for Tense morphology. Given the above proposal on insertion of inflected words, this implies that the inflected complementizer should be inserted both in COMP and in T, while the finite verb should also be inserted in T (and in whatever other position it is inflected for). Then the resulting structure for (25.a) (West-Flemish) would be (25.b):

- (25) a da-se zie komt
 that-she SHE comes
 b COMP^o T^o [... V^o ...]
 da-se zie da-se komt
 komt

In this structure, a copy of both *da-se* and *komt* has been inserted in T. It is reasonable to assume that when two copies of different words are inserted in the same position, neither can be pronounced. The copy of the verb that is pronounced is then a lower copy.²⁰

For standard Dutch or German (and any dialects with no apparent complementizer agreement), it is not enough to assume that there is an abstract form of complementizer agreement: it is essential to the present proposal that only 'overt' morphology is relevant for movement. My suggestion is then that all West-Germanic dialects do show overt complementizer agreement: it consists in *subject cliticization*.

It is a well known fact that subject clitics in embedded clauses have to be strictly adjacent to the complementizer. So the Dutch subject clitic pronoun *ze* 'she', unlike full NPs and stressed pronouns (*zij* 'she') has to appear adjacent to the complementizer in embedded clauses.

- (26) a Ik denk dat ze/zij/Marie zal komen
 I think that she/SHE/Marie will come
 b Ik denk dat uiteindelijk zij/Marie zal komen
 I think that finally SHE/Marie will come
 c *Ik denk dat uiteindelijk ze zal komen
 I think that finally she will come

It is not only the case that subject clitics have to be adjacent to the complementizer. They also show a strong degree of phonological attachment to it (which is not usually shown by the standard spelling).²¹

- (27) spelling: colloquial pronunciation
 a *of ik* ovək
 if I
 b *dat je* datjə/ dajə
 that you
 c *dat ze* datsə/ dasə
 that she

However convincing morpho-phonological evidence can be, these facts have not been traditionally analyzed as instances of complementizer agreement. The reason is that, unlike in the Flemish examples, subject clitics are in complementary distribution with overt subjects in standard Dutch (and German):

²⁰ See below for discussion about the sentence-final position of the verb.

²¹ I have not been able to collect conclusive evidence for German complementizer cliticization. In the remainder of this section, I will leave German aside. I think, however, that there is no counter-evidence for the hypothesis that subject clitics are attached to the complementizer in a similar way as in Dutch, only weaker evidence.

- (28) *Ik denk dat-ze zij/Marie komt
I think that-she SHE/Marie comes

This, however, is not conclusive evidence that complementizer subject clitics are not an instance of agreement. My suggestion is that the difference between standard Dutch and Flemish complementizer agreement is of the same nature as the difference between Irish and Welsh subject agreement: only the latter can co-occur with an overt (pronominal) subject:

- (29) Irish: Taim (*me) sásta
Am (I) happy
Welsh: Yr wyf i yn darllen
PRT am I reading

In Irish, when the subject is overt the unmarked agreement form (3rd person singular) has to be used:

- (30) Ta me sásta
Is I happy

In Irish, the 3rd person singular form is not a morphologically unmarked form, even it is the unmarked form of agreement. We can say that it is then inflected for the unmarked form. Now consider what the unmarked form should be for Dutch. The clitic-inflected forms for 3rd person are either masculine, feminine or neuter:

- (31) Dutch: dat-ie: that-he
dat-ze: that-she
dat-'t: that-it

Neither of these forms is sufficiently unmarked to be the 3rd person singular unmarked form. We can then assume that the unmarked form is simply *dat*. The idea, then, is that complementizers are always inflected for agreement (either with a clitic or in the unmarked form), and this predicts that they always will be inserted in T, which prevents the copy of the finite verb in T to be pronounced.

In sum, accounting for the complementary distribution of complementizers and overt movement of the verb to T can be done with no stipulation specific to this case: the morpho-phonological attachment between the complementizer and the subject clitic requires, under the Strong Lexicalist Hypothesis, that complementizer-clitic must be generated as a word; and Irish, among other languages, provides an independent case where agreement cannot co-occur with an overt subject.

Now let us address another issue: independently of question of verb movement to T, main clauses allow verb movement to COMP in V-2 languages. If movement is always triggered by morphology, there should be some morphological COMP feature on the verb that triggers this movement. Since verb-to-COMP always licences either a Topic or a Focus phrase in clause initial position, we can assume that the content of this morpheme has something to do with topic/focus licensing. Is there, then, overt morphological evidence for this morpheme? I think the answer is yes if we again look at subject clitics. Like in the case of the complementizer, subject clitics show strong attachment to the verb when the verb is in COMP. In colloquial Dutch, for instance, subject clitics can trigger reduction (thus allomorphy) on some verbal forms:²²

²² See Booij (1985) for examples and discussion. He specifically proposes that these forms should be generated in the lexicon and dealt with as agreement forms that do not allow doubling, as in the Irish case.

- (32) heb ik 'have I' -> hek
 wil ik 'want I' -> wi(l)k
 moet ik 'must I' -> moek

Like in the preceding case of complementizer agreement, the Strong Lexicalist Hypothesis forces us to generate these irregular verb-clitic forms in the lexicon, so that the morphology of the inflected verb is different from the clitic-less form and forces movement to COMP. Like in the preceding case, we would analyze the clitic-less forms in COMP as cases where an overt subject forces the use of the unmarked form for COMP-agreement.

Now, can it be argued that the presence of enclisis on the verb constitutes a morpheme that belongs in COMP? In fact, neither the finite verb nor the clitics seem to be morphemes which are related to COMP. My proposal is that the COMP morpheme is neither in the finite verb nor in the clitic, but in enclisis itself. That enclisis can constitute a morpheme of itself should not be surprising: in the domain of inflection, the presence of a morpheme can be indicated through a variegated set of possibilities: affixes, Ablaut, reduplication, suprasegmental morphemes, etc. That enclisis can be a morpheme independently of the content of the clitics themselves is, I think, a well-attested fact. Northern Italian dialects provide examples of verb subject-clitic order that constitutes an interrogative morpheme (as opposed to clitic-subject forms). Consider the following examples from Trentino:²³

- (33) a el ven
 he comes 'He comes'
 b vegne-lo
 comes-he 'Does he come'

In (33) we can see that the clitic shows a different form in the V-CL order. In addition, the palatal [n] (spelled as *gn*) appears in this case just like when the stem is followed by an inflectional suffix (*vegno* 'I come'). The V-CL forms should then be generated in the lexicon as forms inflected for an interrogative morpheme.

Summarizing, we have argued that in West-Germanic:

- there is a main/embedded clause asymmetry because complementizer particles are inflected for subject agreement: this forces insertion of two words (complementizer particle and verbal form) in the same position (T^0), which prevents the verbal form from being pronounced in this position.
- subject cliticization on the finite verb is also a form of inflection which licences (and forces) verb-movement to COMP.

It is to be noticed that the present proposal is contrary to usual practice: cliticization is used here as a primitive, and not as something to be derived from syntactic processes (movement). But to the extent that morpho-phonological criteria single out these cases as candidates to be generated in the lexicon because of allomorphy and phonological attachment, the Strong Lexicalist Hypothesis does not allow for the syntactic cliticization option.

6. West-Germanic Head-finalness

As a last point, let me make a tentative proposal on West-Germanic head-finalness. Zwart (1993) proposes that the fact that the participle and, in embedded clauses, the finite verb appears after its complements is not to be derived from the head-final status of the VP (or IP) in these languages, but rather from overt movement of complements to inflectional projections:

²³ The examples are from Brandi & Cordin (1973).

- (34) a Ik heb [_{AGROP} het boek_i [_{VP} gelezen t_i]]
 I have the book read
 b dat ik [_{AGROP} het boek_i [_{VP} lees t_i]]
 that I the book read

Let us concentrate on object movement. Zwart's proposal is that object movement to the specifier of AGROP is overt in Dutch and German, but not in English, which accounts for the contrast in word order (O-V / V-O). Here I want to explore an alternative possibility. I suggested above that in both English and West-Germanic objects sit in the specifier of Telicity Phrase, whose head can be occupied by terminative particles such as English *up*:

- (35) a I ate [_{TELP} the cake up [_{VP} ...]]
 b Ik at [_{TELP} de koek op [_{VP} ...]] (Dutch)

TELP would be equivalent to Chomsky's AGROP. The reason why objects move there would be that they convey crucial information for the Telic/Atelic status of the sentence:

- (36) a to read (books) (Atelic)
 b to read a/the book (Telic)

Assuming that object movement to the Specifier of TELP is overt in both English and West-Germanic, then the contrast in word order between the verb and the object should be accounted in terms of movement of the verb itself.

In English, the strict adjacency requirement between lexical verb and object would be due to the fact that, as we have argued above, English lexical verbs are always inflected for Aspect, and are therefore inserted in ASP^o, which is the head immediately preceding TELP. If this is the right account for English, it should be the case that in West Germanic the verb (finite or not) is not inflected for Aspect, and therefore does not move to (is not inserted in) ASP^o. Then it should be only inserted below, inside the VP, which would account for the Object-verb word order (whenever it does not move, or is not pronounceable, in a higher functional projection). Let us see if the claim that West-Germanic verbs are not inflected for Aspect is tenable.

For finite verbs, this seems to be correct. Finite verbs convey no aspectual information: both a perfective and a progressive reading seem possible with finite verbs.

- (37) a dat Jan het boek leest (Dutch)
 daß Johann das Buch liest (German)
 that Jan the book reads
 'that Jan reads/is reading the book'
 b dat Jan het boek las (Dutch)
 daß Johann das Buch laß (German)
 that Jan the book read
 'that Jan read/was reading the book'

Let us now consider infinitives, which also appear after the object in both main and embedded clauses. They also appear to be unmarked for aspect:

- (38) a Wanneer je komt, zal ik werken (Dutch)
 Wenn du kommst, werde ich arbeiten (German)
 When you come, shall I work
 'When you come, I will work/be working'
- b Jan scheen te werken (Dutch)
 Johann schien zu arbeiten (German)
 Jan seemed to work
 'Jan seemed to work/be working'

Let us consider past participles. For German, it seems unproblematic to assume that they are not inflected for Aspect: a sentence containing a past participle is completely neutral between a progressive and a perfective reading:

- (39) Ich habe das Buch gelesen
 I have the book read
 'I (have) read the book' or 'I was reading the book'

It is less obvious how to extend this account to Dutch: in Dutch, sentences containing a past participle never allow the progressive reading:

- (40) Ik heb het boek gelezen
 I have the book read
 **I was reading the book'

My suggestion is that the participle in the above example is not marked for Aspect ([+perfective]), for if it was, it would not have any other verbal form to contrast with, since both finite and infinitival forms are not marked for Aspect. In the absence of any contrastive form, the participial form cannot be assigned an aspectual feature. Then the fact that (40) is only interpreted as perfective should follow from independent factors: probably the construction the participle is embedded in.

An account of word order in West-Germanic and English cannot be solely based on object placement, because many other constituents precede the verb in West-Germanic that follow the verb in English. Abstracting away from scrambling, an issue I cannot address here, it seems that at least predicative PPs and datives obligatorily precede the sentence final verb (examples from Dutch):

- (41) Dutch:
 a Ik heb Marie het boek gegeven
 I have Mary the book given
 b Ik heb het boek op de tafel gelegd
 I have the book on the table put

Both Zwart (1993) and Koster (1993) propose that, like objects, predicative phrases move to some designated functional projection in Dutch, skipping over the verb. My suggestion is that both datives and predicative phrases are relevant, like objects, for telicity, in that they define terminative points of the event. If so, both objects and datives or predicative PPs should move to the specifier of Telicity Phrase. Since a specifier can only host one phrase, this means that they should form a constituent: a Small Clause. The essence of (object) Small Clauses would then be that they contain all the information that is relevant for Telicity: the internal argument and the termination point of the event. Then the fact that in English both Objects and Datives or predicative PPs follow, whereas in West-Germanic precede, the verb, can be seen as a manifestation of the same phenomenon. I will leave the issue here.

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