Finiteness and inflection: the syntax your morphology can afford

Abstract: One objective of this paper is to argue that the lack of overt inflectional markings encoding finiteness is an important trait separating Present Day English (PDE) from modern Mainland Scandinavian languages (MSc). In contrast to previous analyses in the generative framework, our approach considers finiteness a primitive distinction explicitly expressed in verbal forms and, crucially, cutting across tense, mood, and agreement markings. Middle English (ME), like MSc, encoded finiteness; however, while MSc languages have retained the encoding of the finiteness distinction in spite of the loss of mood and agreement markings, PDE main verbs have lost this distinction (although they have tense and agreement markings). This loss leads to a range of syntactic differences between MSc and PDE, giving rise to phenomena such as *do*-support, different auxiliary-main verb splits, and the behaviour of subjects vs. non-subjects in root *wh*-clauses. Support for the analysis presented here comes from a variety of sources: dialectal usage of English preterite and participle forms, the behaviour of different English auxiliaries, the emergence of verb raising in Creoles, first and second language acquisition, and comparisons of English and MSc grammars.

1. Introduction

Discussions of finiteness features in natural language usually start out with the well-established observation that the term *finiteness* is used to cover many different (although partly overlapping) concepts. Some authors have also suggested that the term is not amenable to any kind of theory-proof definition (Koptjevskaja-Tamm 1994); thus, there is no denying the opening statement of Cowper (2002): "The term "finite" has been used in the grammatical literature for centuries, but its meaning is difficult to pin down." However one uses this term, most authors agree that the two occurrences of *be* in (1a) are non-finite, whereas *is* is finite.

(1) a. *To be or not to be – that is the question.*

Nikolaeva (2007) offers an informative historical overview of the origins and uses of the term: she explains that the term *finite* in European linguistics goes back to the Latin *finitus,* in the sense of 'referring to a particular person', first applied to personal pronouns, then to "verbs expressing person and number." Later, tense is taken into account, and today the typical diagnostic for finiteness is the presence of morphologically expressed tense and agreement features on the verb.

The main objections to this view are easily recognized. The first objection is the lack of universality, since not all languages express agreement or tense features, at least not overtly (i.e. morphologically); even in languages that usually do so, verb forms such as the imperative are usually considered finite even if there are no tense or agreement markings. An even more problematic fact (since it is conceivable that T(ense) and AGR(eement) features are covertly present in syntax) is that there are languages that employ agreement features in what are obviously non-finite domains (e.g. inflected infinitives in European Portuguese); also, semantic and morphological tense distinctions are found with verbs that are non-finite (e.g. Latin infinitives, Balkan subjunctives). These facts have led some authors to give up the idea of isolating the specific contribution of finiteness. Adger (2007: 58), for instance, states that since the canonical markers of finiteness T and AGR are not confined to the topmost layers of the clause, but may appear "very low down in the clause" (i.e. in the VP), we may conclude that "there is no clear mapping from the traditional notion of finiteness to the categories of formal grammar."

Nevertheless, the most widespread view in Principles and Parameters Theory, even in the most recent approaches, maintains that finiteness is a binary category which, apart from controlling the realization of the subject argument and creating domains opaque to certain syntactic processes, also regulates the tense and agreement features on the verb (Nikolaeva

2007: 6). When morphologically expressed, these features are considered reliable indicators of a finite domain; when not overtly realized, we could have a) a finite domain with only abstract (i.e. covert) T and AGR features, or b) a truly non-finite domain. Likewise, overtly realised T and AGR markings in non-finite domains are sometimes claimed to be subject to operations that "cancel them out" under specific conditions, e.g. in so-called *finite control constructions* like Balkan embedded subjunctives, cf. Landau (2004). This means that we find "finite" verbs with no T or AGR marking, and "non-finite" verbs with T, AGR or both. Although there clearly isn't a one-to-one correspondence between overtly realized T-AGR and finiteness, this approach to finiteness still appeals to inflectional criteria.

There are also distributional criteria for finiteness; they describe finite verbs as occurring in independent contexts and non-finite ones in dependent contexts. That would mean that only finite verbs can head independent utterances, and each independent utterance can have one and only one finite verb.[1] Apparent counterexamples to such definitions are data such as those in (2), the so-called Mad Magazine Sentences, where seemingly non-finite verbs are the only verb in an independent utterance (Akmajian 1984, Siegel 1987). I will present additional evidence that such sentences are truly non-finite (section 4.4; cf. also Grohmann 2000).

(2) a. *John eat caviar?* (*I thought he hated the stuff.*) Siegel (1987)
b. *Jeg ikke drikke øl på en fredag?* (*Særlig.*) Norwegian
I-NOM not drink-INF beer on a Friday? As-if[2]
'Me not drink beer on a Friday? As if.'

Even the definition that relies on distributional rather than inflectional criteria, still considers finiteness a binary category with the possible values *dependent* and *independent*. In functionalist frameworks, however, finiteness is often seen as a scalar phenomenon made up or signalled by a number of features combining to yield a specific degree on the finiteness scale. The features in question are tense, modality, and aspect markers, pronominal (i.e. grammatical) agreement, case markings on the subject and object, articles, determiners, and topic markers (cf. Givón 1990: 853; Bisang 2001: 1401-2).

The controversies do not end here. In all of the approaches considered so far, finiteness could in principle be seen as a purely syntactic category, or a combination of purely syntactic categories. Some authors, however, would side with Barron (2000: 2), who claims that finiteness "rather than being a morphosyntactic category, …is a semantic category related to time." Most generativists would probably agree with Platzack (1996: 371) that finiteness is a syntactic category with obvious semantic effects (e.g. instantiated by uninterpretable and interpretable features), and many functionalists would agree with Gretch and Perdue (2007: 433) that finiteness must be analysed from structural as well as semantic and pragmatic points of view.

Whatever one's take on finiteness, it seems uncontroversial that it is usually associated with (i.e. accompanied by) specific morphological markings (in the languages to be considered here, the markings typically appear on the verb); that it has certain syntactic characteristics (with regard to subject licensing and the V2 effect in relevant languages); and that it gives rise to specific interpretation effects (Platzack 1996: 371, for instance, advocates the assumption that finiteness expresses the anchoring of the clause in time and space).

For our expository purposes, the observations mentioned so far constitute the necessary background for advancing a different approach to finiteness. Crucially, we need to emphasize that finiteness must be distinguished from tense. Holmberg and Platzack (1995: 23) argue that although finiteness is a prerequisite for tense (and mood), it is not identical to tense since there

[1] This definition also has ancient roots, going back to Stoic logic, cf. Nikolaeva (2007), quoting Luhtala (2000).
[2] Cf. Hornstein (1995: 68) for the claim that nominative case is solely a function of whether tense is finite. (2b) suggests that this at the very least cannot be universally so.

are untensed finite verbs (e.g. the imperative) as well as non-finite tensed verbs (e.g. past participles).

2. A different approach

The present approach to finiteness emerges from the observation in Comrie (1985: 36) that in natural languages we find examples of *absolute* and *relative tenses*. Absolute tenses (such as the preterit) take the moment of speech as their deictic centre, whereas relative tenses (such as participles) take some other contextually given time point as their point of reference. While in many languages specific verb forms encode the distinction between absolute and relative tenses, I will pursue the idea that there are also languages where the same verb form is used for both. The context indicates whether the tense should be interpreted relative to the moment of speech and thus yield an absolute interpretation, or relative to the previous verb, giving rise to a relative interpretation. The structurally highest verb or TMA marker in a verbal chain takes on the meaning of an absolute tense; the next verb takes the previous verb (or TMA marker) as its point of reference and yields a relative temporal reading. Note that the form of the verb remains the same in the absolute and relative function (data from Capeverdean Creole; Baptista 1997).[3]

(3) a. *El* ***ta sta*** *na kaza.*
S/he FUT be at home
'S/he'll be at home.'

b. *El* ***sta kume****.*
she be eat
'S/he is eating'

c. *N* ***kume*** *tudu katxupa.*
I eat all katxupa
'I ate all of the katxupa.'

What I describe here as the lack of formal distinctions between absolute and relative tense forms is what has been considered a lack of formal finiteness distinction in the literature on Creoles, e.g. Muysken and Law (2001). According to Romaine (1993: 62), Creoles typically lack non-finite verb forms, i.e. they use the same form in finite and non-finite functions. In most Germanic languages, however, the finiteness distinction is morphologically encoded, and I want to advocate the idea that even in the Germanic languages this distinction between finite and non-finite verb forms corresponds to the distinction between absolute and relative tense forms.

Moreover, as observed by Comrie (1985: 48), most European languages have only a two-way split in their tense systems, past vs. non-past, "with subdivisions within non-past (especially future as opposed to the present) being at best secondary; thus the so-called present tense in such languages is frequently used for future time reference". Pairing this assumption with my claim that the absolute-relative distinction equals the finiteness distinction in the relevant languages, we arrive at a paradigm like (4) for the garden variety Germanic language. Here each and every verb form encodes a tense element consisting of two pieces of

[3] Capeverdean Creole also has an anteriority suffix marker *–ba,* to which we return in section 5.4. Otherwise, the default system is that the base form of a stative verb is interpreted as present; a dynamic verb yields a 'past' reading. When a dynamic verb like *kume* has the suffix –ba, it gets a past-past reading, as in (i) from Baptista (1997: 67).

(i) *To ki' N txiga, el kumeba tudu kumida*
Time that I arrived, he eat+past all food
'When I arrived, he had eaten all the food.'

information, [±Past] and [±Finite]. In this analysis, being tensed is an essential part of being a verb.[4]

(4)

	+Finite	-Finite
+Past	**Preterite**	**Participle**
-Past	**Present**	**Infinitive**

One claim I will advance in this paper is that whereas the Mainland Scandinavian languages adhere to the paradigm in (4), in English this paradigm has collapsed into two two-way paradigms, both of which have lost the finiteness distinction. Hence, Present Day English main verbs are (productively) inflected according to the paradigm in (5a), whereas modals and the auxiliary *do* inflect according to the paradigm in (5b). In fact, the only verbal elements in English still adhering to the non-collapsed paradigm in (4) are the auxiliaries *have* and *be*.

(5)

a

+Past	**preterit/participle**
-Past	**present/ infinitive**

b

[+Past, +FIN]	**preterit**
[-Past, +FIN]	**present**

Whereas many theories in formal linguistics conceive of tense as a semantically (and in a sense syntactically) autonomous element tied to a specific position in the clause, the present theory claims that all verbs are inherently tensed. There is no reason to assume that certain verbs (such as infinitives or epistemic modals) are immune to tense marking since tense is part of the definition of being a verb (at least for the languages presently under consideration). Of course, there is no denying that the expression of *finiteness* is sometimes tied to specific positions in a clause, e.g. to the V2 position of root clauses in V2 languages; as emphasized earlier, however, finiteness is not tense. Instead, I will argue that finiteness has much in common with pronominality: finiteness in the verbal domain behaves rather like pronominality in the nominal domain. If these speculations have merit, one would expect forms that behave like verbal anaphors. This is exactly the idea I pursue. I suggest that tense elements are subject to principles of Binding Theory, and in languages productively employing the finiteness distinction (like Mainland Scandinavian), finite forms (absolute tenses) behave as temporal pronouns, whereas non-finite ones (relative tenses) behave like temporal anaphors. [5]

There are thus three major claims I will advocate in this paper. Firstly, that the finiteness distinction amounts to a morphologically encoded distinction between absolute and relative tense forms. Secondly, that the loss of the morphologically encoded finiteness distinction for main verbs caused English syntax to be dramatically different from the syntax of Middle English and present day Mainland Scandinavian. Thirdly, that the tense forms morphologically encoded as finite behave like the verbal counterpart to pronouns; those encoded as non-finite behave like the verbal counterpart to anaphors. For expository reasons, I will treat the first and third claims together in section 3. Section 4 fleshes out the finiteness-related differences between Present Day English (PDE), on the one hand, and Middle English and present day Mainland Scandinavian Languages (MSc) on the other. Section 5 considers a number of phenomena from

[4] Present participles are considered adjectival in Norwegian, cf. Faarlund et al (1997: 119), who claim that present paticiples are outside the verbal and temporal paradigm.

[5] Of course, I do not claim to be the first to suggest that "tense" elements are pronominal and anaphoric counterparts to those in the nominal domain; cf. Partee (1973, 1984), Enç (1987), and Stowell (2007). Although I will not go into the details here, these analyses differ substantially from the one advocated here; in the present analysis, verbal pronominality is tied to finiteness and anaphoricity to non-finiteness. Non-finite forms are not considered tenses by Partee or Enç (and for the most part, neither by Stowell). It follows that non-finite forms are typically irrelevant to their analyses.

first and second language acquisition and Creoles, lending support to a de facto mental existence of the paradigms in (4) and (5a) and corroborating the overall hypotheses. Section 6 concludes the paper.

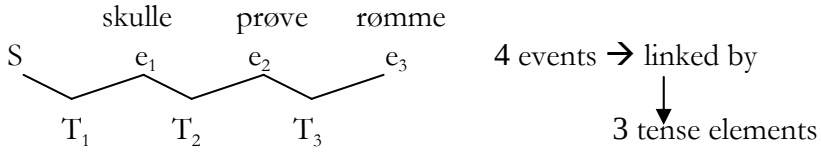
3. Temporal referential chains

In the present approach, all verbs are tensed, and being tensed is an essential part of being a verb. However, not all verbs are finite; typically, only the structurally highest verb in a verbal sequence carries finiteness markings. The overtly finite verb typically conveys an absolute tense and takes the speech event as its reference point; the next verb in the sequence takes the previous verb as its reference point, and so on. This gives rise to a tongue-and-groove system, where each verb contains a tense element hooking up to the previous event, and each verb (or auxiliary) provides a temporal anchor for the next verb (or auxiliary).

One way of implementing this tongue-and-groove system incorporating the semantics of tense elements is to consider tense elements dyadic predicates of temporal ordering (Stowell 1995, Julien 2001). I will adopt this analysis and will also follow Giorgi and Pianesi (1997) and Julien (2001) in assuming that the arguments of these dyadic predicates are events (where the term *event* should be understood to encompass dynamic events and states). As we will see, this does not conflict with the central claim that tense elements behave like pronouns and anaphors, or that absolute tense amounts to finite, whereas relative tense amounts to non-finite in languages that maintain the finiteness distinction.

I furthermore assume that each verb contains an event argument (e in the sense of Davidson 1967[6]) in addition to a tense element and that each tense element anchors the event argument of its own verb to the preceding event. The speech event S also counts as an event, which means that in a clause with *n* verbs, the total number of relevant events is *n+1*. In typical cases, the speech event functions as the anchor for the first (i.e. finite) verb, whereas the event argument of the first verb is the anchor for the tense element of the second verb, and so on. This gives rise to referential chains of temporality, in principle not very different from nominal referential chains; see the temporal referential chain in (6) versus the nominal one in (7).

(6) *Marit [skulle][prøve] å [rømme].* **Norwegian**
'Marit would try to escape.'



(7) *[Marit] sa at [hun] kunne høre [seg selv] le av [seg selv].* **Norwegian**
'Marit said that she could hear herself laugh at herself.'

A non-finite tense element behaving like an anaphor needs to find its antecedent in the same clause to be referentially bound. This antecedent thus serves as the first argument of the tense element. Given Relativized Minimality (Rizzi 1990),[7] this implies that a non-finite tense element must be bound by the verb immediately preceding it in the same clause. Compare this to the

[6] Cf. also the verb-inherent eventuality variable of Rothstein (1999) and many others.

[7] Relativized Minimality imposes a locality constraint such that in a structure [..X..Y..Z..] the relation between X and Z is licit only if there is no Y (with the relevant feature) such that Y is structurally closer to Z than X. Stated in Chomsky's (2001) terms, α in [… β …[α …[… γ]]] prevents β from probing γ for any active feature shared by α and γ.

anaphor *seg selv* in (7), which also must be bound by a local antecedent. Just like *seg selv,* the temporal anaphor must be part of a chain where the topmost element is a referential element in order to yield a specific reference. Thus, in the nominal referential chain [*hun, seg selv$_1$, seg selv$_2$*] in (7) *seg selv$_2$* is bound by *seg selv$_1$*, which in turn is bound by *hun.* In the temporal referential chain [*skulle, prøve, rømme*] in (6), the tense element of *rømme* is bound by *prøve* which in turn gets its tense element bound by *skulle.* Likewise, since there is a verbal sequence in (7), it too gives rise to a temporal referential chain. In the temporal chain of the embedded sentence in (7) [*kunne, høre, le*], the tense element of *le* is bound by the event of *høre* which is turn has its tense element bound by the event denoted by *kunne.*

A finite tense-element, on the other hand, behaves like a pronoun, e.g. like *hun,* and must be unbound within its own clause; it finds its first argument outside its clause. It may be bound by something in the context (deictic) or by some syntactically realised antecedent in the matrix clause. Consider the nominal and temporal referential chains of (7). Either *hun* has a deictic reference or it is bound by *Marit.* The choice of binder for *hun* affects the reference of *seg selv$_2$* and *seg selv$_1$*. Likewise, the finite tense element of *kunne* may be bound deictically (i.e. by the speech event S) or by an antecedent in the matrix clause; in (7), the verb *sa* is a likely candidate. The latter choice gives rise to a sequence-of-tense construal.[8] In either case, the referential construal of the finite tense element of *kunne* affects the reference of the non-finite forms *høre* and *le,* just like in a nominal referential chain.

[8] Although it would take another paper just to begin to do justice to this question, there are alternative ways of approaching the Sequence-of-Tense phenomena (SoT). One approach that would allow us to assume that finite tenses are always absolute tenses is to assume that even the finite embedded tense in SoT contexts takes S as its point of reference (like other finite tenses) and also that the SoT reading of an embedded finite past is simply a sub-case of the independent interpretation of PAST. Stowell (2007: 450) argues against this approach and says that "The main challenge for this independent-tense theory is to explain why the complement clause E(vent) T(ime) cannot be understood to be subsequent to the main clause ET;" in other words, the embedded event in SoT allegedly cannot be construed as future with respect to the main clause event. However, this is not quite accurate. Firstly, SoT is possible in these contexts e.g. in Hebrew; cf. Landau (2004: 820). Secondly, there are many so-called future-projecting predicates (like *foresee, predict*) even in English that may take embedded main clauses with simple past (without the modal *would*), where the embedded clause gives rise to exactly the type of SoT construal Stowell claims to be impossible. For instance, the data in (i) through (iv) were found via a quick Google search.

(i) *In 1978 scientists predicted that Mount St. Helens was soon to erupt.*
(ii) *We predicted that one team had a 60% chance or better to cover the spread.*
(iii) *He foresaw that the fate of Zionist settlement in Palestine depended on the creation of a strong Jewish economy.*
(iv) *"Playing To Win" founder Antonia Stone foresaw in the 1980s that people without access to computers risked being left behind.*

Although these examples can easily be construed with a relative present reading of the embedded event, a relative future reading is also possible. Thus, an independent-tense theory of SoT is not ruled out.

On the other hand, there is evidence that the SoT reading of the embedded past needs to be licensed by the embedding predicate. This does not necessarily imply that SoT is embedding of tense; instead, it might be a type of quotative modality reminiscent of the German Konjunktiv II (past subjunctive). One piece of evidence is that SoT is impossible if the verb licensing it is not a claim-type of verb, but a verb selecting a (semi-) factive predicate; compare the SoT in (v) (from Wurmbrand 2007: 5) to my own non-SoT example in (vi):

(v) *John promised me yesterday to tell his mother tomorrow that they were having their last meal together.*
(vi) *I decided yesterday to let John discover tomorrow that he was terminally ill.*

In (v), the event of having their last meal together can easily be construed as simultaneous to the embedding telling-event, but in (vi), John's being terminally ill cannot be construed as simultaneous to the discovering-event (unless this is construed as a narrative text in the past tense). I believe this is due to the different embedding predicates, *tell* vs. *discover.* Likewise, it is not sufficient to have the semantically right kind of embedding predicate; there is also a requirement that the embedding verb form could be interpreted as a derived past. Compare (v), where *tell* is a relative tense form taking *promised* as its point of reference and is not explicitly, i.e. formally, present or future, to (vii) and (viii), where the telling event is specified as a non-past (data from Wurmbrand 2007: 5, 8.

(vii) *John promised me yesterday that he will tell his mother tomorrow that they were having their last meal together.*
(viii) *John will promise me tonight to tell his mother tomorrow that they were having their last meal together.*

In this system a possible complex tense or temporal chain is not restricted by an upper number of reference times R, as it would be in a (neo-)Reichenbachian tense system (e.g. Hornstein 1990, Vikner 1985 and many others). Instead, the number of possible temporal relations depends entirely on the number of verbs in the chain. Just like in a nominal referential chain, a pronominal element breaks the chain (since it has "independent", or absolute, reference; it is +R in the sense of Reinhart and Reuland 1993, Reuland and Reinhart 1995), whereas an anaphoric element extends the chain. Thus in principle, nothing prevents language from creating temporal chains of absurd length; (8) shows a temporal chain with seven verbs.

(8) a. *Han måtte ha villet prøve å la dem se henne svømme.*
he mustPAST have wanted try to let them see her swim
'He had to have wanted to try to let them see her swim.'

måtte	[+PAST,+FIN]	$(S > e_{MÅTTE})$
ha	[-PAST,-FIN]	$\neg (e_{MÅTTE} > e_{HA})$
villet	[+PAST,-FIN]	$(e_{HA} > e_{VILLET})$
prøve	[-PAST,-FIN]	$\neg (e_{VILLET} > e_{PRØVE})$
la	[-PAST-FIN]	$\neg (e_{PRØVE} > e_{LA})$
se	[-PAST-FIN]	$\neg (e_{LA} > e_{SE})$
svømme	[-PAST-FIN]	$\neg (e_{SE} > e_{SVØMME})$

This tense-chain consists of eight events, one encoded by each verb plus S, the speech event. These events are ordered by seven tense elements, each encoded by a tense-affix on a verb. Only the top-most tense element is finite; this is the only tense element that takes S as an argument. All other tense elements in this chain are non-finite; each takes the event denoted by the c-commanding verb as its first argument. Two are 'past' relations (noted here as $(e_1 > e_2)$, i.e. e_1 *after* e_2) and five are 'non-past' (noted here as $\neg (e_1 > e_2)$, i.e. e_1 *not-after* e_2). All non-past relations may in principle be construed as 'future' or 'present', depending on the aspectual properties of the predicates involved (both the selector and the selectee). The default strategy is to construe the non-past predicate as (relative) present, if it is stative, and as a (relative) future, if it is dynamic. This is the case for the finite non-past; i.e. the present, as in (9a) and (9b) and the non-finite non-past, i.e. the infinitive, as in (9c) and (9d). The difference is that whereas the finite non-past is 'present' or 'future' relative to S, the non-finite non-past is 'present' or 'future' relative to the embedding predicate (i.e. the previous verb in the temporal chain).[9]

(9) a. *Marit kommer.* *kommer* [-PAST,+FIN] $\neg (S > e_{KOMME})$
Marit comesPRES
'Marit will come.'

b. *Marit liker Jon.* *liker* [-PAST,+FIN] $\neg (S > e_{LIKE})$
Marit likesPRES Jon.
'Marit likesPRES Jon.'

[9] It is relevant to note here that Lasser (1997: 35) proposes a Non-Completedness Constraint on root infinitives in child and adult use. Root infinitives encode future or ongoing situations, they never signify past or completed events. For instance, an adult root infinitive can be placed in a sort of a "historic narrative" and denote a relative future situation as in the German example in (i), or it can denote an ongoing state as in the Dutch example in (ii). However, root infinitives can never denote relative past or completed events. These findings are corroborated in Blom (2003: 76) for root infinitives in Dutch child language.

(i) *Und dann noch die U-bahn nehmen.*
And then still the subway take
'And then we still had to take the subway.'

(ii) *Zeker weten?*
sure know
'Do you know that for sure?'

c. *Marit må komme.* *komme* [-PAST,-FIN] ¬ ($e_{MÅ}$ > e_{KOMME})
Marit must come
'Marit must come.'

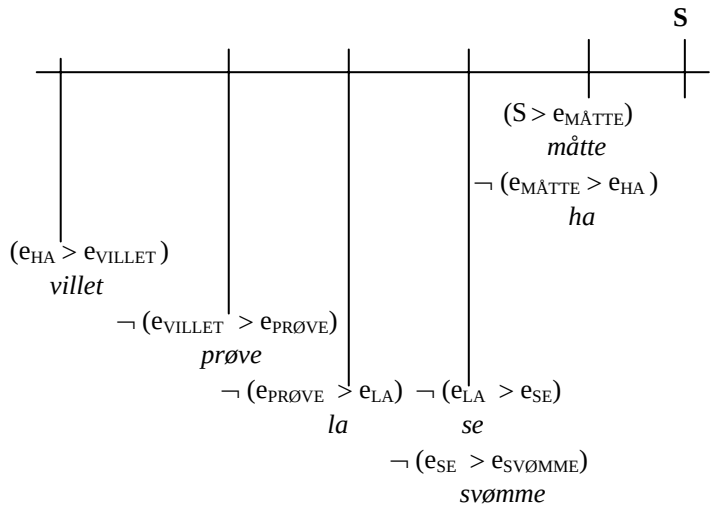
d. *Jon må være på kontoret (før ni).* *være* [-PAST,-FIN] ¬ ($e_{MÅ}$ > $e_{VÆRE}$)
Jon must be in his office before nine
'Jon must be in his office (by nine).'

e. *Jon spiser (når han kommer).* *spiser* [-PAST,+FIN] ¬ (S > e_{SPISE})
Jon eatPRES when he arrivePRES
'Jon is eating.'/'Jon will eat when he arrives.'

The default construal can easily be overridden by an adverbial coercing an iterative meaning (hence stative or 'present' reading) of the otherwise dynamic predicate or a future-denoting adverbial coercing a future construal of the otherwise stative predicate. The latter is shown in (9d) for the non-finite non-past and in (9e) for the finite non-past. Without the adverbial, the 'present' reading comes very easy, both for *være* 'be' and *spiser* 'eats'. Note that the tense element itself does not refer to the aspectual properties of the predicate; it contains only two bits of information: [±Past], determining the temporal ordering, and [± Finite], determining whether the first argument is clause external (S) or clause internal.

Thus, one possible construal of the absurdly long temporal chain in (8) *Han måtte ha villet prøve å la dem se henne svømme* 'He had to have wanted to try to let them see her swim' gives rise to a time line like the one in Figure (1), with a number of arbitrary choices.

Figure 1



Although I have not as yet fully investigated to what extent the binding theory constructed for nominal reference pertains to all facets of tense elements, I believe it is suggestive that both nominal and temporal anaphors seem to be sensitive to the presence or absence of certain barrier categories, such as DPs. Thus, assuming that the English progressive, being non-finite, is a temporal anaphor might help explain the parallel behaviour of the progressive and the nominal anaphor *herself* in the following constructions.

(10) a. *Mary$_i$ showed Lucy$_j$* [$_{DP}$ *a picture of herself$_{i/j}$*].
b. *Mary$_i$ let Lucy$_j$ help herself$_{i/*j}$.*

c. [$_{DP}$ *Those sitting*$_{T1/S}$ *on the floor*] *were*$_{T1}$ *expelled.*[10]
d. *Sitting*$_{T1}$ *on the floor, John was*$_{T1}$ *expelled.*

In (10a), *herself* may be bound by either *Mary* or *Lucy* while in (10b) the closest c-commanding antecedent *Lucy* is the only possible binder. Likewise, in (10c), the event encoded by the progressive may be simultaneous with S ('those presently sitting on the floor') or (near-) simultaneous with the time of the expelling event. Without the DP barrier in (10d), the sitting event can no longer be bound by S, but must be (near-)simultaneous with the expelling event. Again, the anaphor must be bound by the closest c-commanding binder.[11]

A final point helps illustrate the similarities between temporal and nominal pronouns and anaphors. As illustrated by the Capeverdean Creole data in (3), in a language without the finiteness distinction (i.e. a language lacking overt markers of temporal pronominality), the same form can be used in finite and non-finite environments. This has a counterpart in the nominal domain: in certain Romance languages, e.g. European Portuguese, in 1st and 2nd person accusative the same clitic form can be used as an anaphor or a pronoun, depending on the context, as shown by the paradigm in (11).

(11)

Acc. pronoun (cl.)	**Acc. anaphor (cl.)**	
me	*me*	me/myself
te	*te*	you/yourself
o	*se*	him/himself
a	*se*	her/herself
nos	*nos*	us/ourselves
(vos	*vos)*	you/yourselves (rare)
os	*se*	them (m)/themselves
as	*se*	them (f)/themselves

Unlike Creole languages and Present Day English, the Mainland Scandinavian languages (MSc) productively encode finiteness with all types of verbs; any verb form in MSc is inherently specified with respect to finiteness (i.e. "pronominality"). A [+Finite] form like *spiser* 'eatPRES' or *spiste* 'ate' has distinct morphology to show that it is an absolute tense form; therefore, it always takes the speech event S as its first argument[12] and no context needs to be provided for the verb to determine this. In contrast, an out-of-context main verb in English, e.g. *love* or *loved,* could be either an absolute or a relative tense form. *Loved* could be either a preterit (taking S as its first argument) or a participle (taking the event argument of the preceding auxiliary as its first argument); *love* could be either a present or an infinitive, taking as its first argument S or the event of the closest c-commanding verb, respectively. In fact, *love* could even be a subjunctive or an imperative. However, just like in the Creole languages discussed earlier, the context will disambiguate the tense form; the tense element of the structurally highest verb simply takes on the function of absolute tense, with the speech event S as its first argument, even when the verb is not specified for finiteness. Thus, the difference in the construal of temporal chains in MSc and English boils down to the fact that finiteness is obligatorily morphologically expressed on the structurally highest verb in MSc temporal chains, but not so in the corresponding English temporal chain (we will consider the obligatory contexts later). Otherwise, the forming of the

[10] Thanks to Renaat Declerk for the example in (10c).
[11] Potentially related is the fact that in a DP with an embedded relative clause, as in (i), the finite non-past tense of the relative clause can be construed as simultaneous to the speech event S (on a *De Re* interpretation) or simultaneous to the future point in time at which the seeing event will take place (on a *De Dicto* interpretation).
(i) *John will see the unicorn that is walking on the meadow.*
[12] With the potential exception of SoT construals; cf. note 8.

temporal chain proceeds similarly in MSc and English: each verb links up to the previous event in the chain, taking the previous verb (or event) as its point of temporal reference.

From what has been said so far, this difference between MSc and English could be an accidental fact of syncretism and need not point to any profound differences between the two languages. However, as I will demonstrate in the next section, the ways in which finiteness is (or is not) instantiated in English and MSc give rise to a number of syntactic differences between these languages as well as between Middle English (ME) and Present Day English (PDE). Once the morphological differences are observed, a number of syntactic differences fall out. To a linguist, this is always a most welcome result.

4. The finiteness distinction and its consequences

In this section, I describe some of the ways in which the finiteness distinction is relevant in the grammars of Present Day English (PDE) and Mainland Scandinavian (MSc), the latter exemplified here by Norwegian data. Section 4.1 provides a brief overview of the relevant aspects of the "Rich Morphology Hypothesis" debate, the debate concerning whether and how verb raising could be linked to certain varieties of verbal inflection. After isolating the relevant inflectional feature, section 4.2 presents the morphological paradigms of MSc and PDE, before turning to the syntactic phenomena these paradigms give rise to. Section 4.3 discusses the dialectal use of the preterit and participle forms in English, section 4.4 explores the differences between main verbs and auxiliaries and between different types of auxiliaries in English; section 4.5 turns to English sentential negation, and 4.6 concerns *wh-* root clauses in MSc and English.

4.1. Verb second and verbal inflection

All Germanic languages except modern English have generalized verb movement to the second position of the clause in declarative main clauses. According to McWhorter (2005: 287; quoting Hopper 1975: 82), there is a general consensus that "verb second," V2, was a Proto-Germanic feature, and until approximately the fifteenth century, i.e. throughout Old English (OE) and into Middle English (ME), English had generalized V2 like the other Germanic languages (Roberts 2007: 58; among many others).[13] At some point, the V2 rule ceased to be obligatory; in Lightfoot's (2006) terms, the cue for V2 (which he formulates as $_{CP}$ [XP $_{c}$V]) is adopted as an optional, not obligatory, structure for new native speakers. Thus, in Present Day English (PDE), verb second is ungrammatical with main verbs in most of the contexts where it was (nearly) obligatory in OE and ME. In certain structures, such as non-subject root *wh*-clauses, a "residual V2" is still obligatory (cf. Rizzi 1990), but it is instantiated by specific auxiliaries instead of main verbs. We will discuss these structures in sections 4.5 and 4.6.

There have been many attempts to explain what caused this syntactic change in English and to relate it to other, preferably morphological, changes in the verbal paradigm. Roberts (1985: 46) suggests that "the more frequent use of periphrastic constructions involving modals and *do,* combined with the impoverishment of agreement inflection" led to this change: the agreement affixes that used to trigger verb movement were lost. To explain the correlation

[13] Westergaard (2007: 6), investigating data from Bech (2001), finds that in 5000 declarative main clauses from OE and ME texts approximately 70% of non-subject-initial clauses have V2. Moreover, it has often been recognized that V2 may depend on the kind of subject: V2 is chosen if the subject is a full DP, but a subject pronoun normally appears before the verb (van Kemenade 1987, Pintzuk 1991, Kroch and Taylor 1997). One common way of accounting for this pattern is to assume that subject pronouns in OE are clitics. However, Westergaard shows that there are also examples of non-V2 with full DP subjects; cf. also Haeberli (2002) who finds that in almost 29% of all cases of unexpected non-V2 order, a full DP is the subject intervening between the topic XP and the finite verb. Westergaard's approach to these phenomena (based on her previous investigations into corresponding "mixed grammars" in L1 acquisition by Norwegian children) involves the assumption that information structure may be crucial in selecting V2 over non-V2 word order, i.e. V2 is preferred with a discourse new subject, non-V2 when the subject is discourse given.

between loss of agreement and loss of V2, Roberts suggests (p. 32) that "obligatory [V2][14] movement of main verbs should apply to languages with rich agreement systems only." However, the data from MSc are at odds with this assumption since MSc languages have obligatory V2 with main verbs, but less agreement than English; in fact, MSc has no agreement at all in the relevant contexts.[15] Roberts (1993: 120) explicitly addresses this question and suggests that since even MSc languages have lost agreement, the development triggered by the extended uses of modals and *do* that eventually led to loss of V2 must be (at least in part) independent of the loss of agreement. Instead, there are two different movement operations, one linked to agreement and one linked to the properties of T(ense). The latter is what separates MSc from Present Day English, Robert says. The hypothesis that the properties of the relevant tense head are different in English than in MSc is corroborated by the fact that MSc has infinitival endings different from other verb forms, e.g. the imperative; English, on the other hand, has lost its infinitival endings, so the infinitive is non-distinct from the imperative and many other verb forms.[16]

Noting that there is a general consensus linking the loss of V2 to the erosion of verbal inflectional morphology, McWhorter (2005: 287 ff) offers a detailed overview of the analyses offered in this debate. He concludes that "overall, the explanations…lack explanatory power or falsifiability" and "it seems clear that the link [between verb raising and inflectional morphology] is too weak in itself to offer a conclusive explanation for what happened in English in comparison to its sisters."

I believe to have isolated the relevant inflectional feature. It is not the erosion of mood endings or agreement, or the differing properties of tense that caused the loss of V2 in English. Nor is it the expression of a subset of agreement markings (e.g. 1st and 2nd person), tense markings, or mood markings. Instead, the relevant feature is the (non-derivative) finiteness feature, which amounts to an explicit distinction between absolute and relative verb forms. This distinction is encoded as finiteness in the Germanic languages, and it is the loss of this feature that made English main verbs behave differently from auxiliaries and from main verbs in other Germanic languages.

4.2. The morphological expression of finiteness

Any analysis treating finiteness as a derivative composed of other, "more primary" features, such as tense and agreement, cannot account for the finiteness-related differences between MSc and PDE. This is because English has "more agreement" than MSc, but neither "more" nor "less" tense. However, as mentioned in section 2, English does have much more syncretism in the inventory of verb forms than MSc. To appreciate the consequences of this, we need to understand that the infinitive and the past participle are genuine, full-fledged participants in the basic tense system, giving rise to a four-way tense paradigm with two finite and two non-finite forms; cf. the table in (4), repeated here as table A in (12). However, over time, English main verbs developed into a system employing the collapsed paradigm in B of (12); here the finiteness distinction, the distinction between absolute and relative tense forms, is lost. This results in a paradigm employing one generalized [+Past] form and one generalized [-Past] form.

[14] In the original, the term "V-to-INFL movement" is used, but at least since Weerman (1989) it has been widely accepted that V-to-INFL is different from V2 movement since the latter is believed to involve movement from V-to-I-to-C (or I-to-C, or V-to-C; depending on the theory).

[15] There are relics of a plural-singular distinction in certain declarative constructions in some standards and dialects, and there is a similar distinction in imperatives in Norwegian Nynorsk "at least in principle"; cf. Askedal 1994: 238. In addition, there are agreeing past participles, with number and gender (neuter vs. non-neuter) distinctions.

[16] In contrast, Solá (1996) suggests that English main verbs are inflected for neither tense nor agreement and that they should be considered (present or past) participles. Thus, the lack of verb movement with main verbs stems from the presence of a null auxiliary representing tense (and agreement), blocking movement of the main verb.

(12)

A	+Finite	-Finite
+Past	**Preterite**	**Participle**
-Past	**Present**	**Infinitive**

⇨

B	
+Past	**Preterite/Participle**
-Past	**Present/Infinitive**

Old English was just like present-day Mainland Scandinavian: it had distinct forms for all four cells in this paradigm, with distinct infinitives and past participles distinct from preterits; this was the case for both strong and weak verbs. Cf. paradigm A of (13) below.

(13) *Loosing the finiteness distinction*

A.	**+Finite**	**-Finite**
+Past OE: MSc:	**preterit:** *sang, lufode* *sang, likte*	**participle:** *gesungen, lufod* *sunget, likt*
-Past OE: MSc:	**present:** *singe, lufie* *synger, liker*	**infinitive:** *singan, lufian* *synge, like*

⇨

B. Weak verbs	
+Past PDE	**preterit/participle:** *liked, killed, smiled*
-Past PDE	**present/ infinitive** *like, kill, smile*

⇩

C. Standard strong verbs	**+Finite**	**-Finite**
+Past PDE	**preterit:** *went, saw, drove*	**participle:** *gone, seen, driven*
-Past PDE	**present:** *go, see, drive*	**infinitive:** *go, see, drive*

⇨

D. Dialectal strong verbs	
+Past PDE	**preterit/participle** *gone, seen, drove,*
-Past PDE	**present/ infinitive** *go, see, drive*

English is changing before our eyes into a system resembling the Creole languages mentioned earlier, where the finiteness distinction is expelled. This development starts in weak verbs, which adhere to the collapsed paradigm. In B of (12), there is only one generalized [+Past] form, covering the function of the preterit and the past participle, and one [-Past] form, covering the function of the present and the infinitive. Note that nothing has been said so far about the 3rd person singular, which has a distinct form for main verbs even in PDE. I am going to assume that the 3psg ending *–s* is an agreement marker that plays no role in the tense system, and I will elaborate on this claim in section 4.6.

English regular weak verbs have been inflected according to the collapsed paradigm for centuries, as shown in B of (13); however, the irregular strong verbs have maintained a slightly more complex system. Although there is only one generalized [-Past] form, there have been distinct forms for the preterit and the past participle. Thus, instead of a four-way system, there is a three-way system in Standard English, as shown in C of (13). Currently, these relics of the finiteness distinction in main verbs, hitherto maintained in strong irregular verbs, are also expelled from many variants and dialects of English, resulting in alignment with the rest of the system (paradigm D). We return to these dialectal facts in section 4.3.

At present, Standard English maintains a distinction between the preterit and the past participle as in paradigm C of (13). However, these distinct forms are in fact relics, like case endings in modern Norwegian. In Norwegian, case endings have not been productive for centuries; however, there are still a number of collocational preposition phrases, such as the ones headed by the preposition *til* 'to', where the old case marking, the genitive ending *–s*, is still obligatory: *til fjells* 'to the mountain', *til sjøs* 'to the sea', *til fots* 'on foot', *til knes* '(up) to one's knees', etc. It would be misleading to conclude from these examples that Norwegian has a

productive case system. The same is true of the distinct forms for past participles and preterits in standard PDE. These isolated distinct forms are not enough evidence for upholding the finiteness system for English main verbs. I argue that, although there are a number of main verbs where the old finiteness distinction is still visible in the [+Past] forms, the finiteness system ceased to be productive for English main verbs many centuries ago. In fact, I suspect that it disappeared at about the same time as the generalized V2 rule; I discuss the relation between finiteness and raising more thoroughly in sections 4.4 and 5. For now, suffice it to say that an analysis along the lines of the present approach encompasses the insight of Roberts (1993 and subsequent) that the loss of V2 in English is somehow related to the loss of infinitival endings and Solá's (1996) insight that this loss is somehow related to the non-distinctness of English preterits from past participles.

Eventually, the L1 learner of English simply found too few cues (in Lightfoot's terms; cf. e.g. Lightfoot 2006) in English main verbs to assign a finiteness distinction to main verbs. There is no reason to assume that the L1 learners all belonged to the same generation; instead, this happened in gradually increasing numbers of L1 learners in each generation. Kroch and Taylor (1997) and Lightfoot (1999) explain the gradualism in V2 vs. non-V2 in the history of English as "grammar competition" between a northern V2 dialect (influenced by Scandinavian) and a southern non-V2 dialect. They argue that some speakers have both grammars, i.e. are in effect bilingual. The same type of explanation could account for the gradualism with which the finiteness distinction disappears.

Since the presence or absence of finiteness is directly encoded in the verbal form, any main verb can in principle serve as a cue for the child. The child simply has to observe the same verb in absolute and relative functions, figure out whether the forms are different, and set the finiteness parameter right. Eventually, more and more L1 learners of English set the parameter as *finiteness not encoded* for main verbs. Thus, the productive paradigm becomes B of (12), with one generalized [+Past] form and one generalized [-Past] form. As mentioned, this leads to a situation reminiscent of the Creoles we discussed in section 2, where the same verb form is used for both absolute (finite) and relative (non-finite) tenses. The context determines which tense is being used.

4.3. Dialectal and non-standard uses of preterit and participle forms

The present analysis offers a straightforward way to settle certain aspects of the long-lasting debate on purported "dialectal auxiliary drop" in English. Examples of this phenomenon are given in the non-standard, dialectal data in (14), from Sampson (2002); cf. also Trudgill (1999) and many others.

(14) a. *You ever seen that?* (cf. Standard *Have you ever seen that?*)
b. *Er gone in.* (cf. Standard *She has gone in.*)
c. *They done it.* (cf. Standard *They have done it.*)

Under the present analysis, these facts are evidence that in these dialects, the loss of the finiteness distinction in main verbs has gone one step further than in Standard English. This is the natural conclusion of a process eliminating the relics of the finiteness distinction in a syntactic system no longer making productive use of main verb finiteness. In fact, this is the expected progression of events, given the development illustrated by paradigms A, B and C of (13), repeated as (15). The dialectal strong verbs have undergone the same process as the weak ones, collapsing the four-way (or three-way) paradigm into a two-way paradigm of tense forms.

However, the data in (14) could be equally well accounted for by an 'auxiliary drop' analysis, as illustrated by the parentheses in (14). Observing that the auxiliaries, even when they are present in the relevant context, are reduced to *–v* (*have*) or *–s* (*has*), it is not too far-fetched to assume that these phonetically reduced forms may drop out occasionally, and eventually

completely. As discussed in the literature (Sampson 2002 quotes Edwards 1993 and Eisikovits 1987), an interesting question is whether these facts point to a different system in the relevant speakers or simply a variation in the output; i.e. in generativist terms, whether this is a competence or a performance phenomenon. When the speaker utters *er gone in* (14b), does he intend 'she has gone in' or 'she went in', or is the form perhaps ambiguous between the two readings? The present analysis would support the assumption that *er gone in* is likely the dialectal way of expressing the standard 'she went in'; *gone* functions as an absolute tense form, like a preterit. Moreover, this would be just another example of the common process of collapsing the preterit and the past participle into one form, as in the paradigm in D of (15).

(15) *Loosing the finiteness distinction*

A.	**+Finite**	**-Finite**
+Past OE: MSc:	**preterit:** *sang, lufode* *sang, likte*	**participle:** *gesungen, lufod* *sunget, likt*
-Past OE: MSc:	**present:** *singe, lufie* *synger, liker*	**infinitive:** *singan, lufian* *synge, like*

B. Weak verbs	
+Past PDE	**preterit/participle:** *liked, killed, smiled*
-Past PDE	**present/infinitive** *like, kill, smile*

C. Standard strong verbs	**+Finite**	**-Finite**
+Past PDE	**preterit:** *went, saw, drove*	**participle:** *gone, seen, driven*
-Past PDE	**present:** *go, see, drive*	**infinitive:** *go, see, drive*

D. Dialectal strong verbs	
+Past PDE	**preterit/participle** *gone, seen, drove,*
-Past PDE	**present/infinitive** *go, see, drive*

There are other facts and observations that favour the present analysis over the 'auxiliary drop' one. Several corpus linguists point out that there are many variants of non-standard irregular verb forms in the dialects; however, one seemingly quite robust generalization is that the preterit and past participle end up as the same form. Sampson (2002) states that

> Non-standard dialects show many differences from standard English in the forms used for past tenses and past participles of individual verbs. Dialect usage frequently has the same form for past tense and past participle of an irregular verb which has distinct forms in the standard language (e.g. *drove* for both parts of DRIVE, *done* for both parts of DO). The form used for these two forms is sometimes identical to the base form, e.g. *run*, and sometimes different from any standard form, e.g. *seed* as past tense/participle of SEE.

Although an auxiliary-drop analysis can explain the data in (14), it cannot easily explain both-function forms like *seed* or a past participle from like *drove*. The present theory, on the other hand, can do so. In the present approach, the development is from two [+Past] forms (one finite, one non-finite) into one generalized [+Past] form (with no finiteness distinction). Which of the two past forms (the preterit or the past participle) survives and takes on the function of the other is in principle arbitrary, hence trivial.

4.4. Auxiliaries and main verbs

As is thoroughly documented in the literature, there are a number of differences between main verbs and auxiliaries in PDE, specifically in sentential negation (section 4.5), subcases of inversion, wh-question root clauses (section 4.6.), etc. There are also differences within the category of auxiliaries that are much less often noted and still lack a robust explanatory analysis, a topic to which we return shortly. The major differences and similarities between English main verbs and auxiliaries have been a recurring topic in syntactic theories at least since Chomsky (1955, 1957). In the words of Lasnik (1999: 98),

> One of the major breakthroughs in the history of generative transformational grammar was the discovery by Chomsky (1955, 1957) of the regularities underlying English verbal morphology. Much of the apparent chaos of this central portion of English morphosyntax was rendered systematic by the fundamental insight that the tense-agreement inflectional morpheme ("C") is syntactically independent, even though always a bound morpheme superficially. The analysis was brilliantly successful and paved the way for numerous refinements and extensions over the following forty years, the large majority of them sharing the same fundamental insight.

Although Chomsky (1957) lists auxiliaries, i.e. the modals *have* and *be,* as appearing under a common node Aux (e.g. p. 111), he also groups main verbs and auxiliaries together under a common "v" in certain structural analyses (e.g. the rule of Auxiliary Transformation; p. 113, op. cit.). According to Lasnik (2000: 68), Chomsky's (1957) treatment of "auxiliary verbs" in fact renders them as "belonging to no syntactic category at all," which was one major reason for Ross's (1969) disputing Chomsky's analysis of auxiliaries. Ross claims that all English "auxiliaries" in are in fact part of the natural class of verbs. Furthermore, in *Syntactic Structures* (Chomsky 1957) the element *do* is described as the substitute "bearer of an unaffixed affix" (cf. also the "stranded affix" filter of Lasnik 1981), and Chomsky states that the *do* appearing in these contexts is "the same element as the main verb in *John does his homework*" (Chomsky 1957: 62). We will dispute this claim shortly.

Roberts (1985) suggests that the syntactic differences between auxiliaries and main verbs in English are due to a semantic property—the lacking Theta-properties of auxiliaries. In earlier stages of English, main verbs were inserted in the VP and raised to INFL; as INFL changed, from hosting affixes attracting the main verb into an abstract category only syntactically (not morphologically) governing V, main verb movement was no longer necessary. Moreover, with the stipulation that "V assigns Theta-roles iff V is governed," a condition holding on S-structure (op.cit.: 29), Roberts explains why main verbs are prohibited from moving to INFL. As the inflectional morphology of English verbs became more rudimentary, INFL was incapable of morphological government of V, which implies that if the main verb moves to this (non-affixal) INFL, it will be incapable of assigning its Theta-roles. This reanalysis also affects modals, Roberts says. Although modals were capable of assigning ordinary Theta-roles to their arguments up to the 16th century, after this time they were "reanalysed as auxiliaries" and came to be inserted directly into INFL. This move prevents modals from assigning Theta-roles since any element inserted into (a morphologically poor) INFL will be ungoverned, hence incapable of Theta-assignment.

As Lasnik (2000: 161) points out, "it is not obvious that auxiliary verbs (especially modals) don't have a theta-role to assign."[17] Roberts (1985) concedes that modals do contribute

[17] Lasnik (1999: 103) addresses the alleged semantic vacuity for the auxiliary *be*: "First, it is not clear that *be* is always semantically vacuous, yet the syntactic behaviour of *be* in finite clauses is always the same. For example, it is reasonable to assume that in [(i)], *is* has the meaning of *exists*. Yet, as seen in (ii), it raises overtly nonetheless:

(i) *There is a solution.*

(ii) a. *There is not a solution.*
b. *Is there a solution?*

to the clause with something resembling a Theta-role and, to account for this effect, he adopts Zubizarreta's (1982) analysis of modals as modifiers analogous to Jackendoff's (1972) agent-oriented adverbs. Roberts' analysis (including Zubizarreta's analysis)[18] is in relevant respects also the analysis of English auxiliaries adopted by Pollock (1989). Pollock's (1989) analysis in turn is adopted by Chomsky in subsequent works, although instead of referring to the lacking Theta-properties of auxiliaries, Chomsky (1995: 198) refers to the auxiliaries as semantically vacuous:

> Consider again the intuition that underlies Pollock's account: raising of the auxiliaries reflects their semantic vacuity; they are placeholders for certain constructions, at most "very light" verbs. Adopting the intuition (but not the accompanying technology), let us assume that such elements, lacking semantically relevant features, are not visible to LF rules. If they have not raised overtly, they will not be able to raise by LF rules and the derivation will crash.

As mentioned above, although it seems rather uncontroversial to assume that the auxiliaries *have* and *be* are semantically light and perhaps not Theta-assigners,[19] modals always seem to constitute a problem for this generalization. They seemingly contribute something resembling a Theta-role in many contexts, especially on their root readings (readings of obligation, permission and volition). There are also a number of other differences between modals and the auxiliary *do,* on the one hand, and the auxiliaries *have* and *be* on the other that receives no explanation under the approaches outlined so far in this section.

Schütze (2003) lists a number of contexts where there is a split between modals and the auxiliary *do* and *have* and *be*: subjunctives (16), to-infinitives (17), small clauses (18), Mad Magazine sentences (19), *Why not* constructions (20), etc. All data and grammaticality judgements are Schütze's.

(16) Subjunctives
- a. It is vital that John be here on time.
- b. It is vital that John be smiling on the photograph.
- c. It is vital that Rover have eaten before we arrive.
- d. * It is vital that John do not be late.
- e. * It is vital that John will not come unprepared. [20]

(17) To-infinitives
- a. It is important (for everyone) to be on time.
- b. It is important (for a movie star) to be smiling whenever the paparazzi are nearby.
- c. It is important (for every applicant) to have finished high school.
- d. * It is important (for us) to do not leave her alone.
- e. * It is important (for us) to can be alone.

[18] In fact, Pollock (1989: n. 28) argues against Zubizarreta's (1982) analysis on one relevant point since she analyses French modals as ordinary Theta-assigners but English modals as modifiers. Pollock says that this is incompatible with his own analysis of verb movement in English vs. French; he assumes instead that although the French modals assign Theta-roles, these are adjunct Theta-roles, invisible to the *opaque* vs. *transparent* distinction essential for the difference between English and French verb raising.

[19] Pollock (1989: 385, 386) "[*Have* and *be* and their French equivalents] have a unique status with respect to θ-theory: they arguably fail to assign any θ-role to the constituents they are subcategorized for.… That aspectual *be/être, have/avoir*, and 'passive' *be/être* are not θ-role assigners is not, I think, controversial."

[20] (16e) is grammatical on a non-subjunctive reading: 'The fact that John will not come unprepared is vital.'

(18) Small clauses
a. I made him be alone for a while.
b. The director made us be dancing when the curtain opened.
c. ? The coach made her not just have eaten when she came to practice.
d. * The conductor made us do not sing the harmony line.
e. * The therapy made her can/could walk again. (cf. The therapy made her be able to walk again).

(19) Mad Magazine sentences
a. What?? Her be out all night??? Never!
b. What?? Him be drinking at 9 in the morning??? Never!
c. ?What?? John not have finished his homework by 9pm?? Never!
d. * What?? Him do/does not pick up the kids on time?? Never!
e. * What?? Him should/must/could leave the firm?? Never!

(20) Why (not) constructions
a. Why (not) be a responsible citizen?
b. Why be working when you could be partying on the beach?
c. ? Why not have made the appointment with her before she has a chance to make one with you?[21]
d. * Why do not go to the beach?
e. * Why should/must stay home? (cf. ?Why be obliged to stay home?)

Schütze (op.cit. p. 406) appropriately states that "For *do* and modals to pattern together against *be* and *have* in so many environments clearly should not be a coincidence;" his explanation is that *do* and modals are both of the category Mood, and that the contexts in (16) through (20) are either too small to contain a Mood projection at all (e.g. small clauses) or come with their own Ø Mood morpheme that blocks the insertion of any of the Mood heads, i.e. *do* or modals.

The present approach offers a unified account for all the facts discussed in section 4.4. This finite-based analysis explains not only why main verbs stopped raising in English, but also why auxiliaries take part in the "residual V2" constructions (some of which are to be more thoroughly discussed in 4.5 and 4.6). It also explains why modals and the auxiliary *do* pattern together against the auxiliaries *have* and *be,* as demonstrated by Schütze's (2003) data. The reason is not Theta-properties, or semantic vacuity, or the presence of modal or mood-like properties in the auxiliary *do.* It is the morphosyntactic feature make-up of the different verbs and auxiliaries, i.e. whether or not they encode the finiteness distinction.

PDE main verbs inflect according to the collapsed paradigm A in (12), repeated here as A in (21), with one generalized [+Past] form and one generalized [-Past] form. They do not encode the finiteness distinction; hence, they have no slot for a finiteness-feature. Modals and the auxiliary *do,* on the other hand, have only finite forms, as in paradigm B of (21). The auxiliaries *have* and *be* are the only PDE verbal elements with a morphologically encoded finiteness distinction; their paradigm is thus the four-way paradigm of all verbs in OE and present day Mainland Scandinavian.

(21) A: PDE Main verbs

+Past	**preterit/participle**
-Past	**present/ infinitive**

B: PDE modals[22] and auxiliary *do*

[+Past, +Finite]	**preterit**
[-Past, +Finite]	**present**

[21] Example originally from Wachtel (1979).
[22] Cf. e.g. Stowell (2004) for discussion of whether PDE modals are capable of showing true tense distinctions.

C: PDE *have* and *be*

	+Finite	-Finite
+Past	**preterit**	**participle**
-Past	**present**	**infinitive**

What do we gain by considering the morphosyntactic feature make-ups of verbs and auxiliaries the crucial property explaining the facts discussed in this section? Firstly, we can maintain the assumption that main verbs, modals, and the auxiliaries *do, have* and *be* form a "natural class" because they all belong to the class of verbs. Secondly, the assumptions summarized in (21) are not a leap of faith; any traditional grammar of English will tell you that modals have no finite forms and we know that *have* and *be* may appear in finite as well as non-finite functions. The more radical assumptions about the lack of morphological finiteness in PDE main verbs also receive robust support from verbal paradigms, especially when we look at them diachronically. Thirdly, if we take seriously the idea expressed in Chomsky (1995: 169) that "variation must be determined by what is "visible" to the child acquiring language, that is by the PLD [Primary Linguistic data]," the syntactic behaviour of main verbs vs. *have* and *be* vs. modals and *do* should be detectable exactly on the basis of paradigmatic distinctions encoded in the morphosyntactic make-up, not a semantic quality that is gradable at best and questionable at worst.[23] What semantic distinction would make auxiliary *do* pattern with modals and against *have* and *be*? And how could the child find the right point on the semantic scale where 'be able to' and 'be obliged to' are on one end and *can* and *must* on the other (cf. (18d) and (20d)), the latter patterning with auxiliary *do*? Instead, the finiteness feature is easily detectable by the child. Either the verb has the same form in absolute and relative functions (main verbs), in which case there is no finiteness distinction; it occurs only in absolute functions (modals and auxiliary *do*), in which case it is always [+Finite]; or it has morphologically distinct forms in absolute and relative functions (*have*[24] and *be*), in which case it encodes the finiteness distinction [± Finite].[25]

What remains, then, is to systematize these assumptions, consider them seriously, and concede that although PDE grammar no longer encode finiteness in main verbs, it frequently refers to finiteness in specific rules of grammar. There is no conceptual necessity underlying this diachronic development; one may very well envision a line of events such that English grammar, after abandoning the finiteness system for main verbs, developed into a grammar where the finiteness distinction simply dropped out of the syntactic system. However, this is not what happened. Instead, certain probes (like the question operator Q and others, to be discussed later) remained "unaware" that main verbs could no longer provide the required finiteness distinction, like an amputee patient with a phantom limb. These probes kept probing for (or selecting) [+Finite], [-Finite], and *[+Finite] goals, as they still do in PDE grammar. Certain probes still ask for an active goal encoding a [+Finite] feature, whereas others find an active [+Finite] feature inadequate and offending ("feature mismatch"), leading to ungrammatical results. The latter is evident in Schütze's data in (16)-(20). In all these structures, the presence of a [+Finite] feature in the complement renders the construction ungrammatical. As modals and

[23] Cf. Bouchard (1995: 41): "The very notions on which theta-roles are based are external to Grammar."

[24] An obvious objection at this point is that *have* does not seem to have very different forms in absolute and relative functions. In fact, the only difference between the paradigm of *have* and that of main verbs is that *have* becomes *has* in 3psg whereas main verbs simply add *–s*. Thus, it is not inconceivable that this auxiliary will undergo the same kind of reanalysis at some point, leaving *be* as the only element with true finite and non-finite forms. Moreover, if finite *be* were to be reanalysed as an agreement marker (which does not seem impossible), we would be left with a system where no verb is capable of finite and non-finite forms.

[25] It is conceptually conceivable that there are also elements in natural language that are always [-Finite], with no [+Finite] forms. To my knowledge, no such elements exist in MSc, but the *–ing* form (used in gerunds and progressives) is a good candidate, I believe, for a form which is obligatorily [-Finite] in PDE.

the auxiliary *do* are always [+Finite], they are banned from these constructions. Main verbs, on the other hand, are accepted because they encode no finiteness feature; the non-finite versions of *have* and *be* are likewise acceptable because they are [-Finite].

The reverse situation holds in inversion structures such as polarity questions. In these structures, only a [+Finite] verb may fulfil the requirements of the probing head ("Q"); this is a property that PDE still shares with its Germanic relatives such as MSc. In MSc, any finite verb or auxiliary may fulfil this requirement, since all verbs and auxiliaries encode the finiteness distinction. Of course, [-Finite] verbs would create a feature mismatch and are thus banned from raising to Q (22a); however, all verbs have a [+Finite] variant to meet the finiteness requirement of Q (22b). Not so in PDE. Like in MSc, non-finite *have* and *be* are excluded since they are [-Finite] (22c); but finite *have* and *be* are allowed (22d). Unlike MSc main verbs (22e), however, PDE main verbs would also be insufficient as goals for the probe Q (22f) since they have no finiteness feature at all. Modals and the auxiliary *do,* in contrast, have the right feature: they are always [+Finite] and fit the job description perfectly (22g). Note that MSc languages have no verb corresponding to the auxiliary *do* in PDE (22h). This could be an accident, but since auxiliary *do* is a substitute employed only to fulfil the requirements of specific goals requiring finiteness, and since all verbs have their own finiteness distinction in MSc, this verb would be between jobs most of the time.[26]

(22) Inversion and finiteness
- a. *Ha John gått? Norwegian
- b. Har Jon gått? Norwegian
- c. *Have John left? (Cf. example (16c) It is vital that Rover have eaten…)
- d. Has John left?
- e. Gikk Jon? Norwegian
- f. *Left John?
- g. Must/Did John leave?
- h. Må/*Gjorde Jon gå? Norwegian

Note that it is finiteness, not the agreement in and of itself (encoded by the marking *–s*) that allows the auxiliary in inversion, as in (22c), and bans it from the constructions in (16)-(20). Modals never show agreement; neither does the preterit of the auxiliary *do.* We can stipulate that these forms have covert agreement, but this would provide poor cues for the child acquiring the system. Instead, I argue that the agreement marking (visible in 3PSg *-s*) is partly independent of the presence of a morphologically encoded finiteness feature; this marker shows up with PDE main verbs (with no finiteness distinction), with *have* and *be* (where finiteness is encoded), and with the auxiliary *do* (where the finiteness feature is obligatorily positive, [+Finite]). Likewise, MSc languages have the finiteness distinction encoded in all verbs, although there is no agreement; there are also agreeing infinitives in many languages (e.g. European Portuguese). Thus, agreement is neither a necessary nor a sufficient condition on finiteness. Instead, I assume that the relationship between agreement and finiteness is looser than usually assumed, although they often show up in the same contexts. I elaborate on this claim in section 4.6 .

I will provide one final example supporting the claims put forth so far. As Trudgill (1999: 12-13) points out,

[26] This is a bit inaccurate. There is a verb *gjøre* 'do' that occurs in tag-questions (i) and in VP-fronted constructions (ii). This verb obviously has properties in common with the PDE *do,* but it is never found in true do-support constructions such as residual V2 contexts.

(i) *Marit kommer ikke, gjør hun?*
Marit comes not, does she?

(ii) *[Drikke/Drakk seg full] gjorde han aldri.*
[Drink/Drank himself wasted] did he never

> Standard English fails to distinguish between the auxiliary forms of the main verb *do* and its main verb forms. This is true both of present tense forms, where other dialects distinguish between auxiliary *I do*, *he do* and main verb *I does, he does* or similar, and the past tense, where most other dialects distinguish between auxiliary *did* and main verb *done,* as in *You done it, did you?*

As Trudgill demonstrates, in certain dialects of English the presence of *-s* on *do* depends on its status, i.e. whether it is a main verb or an auxiliary; *-s* does not function as an agreement marker. Moreover, in the example *You done it, did you?* it seems obvious, in the present analysis, that main verb *do* is inflected according to the collapsed paradigm A of (21) (cf. also paradigm D of (15)); the auxiliary *do,* on the other hand, is inflected according to the paradigm B of (21), as an auxiliary with [+Finite] obligatorily encoded. Again, these dialectal facts lend support to the analysis outlined here: firstly, that main verbs adhere to a collapsed paradigm different from the one productive for auxiliaries and, secondly, that overtly realized agreement is not necessarily parasitic on morphologically encoded finiteness, even in certain standards of PDE.

To sum up, instead of proposing two widely different explanations for the data in (16) – (20) illustrating the opposition between modals/auxiliary *do* vs. *have/be,* and the "residual V2" phenomenon, I proposed a unified account for these patterns, based on the single morphosyntactic feature of finiteness, easily detectable in verbal forms.

4.5. English sentential negation

The different behaviour of PDE main verbs and auxiliaries with respect to sentential negation is another phenomenon that can simply and elegantly be explained by the present approach. Like the other syntactic differences between main verbs and auxiliaries in PDE, this is a topic that has occupied generative linguists for fifty years; in a sense, all the analyses are refinements of the analysis put forth in Chomsky (1955, 1957); cf. Lasnik (1999: 98). However, Cormack and Smith (2000: 65) point out that

> It is not easy to give a principled account of the relative positions of negation with respect to auxiliaries and main verbs in English. Baker (1991) went so far as to argue that it was impossible within 'core grammar'. Lasnik (1995) proposes quite different properties for main verbs and auxiliaries with respect to their relation to inflection. Roberts (1998) assigns to auxiliaries (including our $Modal_2$ auxiliaries) the curious property of consisting of nothing but Formal Features.

The basic facts to be explained are quite familiar, as pointed out in Cormack and Smith (1998: 1), (2000: 50) and many others:

(23) Verbs and negation in English
  a. John often snores.
  b. *John not snores.
  c. John did/will/must not snore.
  d. *John snores not.

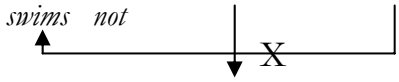
This set of data gives rise to the following three questions (from Cormack and Smith 2000: 50):

(24) English negation
  a. Q1: Why is (23b) ungrammatical? In particular,
  b. Q2: What accounts for the difference between *often* and *not* in (23a) vs. (23b)?
  c. Q3: Why can an Aux or modal precede *not,* while a V cannot (23c) vs. (23d)?

One common way of answering these questions is to assume that there are two types of negation markers in Germanic languages. Type A is a head, projecting its own functional projection in the IP domain of the clause (cf. e.g. Zanuttini 1996). Type B is an adverb, with a distribution similar to other sentence adverbs. Whereas sentential negation in German, Dutch and MSc is believed to be of type B (Zanuttini 1996: 191), English sentential negation is assumed to be of type A, giving rise to a designated NEGP projection. This assumption constitutes a partial answer to question Q2, since *not* is not an adverb, unlike *often*. Moreover, this type of approach would typically answer question Q1 by means of the Head Movement Constraint, HMC (Travis 1984: 131), a constraint restricting movement of a head to the nearest head position. A syntactic head X^0 cannot move over a head Y^0 to reach a head position Z^0 (this is in effect a subcase of Relativized Minimality; cf. note 6.) Under the assumption that the inflection of *snores* is generated in a position above negation, whereas the bare verb is generated below negation, the negation head would intervene between the main verb and its inflection. Thus, the HMC accounts for the ungrammaticality of (23b) and (23d). Auxiliaries are generated above negation and are thus not restricted by negation the same way verbs are; this answers question Q3.

Cormack and Smith (1998, 2000) set out to explain not only the syntactic facts about English negation, but also the scope of various negations relative to modals and adverbs. They also seek to dispense with head movement altogether. Thus, their answers to the questions in (24) are a bit more complex than in the HMC-based analysis. They assume that the polarity head POL (which can be realized as sentential negation) is an element of the category V, unlike the adverb *often;* this means that it is in effect a verb (=answer to Q2). This verb must be inflected, and (very simplified) *not* is the inflection of POL; moreover, any Infl must be adjacent to its verb (Cormack and Smith 2000: 72). Next, they stipulate that *not* is a default (or defective) inflection, to be checked by Tense. However, the main verb *snores* also has a tense inflection, a non-defective, non-default tense inflection, i.e. present tense. Then there is an "Infl-precedence constraint" which forces the most specified tense inflection to appear first, thus (23b) is ruled out (=Q1). Adverbs, like *often,* have no v-features and do not intervene in the relevant tense checking relation. The answer to Q3 is again that auxiliaries have specified tense inflections and so must precede the default inflection *not,* and main verbs V cannot precede *not* because when V tries to check its inflection features (which need to appear adjacent to the Tense operator T, and before *not,* because of the Infl-precedence constraint), the V-features of POL intervenes between V and its Infl; cf. (25) adapted from Cormack and Smith (2000: 75).

(25) John T[PRES] **Infl^{pres}** **Infl^{def}** Pol[[V][NOT]] V[SWIM]



Although this analysis seemingly accounts for the facts, it does so at a cost. In this approach, Vs and auxiliaries are different categories; negation is likewise a V, and the analysis rests on a number of stipulations (such as the Infl-precedence constraint and seven other constraints). It seems appropriate to remind the reader of Ross' (1969: 78) criticism of Chomsky's (1957) analysis of verbs and auxiliaries: Ross' main objection is that important generalizations are lost by treating verbs and auxiliaries as belonging to different categories.

> These items [as treated in Chomsky's structural analyses and transformations] have no similarity which would predispose them to function together... There is no explanation for why such a term should appear in widely separated rules, which appear to have nothing to do with another.

Likewise, Lasnik (2000: 69, 111), following Ross (1969), adds the questions

> Why is it that [verbs, modals, *have*, and *be*] behave so similarly? Why do they feel like a natural class? According to [Chomsky (1957)] they aren't a natural class.

The same objection applies to the solution offered by Cormack and Smith (1998, 2000). Lasnik (1995, 1999) is unwilling to treat auxiliaries, modals, and verbs as linguistic elements belonging to different categories. To honor Ross' insights that these elements are members of a "natural class," the class of Vs, Lasnik develops what he calls "a hybrid approach" to the facts in (23). In this approach, main verbs and auxiliaries are associated with their inflections in two different ways in English: main verbs are "bare" and associate with their inflectional affixes via PF merger, a PF-process distinct from head movement, demanding adjacency (Lasnik 1999: 106; cf. also Bobaljik 1994 for this morphophonemic rule). Auxiliaries, on the other hand, have inherent inflectional features and raise to check these features against a featural INFL (like all verbs in French). In this approach, Infl is always strong in English and French, thus "the Infl feature strength difference posited by Chomsky […] becomes superfluous" (Lasnik 1999: 105). However, Lasnik still resorts to feature strength to account for the fact that finite verbs in Swedish do not raise in embedded clauses (op.cit. p. 107).

In contrast to the analyses briefly outlined in this section, the present approach can account for the facts in (23) with a single assumption:

(26) Sentential negation in Germanic requires a [+Finite] verb.

How we implement this insight is not crucial: no matter what mechanism of implementation we chose, observing the non-derivative finiteness distinction substantially simplifies the analysis.[27] For concreteness, let us assume within the most recent Chomskyan framework[28] that sentential negation in English has an uninterpretable [+Finite] feature. This would imply that sentential negation could only probe for a [+Finite] verb, where the finiteness feature has an interpretable correspondent. If the negation has an edge feature EF and cannot be satisfied via long-distance Agree, this forces the raising of a [+Finite] verb via Internal Merge (if there is an eligible candidate goal already in the structure) or via insertion of a [+Finite] verb, i.e. External merge, if there is no relevant candidate goal already in the structure. In either case, given what was discussed in the previous sections, (26) rules out the possibility that PDE main verbs or non-finite *have* and *be* can satisfy the sentential negation probe; it also explains why modals and finite *have* and *be* occur with sentential negation in English, explains *do*-support in sentential negation structures (in a manner reminiscent of the solution in Syntactic Structures and Lasnik's 1981 "stranded affix filter"), and explains why any verb in MSc can fulfil the requirements of a negation probe. This is certainly a great accomplishment for a single assumption.

Moreover, as pointed out by various authors, including Cormack and Smith (2000:51, 54), there are (at least) two different functions of the negation *not* in English: the sentential negation realised as *n't* or *not* and the "adverbial" negation, also referred to as constituent negation.[29] Zanuttini (1996: 192) adopts Kayne's (1989) assumption that *n't* and *not* differ not

[27] In fact, the present analysis also straightforwardly takes care of several of the other stipulations of Cormack and Smith (1998, 2000) such as the "Infl precedence constraint." Since finiteness is the verbal counterpart to pronominality, the mechanisms used to explain the fact that pronouns precede anaphors in a nominal referential chain can easily be extended to account for the fact that finite forms precede non-finite forms in a verbal sequence. This solution was mentioned in section 3 and does not require a complex mechanism, given that the present analysis aims to adopt the conditions on Chain-formation outlined by Reinhart and Reuland (1993) and Reuland and Reinhart (1995) who assume that a referential element with independent reference [+R] must precede all other referential elements in the chain.

[28] Cf. Chomsky (2000, 2001, 2004, 2005, in press).

[29] In fact, Cormack and Smith argue that there is a third negation in English: Echo, merged very high in the clause.

only in their phonological shape, but also in their syntactic category—that *n't* is a functional head and *not* is an adverb.[30] In the present analysis, the differences between *n't* and *not* can be captured on the assumption that *n't* intrinsically contains the uninterpretable feature [+Finite]; *not,* on the other hand, can negate any constituent, including a finite predicate. In its function as sentence negation, even *not* must contain an uninterpretable [+Finite] feature, like *n't.* All instances of *not* without the uninterpretable [+Finite] feature are instances of constituent negation, or "adverbial" *not*, as pointed out earlier. In a more recent notation, *n't* is intrinsically [*u*[+FIN]], *not* is optionally [*u*[+FIN]], and all instances of constituent negation lack [*u*[+FIN]]. This analysis renders the differences between the negation words minimal and still captures the empirical facts.[31]

Zanuttini (1996) argues that in both Romance and English the functional projection NegP, headed by *n't* in English, is dependent on the presence of TP, the tense projection. She expresses this relation by saying that NegP takes TP as its obligatory complement. In contrast, *not* is independent of TP and can be adjoined to any category. Zanuttini illustrates her claims with the following data (Zanuttini 1996: 192-3):

(27) a. We haven't had lunch yet.
b. *We have/had hadn't lunch yet.
c. We hadn't had lunch yet.
d. Mary hasn't always paid taxes.
e. *Mary has always paidn't taxes.

(28) a. She couldn't not have noticed it.
b. She could have not noticed it.
c. *She could haven't noticed it.

It seems that most of Zanuttini's insights about the relation between negation and tense can be straightforwardly translated into the present approach, by simply substituting Zanuttini's notion of tense with finiteness. Invoking finiteness instead of tense is supported by acquisition research on negation; cf e.g. Meisel (1997: 239), quoted here from Gretsch and Perdue (2007: 447-8):

> The acquisition of sentence negation happens fast and virtually without errors in L1 acquisition. As soon as one finds evidence for the productive use of finite forms, NEG is placed clause-internally.

Moreover, when it comes to imperatives, Zanuttini needs an elaborate auxiliary theory to account for the English data. English imperatives should lack the functional category TP (like Zanuttini argues for Romance). It follows that they should reject the negation *n't.* However, English imperatives readily express negation with *n't,* as in (29).

(29) a. Don't go there.

[30] This conflicts with the "adverb vs. functional head" explanation of the difference between *often* and *not,* cf. (23ab) and the discussion in the first paragraph under (24).

[31] It might be that negation is always of the same category in English and that the difference between *not* and *n't* is basically that *n't* is a clitic; cf. Zwicky 1970 and Zwicky and Pullum 1983 for the arguments that *n't* is a bound morpheme. Within the Minimalist Program (cf. Chomsky 1995b), a linguistic element may be both minimal and maximal if it does not project. Chomsky uses this explanation to account for the behaviour of clitics in Romance; their argument status stem from their merging in an A-position (as maximal items), but their ability to incorporate into the verb and climb into an embedding clause requires them to be heads. The theory of Bare Phrase Structure allows them to be both. A similar line of analysis might be pursued for the negation facts in English, although I will not pursue the matter further here.

Thus, Zanuttini argues that English "imperatives" are not imperatives at all, but subjunctives, a somewhat unsatisfactory explanation. The present approach readily takes care of the fact that English imperatives use *n't* for negation: *n't* simply requires a [+Finite] verb, and as argued in the previous section, auxiliary *do* is always [+Finite]. Moreover, the non-derivative finiteness analysis outlined here also explains the otherwise puzzling ungrammaticality of the raising of *have* and *be* in negated imperatives; cf. the data in (30), partly from Lasnik (1999: 113-4).

(30) a. Leave!
b. *Not leave!
c. *Leave not!
d. Do not leave!
e. Don't leave!
f. Be foolish!
g. *Be not foolish!
h. *Ben't foolish!
i. Have a cow, why don't you!
j. *Have not a cow!
k. *Haven't a cow!
l. Do not be foolish!
m. Don't be foolish!
n. Do not have a cow!
o. Don't have a cow!

Since there is no negation in (30a), main verbs are perfectly fine in this imperative. The ungrammaticality of (30b) and (30c) and the grammaticality of (30d) and (30e) is explained on the assumption that sentential negation in English requires a [+Finite] verb. Moreover, what is negated in imperatives is not some part of a subject-predicate proposition, but something related to force; i.e. it is natural to assume that the negation found in imperatives negates some clausal operator in the C-domain (e.g. the Force^0 of Rizzi 1997; in this case encoding imperative force). This requires sentential negation, so only the type of negation valuating [*u*[+Finite] suffices. To explain the ungrammaticality of (30g), (30h), (30j), and (30k), we need to observe the well-known fact that English imperatives do not accept an overtly agreeing verb, even when the subject is overtly realized as a 3PSg DP; cf. e.g. (31) from Jensen (2003: 253).

(31) a. *Does/Doesn't anybody move!
b. Don't anybody move!
c. *Does/Doesn't everybody move at once!
d. Don't everybody move at once!

One may speculate that overt agreement results in a 'closed proposition' reading in English (cf. section 6 for discussion) incompatible with the force and function of the imperative. However, the most fruitful explanation for the ban on agreement in English imperatives is not too critical to our analysis. Wit suffices to observe that agreement is ungrammatical in English imperatives. This implies that all [+Finite] forms of *be* and *have* are also banned from negated imperatives since there is no morphological form of *have* or *be* expressing the required matrix [+Finite, -AGR]. This leads to a conflict in cases like (30g), (30h), (30j), and (30k). Imperatives reject [+AGR] verbs, but negation demands a [+Finite] verb. *Have* and *be* have no forms to meet both these requirements, so the solution is to enrol auxiliary *do* to provide the needed [+Finite]

feature, crucially, in its non-agreeing form [+Finite, -AGR].[32] *Be/have* is merged below negation to meet the lexical selectional requirements of the adjective and the idiom construction, respectively.

4.6. Root *wh*-clauses in English and Mainland Scandinavian

In this section, I demonstrate that the analysis advocated here allows for a simpler explanation of root *wh*-clauses in PDE English and the corresponding structures in MSc; one analysis that has broader empirical coverage. I will take as my point of departure the PDE data in (32), which illustrate the asymmetry with respect to *do*-support in PDE *wh*-root clauses. The most obvious generalization (noted by Koopman 1983, cf. Pesetsky and Torrego 2001, 2004) is that *wh*-subjects do not give rise to *do*-support; in fact, *do* in (32c) is ungrammatical unless focussed or stressed; cf. Pesetsky and Torrego (2001: 357). In contrast, non-subject *wh*-phrases always give rise to *do*-support in these constructions. As always, raising of the main verb is ungrammatical, whether the *wh*-phrase is a subject or a non-subject; cf. (32bdfh).

(32) a. Which one of them always takes the bus?
b. *Which one of them takes always the bus?
c. Which one of them DOES always take the bus?
d. *What buys John?
e. What does John buy?
f. *Who bought you the coat for?
g. Who did she buy the coat for?
h. *Why/where/when bought she the coat?
i. Why/where/when did she buy the coat?

In the Norwegian data in (33), there is no subject vs. non-subject asymmetry: *Do*-support by means of the empty verb *gjøre* 'do' always yields ungrammatical results, unstressed or otherwise. Also, the finite verb obligatorily raises to the V2 position, whether it is a main verb or an auxiliary (except in *wh*-root clauses of some dialects which we will discuss later).

(33) a. *Hvem av dem alltid tar bussen?
b. Hvem av dem tar alltid bussen?
c. *Hvem av dem gjør alltid ta bussen?
d. Hva kjøper Jon?
e. *Hva gjør Jon kjøpe?
f. Hvem kjøpte du jakken til?
g. *Hvem gjorde hun kjøpe jakken til?
h. Hvorfor/hvor/når kjøpte hun jakken?
i. *Hvorfor/hvor/når gjorde hun kjøpe jakken?

Pesetsky and Torrego (2001, 2004) explain the subject vs. non-subject asymmetry in (32) by claiming that nominative case and tense are two sides of the same coin, a hypothesis first suggested by Williams (1994: 11). Nominative case can be seen as an instance of an

[32] Lasnik (1999: 114) also lists as one of several possibilities that *have* and *be* lack imperative forms in the lexicon. However, as shown in (30fi), these auxiliaries do of course perform the imperative function, so Lasnik elaborates on his claim (in note 20, p. 119), illustrating it with data from ellipsis, that *have* and *be* behave just like main verbs in imperatives (*Should I be quiet? Please do/*Please be*). But then, Lasnik says, it is somewhat puzzling why *is* could not realize the imperative. And he answers "I suspect that the answer lies in the domain of what is often termed morphological blocking." In my opinion, the present proposal answers Lasnik's problem in a more elegant and accurate fashion, by pin-pointing exactly the features required by a negated imperative which are incompatible with any form of *have* and *be*.

uninterpretable Tense feature on D (Pesetsky and Torrego 2001: 361; 2004: 495). This entails that in principle, just like a verb or auxiliary with a corresponding feature, a nominative subject can serve as the goal for a C[*u*T], a C head probing for a tense feature. In root *wh*-clauses, C is also probing for a goal with an active *wh*-feature, to satisfy the probe C[*u*WH] via internal merger, i.e. raising of a *wh*-phrase. When C attracts the *wh*-subject, both features [*u*WH and *u*T] are valued, thus both requirements are satisfied at once. However, if the *wh*-phrase is not the subject, it does not have nominative case and cannot value the uninterpretable tense feature [*u*T] on C. This means that with a non-subject *wh*-phrase, the tense feature of C must be satisfied by raising of the auxiliary *do,* as in this case the two features cannot be valued in one and the same operation.

Although an analysis along these lines accounts for the subject vs. non-subject asymmetry, it does not account for the difference between PDE and MSc *wh*-root clauses. Why is *do*-support always ungrammatical in Norwegian and why is verb raising to V2 obligatory, whether the verb is a main verb or an auxiliary? In particular, how come there is no subject vs. non-subject asymmetry? After all, Norwegian subjects ought to be bearers of nominative case just like English ones.

To answer these questions, we need to examine two differences in verbal morphology between MSc and PDE. Firstly, MSc verbs always encode the finiteness distinction, whether they are auxiliaries or main verbs. Secondly, MSc verbs never encode overt agreement; hence, it is plausible that MSc does not employ AGR as a functional feature relevant to feature matching in narrow syntax. Thus, we will assume that (standard) Norwegian grammar makes no use of overt AGR distinctions, i.e. overtly realized Φ-feature matching, in the relevant probe-goal relations.

We add to these observations the assumption that the relevant unvalued probe feature is not a tense feature [*u*T], as in Pesetsky and Torrego's approcach, but an anchoring feature [*u*ANC]. According to Ritter and Wiltschko (2005), The Anchoring Condition (a modified version of the Anchoring Condition of Enç 1987: 642) is a universal property of natural languages anchoring the proposition (or the predicated event) to the utterance situation (or some other salient reference point). Ritter and Wiltshcko argue that there are at least three ways of satisfying this Anchoring Condition: temporally, spatially, or personally. While many well-studied languages satisfy the Anchoring Condition by means of a feature closely related to Tense, a language such as Halkolelem[33] satisfies the Anchoring Condition spatially, via the syntactic category Location. There are also languages, such as Blackfoot,[34] that satisfy this condition personally, i.e. via a specific encoding of the relation between event participants and speech participants. This personal category is obviously closely related to AGR.

Building on these insights, we assume that an anchoring feature C[*u*ANC] can be valued by means of temporally anchoring the utterance, valuing C[*u*ANC] with the finiteness feature [+Finite]. Alternatively, anchoring the utterance can happen via active AGR features [Φ]; as I suggested by adopting the relevant assumptions from Ritter and Wiltschko (2005), the person feature is the most important Φ-feature in this context. This assumption is supported by the fact that almost all languages have person, but not all languages have number and gender (Forchheimer 1953, Gelderen 1997). Also, according to Sigurðsson (2004), Person is the feature interpreting event participants in relation to speech participants, in a fashion reminiscent of Tense versus Finiteness as discussed in section 3. In the present approach, Person is responsible for the logophoric anchoring of events, much like Tense, i.e. finiteness (cf. also Bianchi 2003). In Sigurðsson's words (2004: 223), "it is hardly a mere accident that Tense, Mood and the Φ-features all relate to features of the speech event, that is, the time and location of speech and the speech participants." Thus, we assume that in the Germanic languages relevant to the present

[33] Halkolelem is a Central Coast Salish language spoken around the Vancouver area of British Columbia.
[34] Blackfoot is a Plains Algonquian language spoken in northern Montana and Southern Alberta.

discussion, [*u*ANC] can be valued either by [+Finite] or by [ΦPerson]. Note that this explanation closely mirrors the role of T and Nominative in Pesetsky and Torrego's approach. The relation between Tense and Finiteness ought to be clear from the discussion in sections 2 and 3. The close relation between Nominative case and AGR has been widely accepted at least since Chomsky (1981: 52) and Borer (1986: 378) claimed that a subject DP's agreement with the verb is a manifestation of nominative case.

With these assumptions, we can start explaining the facts in (32) and (33) and ascribe the differences between PDE and MSc to observable, morphologically realized features. The present approach, which relies on non-derivative finiteness, can straightforwardly explain why *do*-support exists in these constructions in English and not in MSc. The relevant probe C[*u*ANC] can be valued by a [+Finite] feature, interpretable only on verbs, or a set of Phi-features [ΦPerson], interpretable only on the subject DP. PDE main verbs do not contain an active [+Finite] feature, and so cannot value C[*u*ANC]. Instead, the [+Finite] auxiliary *do* is enrolled to satisfy the requirement of C[*u*ANC]. In MSc, any verb has a [+Finite] version, whether main verb or auxiliary. Thus, there is no need for *do*-support in these structures in Norwegian. As in Pesetsky and Torrego's approach, C[*u*ANC] could also in principle be valued by the subject, provided the subject has an active AGR feature [ΦPerson]. This explains the subject vs. non-subject asymmetry in PDE. The assumption that Norwegian subjects have no active AGR features [ΦPerson], supported by the fact that they never trigger overt agreement with the verb, explains the lack of such asymmetry in Norwgian. If the Norwegian subject contains no active AGR features [ΦPerson], it cannot value the probe C[*u*ANC] by means of the *wh*-subject alone. Instead, Norwegian can only value this probe by means of the [+Finite] verb. In contrast, English subjects have an active AGR feature [ΦPerson]; PDE grammar thus has the possibility to value C[*u*ANC] by means of the *wh*-subject. However, when the raised *wh*-phrase is a non-subject, C[*u*ANC] cannot be valued by it since the phrase contains no active AGR features [ΦPerson]. In this case, the only remaining possibility is *do*-support, providing [+Finite].

As in the Pesetsky and Torrego approach, there are still questions about the potential intervening effects of the subject when the PDE *wh*-phrase is a non-subject. Assuming that the subject is in the specifier of the auxiliary *do* at the relevant stage in the derivation when C[*u*ANC] must be valued, one might assume that the active feature [ΦPerson] of the subject would always intervene between C[*u*ANC] and *do*.

(34) **C**[*u*ANC][*u*WH] **John**[ΦPerson] **does**[+Finite] buy **what**[+WH]

There are at least a couple of ways to address these issues. Firstly, one may rank the valuation of features such that the *wh*-feature is valued "first" and the C[*u*ANC] is valued as (what used to be known as) a free rider. Secondly, one may adopt Pesetsky and Torrego's solution and assume that the subject and the TP are equidistant from C since neither c-commands the other (the subject is included in TP). Valuing C[*u*ANC] with the head of T will lead to a convergent derivation; hence, this strategy is the optimal one. Thirdly, on the approach advocated here, the "topmost" T or INFL has no special status compared to all the other Ts of the clause: each and every verb is associated with (and perhaps contains) "its own T-domain." It may be that V is checked in T, but in that case, there have to be Ts all over the clause, one for each verb. That means that *do* does not necessarily raise from "the IP domain;" instead, it may carry its own T-projection wherever it goes. Thus, it may be that there is no stage in the derivation of (34) where the subject is in the specifier of *does; does* may be directly merged in C specifically to value C[*u*ANC].

There are data that might be taken to support the last solution: (32c) is not ungrammatical with an auxiliary *do* in PDE *wh*-root clauses even when the *wh*-phrase is a subject, provided the auxiliary is stressed. It has been noted that *do* in these cases is lower in the

structure than the *do* valuating C[*u*ANC] in *wh*-root clauses. We can see this from its position relative to an adverb like *probably*:

(35) a. Which one of them (probably) DOES (*probably) always take the bus?
b. What (*probably) does John (probably) buy?
c. Who (*probably) did she (probably) buy the coat for?
d. Why/where/when (*probably) did she (probably) buy the coat?

When *does* values C[*u*ANC], it is obligatorily higher in the structure than *probably,* as in (35b), (35c), and (35d). In (35a), the subject values C[*u*ANC]; therefore, *does* is not needed and in fact is not allowed to raise past *probably*. Instead, *does* in (35a) is enrolled to encode emphasis. This is related to another function of finiteness, according to Klein (1994, 1998); marking the finite verb with contrastive stress like this may emphasize the act of asserting the positive truth-value of the sentence, i.e. (35a) could be uttered in contrast to the preceding claim *These children report that they always take the bus, but in fact this is not true, except for probably one of them.* The syntactic head encoding this function, although it too requires a [+Finite] verb, is evidently lower in the C-domain that the probe C[*u*ANC]. The difference between (35a) and (35b), (35c) and (35d) seems to suggest that *do* is merged via external merge exactly where it is needed; it is not drawn from an already built phrase marker.[35]

Unlike standard Norwegian, many dialects of Norwegian show non-V2 word order in *wh*-root clauses.[36] Interestingly, these dialects show an asymmetry resembling the subject vs. non-subject asymmetry in the corresponding English contexts. Specifically, with a *wh*-subject the insertion of the particle *som* is obligatory; with a non-subject *wh*-constituent, *som* is ungrammatical (data from Westergaard and Vangsnes 2005: 147).

(36) a. *Kem * (som) så dæ?'*
who SOM saw you
'Who saw you?'
b. *Kem (*som) du like så godt?*
who SOM you like so well
'Who do you like so much?'

Westergaard and Vangsnes (2005: 147) comment that

> We would like to point out the intriguing fact that we find *som-* insertion in Norwegian dialects in exactly the same environments where there is no auxiliary support in English. Conversely, in the contexts where *som* cannot be inserted in the Norwegian dialects, there must be an auxiliary in second position in English.

[35] The question is more complex since certain finite auxiliaries may appear on either side of the adverb, e.g. (i-iv); a modal like *could* occurs to the left of a comparable adverb *possibly* in (i-ii) or to the right of the same adverb (iii-iv).The relative placement of the adverb with respect to the auxiliary is not likely due to scope since the adverb signifies the same type of modality as the modal auxiliary. Neither is this necessarily due to root versus epistemic readings of the modal: at least (iii-iv) can be interpreted as dynamic ('be able to') without forcing a change of position relative to the adverb. However, stress may play a part even here.

i. What could possibly be worse than failure?
ii. What possibly could be going on?
iii. Which plane possibly could fly out of China?
iv. Who could possibly make do without it?

[36] This is thoroughly documented in the literature, e.g. Nordgård (1985), Åfarli (1986), Lie (1992), Fiva (1996), Nilsen (1996), Sollid (2003), Westergaard and Vangsnes (2005) and many others.

It seems unlikely that this is an accident, and Westergaard and Vangsnes suggest that *som* fills the head of AgrS in these dialectal Norwegian constructions. However, to account for the fact that *som* is not licensed with oblique *wh*-constituents, they need to resort to the stipulation that *som* is an anaphor which needs to be bound by a subject (op. cit. 145).

The present framework offers a different solution since we have already assumed that [+Finite] and AGR are in principle both able to valuate C[*u*ANC]. Firstly, for the relevant Norwegian dialects, the interrogative head has different restrictions than the relevant C-head in declaratives, just like in English. This C-head, call it Int^0, unlike the relevant head in declaratives, can be satisfied by means of AGR instead of [+Finite]. Then, assume that the minimal difference between standard Norwegian and these dialects is that in the latter a lexical AGR is available, in the form of the particle *som*. This particle is apparently part of the lexicon even in standard Norwegian, but as argued by Westergaard and Vangsnes, the standard Norwegian *som* has very different properties.[37]

We need another assumption to explain why V2 is not obligatory even in *wh*-root clauses where the *wh*-constituent is an oblique. In the relevant dialects, unlike in standard Norwegian, assume that the subject pronoun has AGR features. Thus, when the subject is a pronoun, it may value C[*u*ANC]. In these dialects, there are three ways to value C[*u*ANC]. Either the raised *wh*-subject values C[*u*ANC], as in (36a), or the subject pronoun values it when the *wh*-phrase is a non-subject, as in (36b). When neither of these strategies is available, e.g. when the *wh*-phrase is a non-subject and the subject is not a pronoun but a more complex DP, we expect that V2 should be obligatory since [+Finite] would have to value C[*u*ANC]. This prediction seems to be borne out, as corroborated by the data in (37), originally from Åfarli (1986).

(37) a. *Kåles gammel hattkaill du tala med i går?*
Which old hat-man you spoke with yesterday
'Which old 'hat-man' were you talking to yesterday?'
b. *Kåles gammel hattkaill tala onkelen din fra Oslo med i går?*
Which old hat-man spoke your uncle from Oslo with yesterday
'Which old 'hat-man' were your uncle from Oslo talking to yesterday?'

Åfarli notes that the subject pronoun triggers non-V2; with a more complex subject, V2 is preferred. This supports our hypothesis. However, the assumption that some Norwegian dialects have a lexical AGR and can value C[*u*ANC] by means of the subject pronoun raises questions about word order in declaratives in these dialects. I will not go deeper into these questions here. My objective in this section was simply to point out that even an analysis of *wh*-root questions in English, Standard and dialectal Norwegian can be simplified substantially if the potential role of the finiteness distinction and its interplay with AGR is observed.

5. The finiteness distinction and verb raising

Regardless of one's approach to the V2 phenomenon, there is consensus that V2 has some sort of relation to finiteness; so far the reasons for and the nature of this relationship are poorly understood. There is a restriction on V2 even in "proper" V2 languages: only finite verbs move to the V2 position; e.g. Weermann (1989: 43). L1 and L2 acquisition studies also point to this close relationship between finiteness and verb raising since acquiring finiteness is accompanied by the acquisition of the V2 rule; we discuss these facts in section 5.1. Second language acquisition studies seem to show that in L2 acquisition finiteness is not intrinsically linked to V2 in the same manner. Section 5.2. addresses the distinction between agreement and finiteness in acquisition, whereas section 5.3. is concerned with the acquisition of finiteness vs. tense. Acquisition studies lend support to the mental ontological status of the four-cell paradigm

[37] According to these authors, *som* in standard Norwegian is an XP, whereas it is a head in the relevant dialects.

encoding the finiteness distinction in (12a) and the collapsed paradigm in (12b). Thus, these studies further corroborate our claim that finiteness is distinct from tense. As discussed in section 2, Creole languages have been described as lacking the finiteness distinction; we take a brief look at some of the ramifications for verb raising in Creole languages in section 5.4.

5.1. Finiteness and verb raising in language acquisition

At least since the early eighties, the literature on first language acquisition has noted that the acquisition of the V2 rule is related to the acquisition of finiteness. Starting with the studies by Clahsen (e.g. Clahsen 1982, 1988; Clahsen and Smolka 1986; Clahsen and Penke 1992), the developmental association of productive finiteness markings and verb raising to the canonical V2 position was shown to hold in German child language. This correlation was soon corroborated by findings from a number of languages: Pierce (1989) and Meisel (1997b) for French; De Haan (1987) and Jordens (1990) for Dutch; Poeppel and Wexler (1993)[38] for German; Håkansson (1988) and subsequent for Swedish; Lange and Larsson (1977) for Danish; and Plunkett and Strömkvist (1990) for Mainland Scandinavian, including Norwegian. We illustrate the phenomenon with the data in (38) from Swedish and Dutch early child language: (38a) and (38b) are from Platzack (1996: 387, 399) and (38c) and (38d) from Bloom (2003: 8).[39]

(38) a. *Embla inte ha täcket*
Embla not have-INF quilt.def.
b. *älg säger inte moo*
elk says-FIN not moo
c. *even buiten kijken*
just outside look-INF
d. *gaat niet*
goes-FIN not

L2 learners seemingly follow a somewhat different route in acquiring the V2 rule and finiteness. This is partly a question of age of onset (cf. Dimroth 2008). Initially adult learners seem to rely more heavily on principles of information structure. Later, they go through a series of intermediate steps in which auxiliaries serve as isolated carriers of finiteness (cf. Parodi 2000) before lexical verbs "become finite," i.e. they show finite tense morphology and are consistently placed before negation in declarative root clauses. Dimroth's (2008) study of two Russian sisters acquiring German shows that whereas the 14-year-old learner followed the 'adult' route to finiteness and V2, i.e. via auxiliaries, the 8-year-old acquired finite morphology faster than her adolescent sister and acquired finite lexical verbs before auxiliary constructions.

Although the 'lexical verb vs. auxiliary' route to acquiring finiteness and V2 are typically displayed by young (L1/L2) learners and adult learners, respectively, the picture is not that simple. Håkansson (1989) reports on a series of imitation experiments with a Swedish child. The target-like pattern in Swedish is that auxiliaries and lexical verbs all encode the finiteness

[38] This is obviously a simplification of the debate. Firstly, there was a discussion between De Haan (1987) and Poeppel and Wexler (1993) regarding the role of morphology and the stage at which children start to move the verb. De Haan argued that the early correct placement of the finite verb does not necessarily imply that children move the verb, and there is no systematic overt marking of finiteness in the early stage. Poeppel and Wexler (1993) argued that children do indeed move the finite verbs from early on; cf. Blom (2003) for an outline of the discussion. Clahsen (1990) found that children often place finite verbs in the sentence-final position (even in root clauses); thus, the distribution of finite and non-finite forms seems partially random. However, Jordens (1990) pointed out that the verbs interpreted as finite by Clahsen are in fact past participles with an omitted prefix, thus non-finite forms. These are only two points of controversy in this debate. There are dozens more.

[39] The Swedish data are originally from The Stockholm Child Language Syntax project carried out between 1970 and 1977 at Stockholm University under the leadership of Ragnhild Söderbergh (see Söderbergh 1973). The Dutch data are quoted in a discussion of the study reported in De Haan (1987).

distinction, and the finite verb raises to V2 past negation in root clauses, but remains to the right of the finite verb in subordinate clauses. At age 2;11 the child placed main verbs correctly, below negation, in subordinate clauses, but placed auxiliaries above negation, showing a contrast between auxiliaries and main verbs: auxiliaries consistently raised and main verbs consistently did not. This happened in the acquisition of Swedish, which has no such contrast in adult speech; thus, there is no source for this distinction in the Primary Linguistic Data.

Some studies suggest that adults use semantic clues in the acquisition of finiteness and V2 in a second language. Bolander (1990) investigated oral production (supported also by elicitation tasks, e.g. acceptability judgments) by adult L2 learners of Swedish. She found that adults have difficulty acquiring the V2 rule in Swedish, and explicit tutoring over a period of four months did not seem to have much impact. Bolander also found that finite verbs did not necessarily invert; the most frequent finite verbs to invert, apart from perfect and modal auxiliaries, are verbs denoting modal meanings: *tycka* 'think', *tro* 'believe', *veta* 'know'. The most frequent verb in Swedish, the copula *vara* 'be', is not on the list of verbs most often partaking in correct inversion.

Hagen (in preparation), in opposition to several other studies on adult acquisition of finiteness and V2, reports a direct link between finiteness and correctly inverted sentences even with adult L2 learners, in this case adult L2 learners of Norwegian. Hagen investigated 26 texts by adult learners from different L1s and found a one-way implication between finite morphology and V2: if the learner has a 100% correct use of finite forms, then s/he also masters inversion (subsuming V2) correctly. Inversely, learners may master the V2 rule without mastering finite morphology.

Most researchers agree that there is some link between finiteness and V2, but there is still disagreement as to whether this link is equally strong for L1 and L2 learners and whether it is a direct or an indirect link (cf. Parodi 2000 and De Haan 1987). The direct link between the acquisition of finiteness and V2 is most often claimed for L1 acquisition.

5.2 Finiteness versus AGR in acquisition

Some studies, e.g. Gawlitzek-Maiwald et al. (1992), and Schaner-Wolles (2001), claim to contradict the generalization that finiteness markings is associated with the V2 rule in children. However, it turns out that the relevant finiteness feature studied in these two studies is AGR, not [+Finite]. Thus, acquisition of the AGR feature is sometimes dissociated from the acquisition of the V2 rule; this fits well with the claim advocated here that AGR is only indirectly linked to finiteness (cf. below for an elaboration of this claim).

De Haan (1987) reports that the data produced by the child Tim acquiring Dutch even from the earliest stages (age 2;01 and 2;02) show adult-like syntactic restrictions: finite verbs are raised and non-finite verbs are sentence-final. Crucially, systematic marking of tense or agreement is lacking; only the (non-derivative) finite/non-finite distinction is visible in the morphology on the verb via the overt morphological marking [-*en*] of the infinitive. Again, this supports the understanding of finiteness advocated here. The important cue for children acquiring finiteness-related syntax is whether or not there is a formal distinction between pronominal (or independent) and anaphoric (or dependent) verb forms, whether there is a difference between absolute and relative tense forms, which equals the finiteness distinction.

Tense and especially agreement markings are only secondary in this respect; in some languages, AGR may act as partially redundant cues for finite versus non-finite domains, but sometimes the AGR markings will cut across the finiteness distinction. As argued earlier, English main verbs display AGR marking although they have no productive finiteness distinction, and AGR markings are often found in non-finite verb forms such as infinitives (e.g. in European Portuguese). The study by De Haan (1987) suggests very strongly that it is the detection of a productive finiteness distinction partially unrelated to AGR features that triggers the verb raising rule in the child. This is corroborated by studies on Swedish children, and other

children acquiring Mainland Scandinavian as their first language, where there are no productive visible AGR features to detect; only the non-derivative finiteness distinction is overtly present in the verbal paradigm. And yet, children acquiring Mainland Scandinavian languages produce root clauses where they place finite forms to the left of negation and non-finite ones to the right, just like children in languages where the AGR marking traces the finiteness distinction, according to the outline in Wexler (1994). To mention one example from Platzack (1996), the Swedish child Embla who produced the data in (38a) and (38b) starts very early to show adult-like behaviour in not raising non-finite verbs and raising finite ones. Even in the absence of any available AGR markings in the input, Embla effortlessly acquires the finiteness distinction; as soon as Embla starts producing finite verbs, she starts raising the verb to V2; cf. Platzack (1996: 399-400).

Paradis and Genesee (1996) found that 2- and 3-year-old French-English bilingual children use finite verb forms earlier in French than in English and use subject pronouns only with finite verbs in French but with finite and non-finite verbs in English. According to Genesee and Nicoladis (2006), this mirrors the pattern of monolingual children acquiring the same languages. On our analysis, this points to finiteness being more easily detectable in French than in English. The child faces a much more complex situation regarding finiteness in English; in French, all verbs and auxiliaries encode the finite distinction (like in MSc; cf Table 12a), whereas in English there are auxiliaries (the modals and auxiliary *do*) that are always finite, auxiliaries with finite and non-finite forms (*have* and *be*), *-ing* forms that are consistently non-finite, main verbs that never show any finiteness distinction (the productive weak verbs) and common strong irregular verbs that show a redundant finiteness distinction (which does not affect their syntactic behaviour). Moreover, the French child (and the bilingual child acquiring French) can rely on the fact that the finiteness distinction is a trustworthy cue to syntactic distribution, thus subject pronouns go with finite forms. In English, the finiteness distinction is distributed differently in lexical verbs and auxiliaries, and even varies from one group of auxiliaries to another. Also, this distribution of the finiteness feature does not follow the AGR marking as it does in French.

This might lead to a stage where the child has detected that English main verbs do not encode the finiteness distinction, but has not yet acquired the correct AGR marking: in English, AGR is sometimes forced even with forms not encoding the finiteness feature. This leads to the occurrence of subject pronouns with seemingly non-finite forms: *he go, she like*. The researchers take the agreement marker *–s* to encode finiteness, whereas the child assumes—correctly—that finiteness and AGR are two different features. According to Harris and Wexler (1996: 9), children randomly use the *–s* morpheme, and "inflectional marking is optionally added or deleted, subject to interference from processing-load demands." Thus, it is possible that AGR is a much more "superficial" phenomenon than [+Finite]; the finiteness distinction has major structural consequences—triggering verb movement to V2, for instance—whereas AGR marking does not necessarily influence the possible distribution of the verb form.[40]

There are also some interesting works on Root Infinitives (RIs) that point to cross-linguistic differences in the acquisition and use of such forms. Root infinitives are non-finite forms used in root main clauses and are frequent in children's early production, cf (38a) and (38c). Adults also use such structures in restricted contexts; cf. Lasser (1997). Hoekstra and

[40] This is certainly an oversimplification. Guasti and Rizzi (2002) show that the deletion of the agreement marker –s is not random; instead, English children around three years old produce negative sentences with uninflected *do,* and such uninflected forms alternate freely for some time in the children's production. However, the same children almost always inflect *do* when it is inverted, i.e. when it is raised in *wh*-root questions. Guasti and Rizzi take this as evidence that a) tense and agreement are distinct syntactic positions, and b) that negative *do* may move only to the I-domain, whereas interrogative *do* is moved to the C-domain. This latter *do* obligatorily moves via AGR, hence an uninflected *do* will be filtered out. These observations, obviously, do not contradict the present theory. They simply point to the fact that certain aspects of AGR morphology, certain aspects of clause structure, and the correct distribution of finite forms are possibly acquired on different stages.

Hyams (1998) compared children's acquisition and use of Root Infinitives (RIs) in Dutch and German with the corresponding data for English children and found that Dutch and German RIs are restricted to modal use (encoding volition, desires, wants), whereas English RIs are not. The authors claim that this is a consequence of the input morphology in the relevant languages; Dutch and German mark infinitives with a designated affix (*-en*), whereas English infinitives are bare stems. On the assumption that the infinitival affix encodes modality, the authors can explain this cross-linguistic acquisitional difference in RIs.

Blom (2003) offers a different explanation. Firstly, there was a methodological bias in Hoekstra and Hyam's study, Blom claims: the studies they quote on English RIs excluded RIs with first and second person singular subjects. The modality children us in RIs is closely related to first and second person singular subjects, so this skews the data since the corresponding RIs from the Dutch and German studies are not excluded. When the corpora are aligned in this way, the modality effect is much less significant. However, Blom concludes from her own investigations and experiments that there is a Heterogeneous Set Effect in English RIs. English RIs, unlike Dutch and German RIs, amount to a set of different forms (Blom 2003: 111).

> More specifically, English RIs are a collection of 'real' untensed [i.e. non-finite] RIs… and forms with randomly dropped inflection.

Blom illustrates her claim with the following observations. When an English-speaking child uses a finite sentence but drops the inflection (*catches*→ *catch*), an RI remains since there is no morphological difference between the stem and the infinitive in English. In Dutch and German, on the other hand, there is a designated infinitival affix. Thus, a finite form with a dropped inflection (*vang-t* → *vang*) does not equal an infinitive (*vangen*). Moreover, English is not a V2 language: a 'finite' lexical verb occurs in the same position as a 'non-finite' one. Thus, dropping the inflection does not lead to a different structural position. Not so for German and Dutch. Here, the non-finite verb occurs sentence finally, after the direct object.

(39) a. *Peter catch(-es) the ball.*
b. *Peter vang-t de bal.*
c. *Peter de bal vangen.*

Since what the researchers classify as an RI in English includes "finite forms with a dropped inflection," one would indeed expect that this set covers a wider range of functions and meanings than Dutch and German RIs, Blom says.

These findings lend support to our assumptions outlined earlier. They support the assumption that finiteness is only indirectly linked to agreement inflections as well as the assumptions about the paradigmatic differences in the morphological and syntactic systems acquired by English children versus children acquiring other Germanic languages. In English, only auxiliaries are relevant for residual V2 since they are the only verbal elements that encode the finiteness distinction. Main verbs are found in finite or non-finite functions partly independently of morphologically encoded AGR; thus, English children acquire the "no-finiteness distinction" option for main verbs partly independently of cues from AGR markings. In Dutch, the finiteness distinction usually goes together with AGR morphology. Even Dutch children, however, acquire the finiteness distinction partly independently of AGR markings. When there is a discrepancy, it is the finiteness distinction, not AGR, that triggers V2-related phenomena (cf. De Haan 1987). Recall also that Swedish children acquire the finiteness distinction without any overt AGR markings in the input. These observations lend support to our claim that finiteness is independent of agreement inflection and that it exists as a non-derivative primitive in Germanic languages.

5. 3 Finiteness versus Tense in acquisition

Håkansson (2001) studied ten unimpaired L1 children, ten L2 children and ten children with Specific Language Impairment, SLI. She found that the link between tense morphology and V2 is not very strong in any group; in fact, "no obvious relation between use of tense marking and verb-second can be seen" (op. cit. 92). Håkansson's analysis is undertaken within Processability Theory (Pieneman 1998), which predicts that tense morphology should be a prerequisite for V2. This prediction is borne out in the L2 and SLI children in Håkansson's study, but the L1 children show the opposite sequence of acquisition— V2 before tense morphology.

From our point of view, there is a serious issue with the study: Håkansson does separate tense from finiteness, but when she talk about finiteness, she is referring to V2 (p. 87):

> …it is possible to distinguish finiteness from tense marking, since finiteness is expressed by verb-second … but tense by a verbal suffix.

Moreover, "past tense" covers not only the preterit, but also the past participle marking:

> Most children used past tense suffixes. However, there were also examples of past participles being used in place of past tense. These suffixes were counted as efforts to produce past morphology.

Relative to our paradigms in (12a) and (12b), repeated here as (40a) and (40b), this means that Håkansson counts tokens that are explicitly non-finite among finite tokens and tries to find a relation between this set of non-finite and finite forms and V2. Given the insights from De Haan (1987) that it is not tense (or AGR) but the finiteness distinction that triggers V2, it would be surprising to find such a relation.

(40)

A	+Finite	-Finite
+Past	**Preterite**	**Participle**
-Past	**Present**	**Infinitive**

⇨

B	
+Past	**Preterite/Participle**
-Past	**Present/Infinitive**

It is interesting that the children in Håkansson's study sometimes substitute the preterits with the past participle. This means that they respect the distinction between past and non-past forms, but that the finiteness distinction is more recalcitrant to acquisition.

Hagen (in preparation) reports the same type of substitution in adult L2 learners: they replace the past finite form with the corresponding non-finite form and fail to distinguish between the infinitive and the present. However, substitution of a target language present with the corresponding preterite or participle form does not occur in Hagen's material (Hagen, p.c.). Again, this suggests that the past versus non-past distinction is respected, but the finiteness distinction is more difficult to acquire. This lends support to the assumption that our diagrams in (40) in fact do correspond to mental representations on the relevant levels; the target language employs the paradigm in (40a), but the learner in part adheres to the paradigm in (40b).

Roeper (1999) quotes a set of data from Ravem (1978) produced by Reidun, 3;9 years old, an L1 speaker of Norwegian acquiring English. Reidun displays an error quite common among L2 speakers – overuse of the auxiliary *do*, as in (41).

(41) a. *I did bit it.*
b. *We did saw that in the shop.*
c. *I did shut that careful.*
d. *My mummy did make lunch for them.*

Ravem reports that *did* is not emphatic in these contexts. In the analysis advocated here, the data in (41) show two things. Firstly, that Reidun uses auxiliary *do* as a generalized finiteness marker, even in contexts where this is not grammatical according to the grammar of the target language. Reidun's hypothesis is evidently that finiteness is obligatory in declaratives in English, as in her native Norwegian. Therefore, she provides all English declaratives with the only type of element that encodes finiteness in English, an auxiliary. Secondly, (41a) and (41b) suggest that Reidun sometimes "encodes finiteness on two verbs in the same clause". This error can be easily explained on the analysis advocated here. Say that Reidun has made the correct analysis that English main verbs do not encode any productive finiteness feature. However, since she has transferred the rule "finiteness obligatory" from her native language Norwegian, the auxiliary becomes obligatory, not matter the redundant finiteness markings on the main verb.

Our analysis also makes an alternative account possible (Hypothesis B). It might be the case that Reidun ascribes a [+Finite] feature to the relevant strong main verbs such as *bit* and *saw*. Since we argued that finite forms are like temporal pronouns and non-finite forms are like temporal anaphors, we might expect errors like (41a) and (41b) to show up together with errors in the acquisition of principle B in the nominal domain. According to White (1998), problems in acquiring principle B, i.e. learning the possible antecedents for pronouns, are typical for child learners. Adults do not make the same errors; adults at intermediate levels of proficiency display native-like production of possible antecedents for pronouns. If Hypothesis B is correct, we might expect adult learners of L2 to display the errors in (41c) and (41d), but not the ones in (41a) and (41b). The data in (41a) and (41b) show that a "pronominal form," i.e. a finite form, is used instead of an "anaphoric form," i.e. a non-finite form. This form would have been correct had it been the only verb in the clause. Since there is another verb (*do)* acting as the finiteness marker, however, this first verb *do* is the only possible antecedent for a second verb within the same clause and the right form should have been an anaphoric form, the non-finite non-past.

The observations in this section show that tense and finiteness as morphological primitives are acquired partly independently of each other. Thus, unlike approaches considering V2 the only visible expression of finiteness (e.g. Håkansson 2001), the present approach offers a fine-grained account for the acquisition of verb morphology and its relation to V2 and verb raising phenomena. Finiteness is partly independent of AGR and tense and is directly expressed in verbal paradigms, cutting across the expression of AGR and tense. Thus, it comes as no surprise that finiteness, AGR, and tense appear independently in natural language and that they may also be acquired independently.

5.4. Finiteness and verb raising in Creoles

Baptista (1999: 22) offers the following, in my opinion quite accurate, observation:

> …while the syntactic effects of the loss of verbal morphology (as with the English language) have been widely studied, the reverse effects of morphological development and its syntactic ramifications have been granted scarce attention.

In an attempt to bridge this gap, Baptista (1999, 2000) investigates the relation between 'tense' morphology and verb raising in Creole langauges. As a rule, Creole languages have minimal or nonexistent verbal inflectional morphology. Given the Rich Morphology Hypothesis in any of its variations, this ought to imply that Creoles do not display verb movement. However, Baptista says, certain Creoles, like Capeverdean Creole and Louisiana Creole, do in fact show verb movement. Baptista suggests that the emergence of the verb movment rule in Capeverdean Creole is due to the emergence of a suffixed 'tense' marker (*-ba*, encoding anteriority).

As mentioned in note 3, section 2, this suffix is not obligatory to express past in Capeverdean Creole; the bare stem of a verb may have a past or present reading, depending on

its aspectual properties. Thus, a base form of a stative verb is interpreted as present; a dynamic verb yields a 'past' reading (Baptista 1997: 65-7)

(42) a. *N ten mestensa di bo.*
I have need of you
'I need you.'

b. *N kume katxupa.*
I eat katxupa
'I ate katxupa.'

To express a present reading of a dynamic verb, the stative TMA free-standing marker *sta* is added pre-verbally; to express a past reading of a stative verb, the suffix *–ba* is added to the verb. Adding the suffix *–ba* to a dynamic verb yields a past-past reading.

(43) a. *N sta kume.*
I TMA eat.
'I am eating.'

b. *N tenba febri.*
I have-BA fever
'I had fever.'

c. *To ki' N txiga, el kumeba tudu kumida.*
time that I arrived, he eat-BA all food
'When I got there, he had eaten all the food.'

According to Baptista, the emergence of this suffixed tense marker *–ba* at some point triggered generalized verb movement of all verbs for L1 speakers acquiring the language. Baptista shows that there is indeed verb movement in Capeverdean Creole; this becomes particularly clear when Capeverdean Creole is compared to closely related Creoles, such as Haitian Creole, which has no suffixed tense marker and no verb raising past "low" adverbs; cf. (44a) vs (44b):

(44) a. *Bouki te ap (*manje)* ***mal*** *manje.* (Haitian Creole)
Bouki TMA TMA eat badly eat
'Bouki was eating badly'

b. *João xina* ***mal*** *(*xina) se lison.* (Capeverdean Creole)
João learned badly learned his lesson
'João learned his lesson badly.'

Our investigations of inflection and verb raising in this paper found that it is not tense but the finiteness distinction that triggers verb raising. However, if we reanalyse the *-ba* suffix as a finiteness marker, the facts fit our assumptions. [41] This is not too farfetched since tense can be

[41] It should be noted that in constructions with modal readings, the marker *–ba* may appear on either the verb *debe* 'must' or on the lexical verb *kume* 'eat' without any obvious difference in meaning; cf. (i) vs. (ii) (Baptista, p.c.)

(i) *El debeba kume fruta fepu*
s/he must-BA eat fruit all
'S/he must have eaten all the fruit.'

(ii) *El debe kumeba fruta fepu*
s/he must eat-BA fruit all

expressed by a zero suffix in Capeverdean Creole; we also find that when *–ba* is added to a dynamic verb, which already encodes 'past', the reading is past-past, similar to the past perfect; the latter explicitly employs one finite and one non-finite 'past' form (cf. 43c).

Data from another Creole, Louisiana Creole, lend support to our hypothesis that the important distinction for verb raising is finiteness. According to Baptista, a zero 'present' suffix triggers movement in Louisiana Creole. She argues that in this language, there is an "infinitival inflection" *–e* that may prevent raising since the short forms raise, but the long forms do not.

(45) a. *Na lõtõ mo pa mõzhe gratõ.* (Louisiana Creole)
In long time I NEG eat cracklin'
'I haven't eaten cracklin' for a long time.'

b. *Mo mõzh pa gratõ.* (Louisiana Creole)
I eat NEG cracklin'
'I don't eat cracklin'.'

These data from Louisiana Creole mirror the data from Dutch child language reported by De Haan (1987) referred to in section 5. 1. In De Haan's data, the overt marking of the infinitive (with the suffix *–en*) suffices to distinguish finite from non-finite forms, thus triggering the setting of the finiteness parameter as 'Productive finiteness distinction'. To quote Solá (1996: 243; n. 43),

> …overt morphology means morphology that can be phonologically detected, not that it must have an overt affix; it may be detected by opposition.

On this definition, the finiteness distinction is overtly encoded in the child language reported by De Haan and in the pattern from Louisiana Creole reported by Baptista (1999, 2000). Although our assumptions about Capeverdean Creole are more speculative, it seems possible to encompass even Baptista's analysis of this language in our finiteness approach to verb raising.

6. Conclusions (and some speculations)

In this paper, my objective has been to show that there is a primitive finiteness distinction that is not a derivative made up by tense or agreement features, but a primitive distinction in its own right expressed in verbal paradigms independently of tense and agreement. This distinction helps explain the different syntactic behaviour of main verbs and auxiliaries in English; the distribution of this feature also suffices to separate one set of English auxiliaries from another. My analysis accounts for the differences between the major clausal structures in English compared to those of other Germanic languages, like Mainland Scandinavian. Moreover, the loss of this distinction was argued to be responsible for many major syntactic changes between Old English and Present Day English—the rise of *do*-support and the loss of non-finite modals.

The same analysis was used to show that the English dialectal use of "past participles as preterits" is in fact what we would expect, given the overall loss of the finiteness distinction in English main verbs. I thus predict that the paradigm of the strong, irregular verbs in English are moribund, and will probably become extinct at a faster rate than in other Germanic languages in which the finiteness distinction is upheld.

An analysis based on a non-derivative finiteness distinction allows us to maintain the Rich Morphology Hypothesis, where verb raising is tied to the richness of the morphology.

Two explanations are readily available. Either the finiteness marker *–ba* is not tied to one specific position in the clause, or these constructions are biclausal. Baptista (2000: 21) embraces the latter analysis for clauses containing two instances of *–ba;* this analysis can easily be extended to the examples in (i) and (ii).

Previous analyses have not been able to isolate the relevant feature; in our analysis, this feature is the non-derivative finiteness distinction.

Even in first and second language acquisition, it can be shown that finiteness is distinct from tense and agreement and is responsible for verb raising. The section on finiteness and verb raising ended with some observations about Creoles: in some Creoles a finiteness distinction is emerging, and correspondingly, verb raising appears.

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