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The Evolution of *Do*-support in English Imperatives*

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12.1 Introduction

This chapter presents an analysis of the syntactic evolution of English imperatives from late Middle English to the Early Modern period, specifically of the increasing frequency of *do*-support in negative imperatives. I show that the development of *do* forms in negative imperatives cannot be explained with a clause structure that has only one INFL projection and one NegP, as assumed in Roberts (1985) and Kroch (1989b). I therefore propose a more articulated clause structure, which I argue is already necessary to explain the syntax of Middle English infinitivals. In particular, I argue that the syntax of negative infinitivals in Middle English can be accounted for if we posit two possible syntactic positions for negation and an intermediate functional projection, which I assume to be an Aspect Phrase (AspP), between the two negation projections. The more articulated clause structure proposed here enables us to distinguish two types of verb movement: movement over the lower negation and movement over the higher negation. I show that the patterns of the development of *do*-support in imperatives as well as the patterns of the development of *do*-support in questions and negative declaratives can be explained if the loss of verb movement occurs in two steps in the history of English: the loss of the higher movement precedes the loss of the lower movement.

For data relating to the development of *do* forms in various linguistic contexts, I use the online version of Ellegård's (1953) collection of clauses maintained by Anthony Kroch. The source for the data relating to Middle English infinitivals is the Penn-Helsinki Parsed Corpus of Middle English (PPCME) (Kroch and Taylor 1994).

12.2 Data and Issues

12.2.1 Development of Imperatives in English: A Short Survey

In Old English (ca.850-ca.1150), imperatives pattern with questions: the verb precedes the subject, even when the subject is pronominal, in both types of sentences. This is shown in (1) and (2).

(1) Beo þu on ofeste.
be you in haste
'Be quick.' (*Beowulf and the Fight at Finnsburg* 386)

* I am extremely indebted to Anthony Kroch for encouraging me to pursue this topic and for many helpful discussions along the way. I also thank Beatrice Santorini, Ann Taylor, Alexander Williams, audience at DIGS 5 and the anonymous reviewers for helpful comments.

(2) Hwi sciole we oþres mannes niman?
why should we another man's take
'Why should we take those of another man?' (*AElfric's Lives of Saints* 24.188)

As in Pintzuk (1991) and Kroch and Taylor (1997), I assume that weak pronouns in Old English occur at the CP/IP boundary, so that the fact that the verb precedes the pronominal subject implies that the verb is located in C^0.

In Middle English (ca.1150-ca.1500), the imperative verb also precedes the subject, as shown in (3).

(3) a. Naske e of cunseil.
not-ask you of counsel (*Ancrene Riwle* 58.569)
b. Helpe þou me.
help you me (*The Earliest Prose Psalter* 150.2290)
c. Goo e ... ynto þe payne of helle
go you ... into the pain of hell (*Mirk* 4.80)

In the case of negative imperatives with the negative adverbial *not*, the subject precedes *not*, and the verb precedes the subject. This is illustrated in (4).

(4) a. Ne hide þou no t fram me þyn comaundement.
Ne hide you not from me your commandment
(*The Earliest Prose Psalter* 146.2169)
b. Depart þou nou t fro me.
depart you not from me (*The Earliest Prose Psalter* 24.594)
c. medyl e not wyth hym
meddle you not with him (*Margery Kempe* I,56.218)

The word order in Middle English imperatives also shows that the imperative verb occupies C^0.

In Early Modern English (ca.1500-ca.1700), imperatives show the same word order as in Middle English. But imperatives with *do*-support are also attested. In imperatives with an overt subject and with *do*-support, auxiliary *do* precedes the subject, as shown in (5). In imperatives with an overt subject but without *do*-support, the verb precedes the subject, as shown in (6).[1]

[1] Early Modern English examples in this paper are taken from the sources in Ellegård (1953). They are identified with Ellegård's numbering system: (source number: page number: line number). The full references of the sources are given in Appendix.

(5) a. Rather, O God! do thou have mercy on us (323 355-8-34)
b. but I will be your good lord, do you not doubt. (361 O:4-2-39)
c. Do you and your fellows attend them in. (361 M:5-1-106)

(6) a. And feare ye nott them which kyll the body (310 mt10-28)
b. Forbid ye hym not (310 lk9-50)
c. doubte thou not all thinges rightly orderd be. (356 90-25)

The fact that auxiliary *do* or the main verb precedes the subject suggests that *do* or the verb occupies C^0.

In Present-day English, negative imperatives require *do*-support. In negative imperatives with an overt subject, auxiliary verb *do* and negation *n't* must precede the subject, as in (7).[2]

(7) a. Don't you worry!
b. Don't anybody move!

An affirmative imperative does not allow *do*-support unless it is an emphatic imperative. In an affirmative imperative with an overt subject, the subject must precede the verb, as in (8).

(8) a. You come here!
b. Nobody move!

In emphatic affirmative imperatives with auxiliary *do* and an overt subject, *do* must precede the subject. This is shown in (9).

(9) a. Do somebody open the window!
b. Do at least some of you show up for the party!

In Present-day English imperatives, the data suggest that while auxiliary *do* is located in C^0, the lexical verb is located lower in the clause.

[2] The imperative subject appears to be able to precede *do*, as in (i). But the imperatives in (i) are degraded unless there is an intonational break between *you* and the rest of the sentence. This strongly suggests that the apparent subject in sentences such as in (i) are not sentential subjects, but vocatives, which are considered to be outside the clause structure and do not have a structural relation with any element in the clause.

(i) a. You don't drink the water.
b. You do not leave the room.

12.2.2 *Do*-support

In Present-day English, auxiliary *do* is required in *yes-no* questions, non-subject *wh*-questions, negative declaratives (i.e., those containing *not*) and of course, negative imperatives.

(10) a. Did you finish?
b. What did you finish?
c. I did not finish.
d. Don't finish!

Ellegård provides a quantitative study of the development of *do* forms in various constructions using a collection of sentences extracted from texts ranging in time from Late Middle English to the 18th century. Figure 1 is from Ellegård (1953:162). It plots the relative frequency of *do* forms in affirmative and negative declaratives, affirmative and negative questions, and negative imperatives, based on a sample of more than 10,000 tokens. After the middle of the 16th century, the frequency of *do* in affirmative declaratives declines steadily until, by 1700, the use of *do* in this environment is prohibited. The frequency of *do* in negative declaratives and both affirmative and negative questions rises continuously and sometime after the 18th century, *do* is obligatory in these environments.

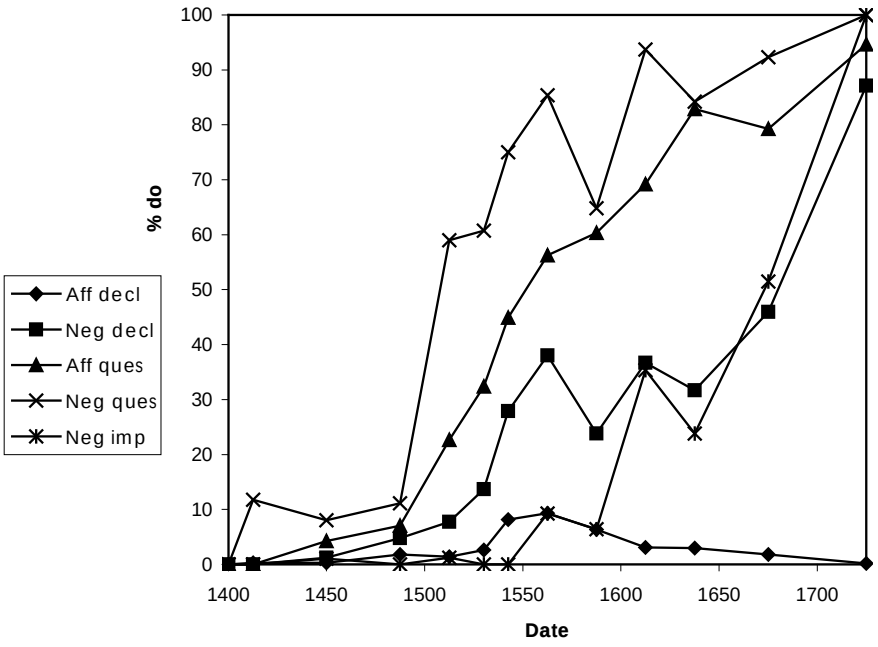


Figure 1: Percent of *do* forms in various sentence types (from Ellegård 1953:162)

According to a common analysis of Middle English clause structure, questions have V-I-C movement and declaratives have V-I movement. Supporting evidence for this analysis comes from word order facts: in questions the verb precedes the subject, as in (11), and in declaratives the verb precedes *not*, as in (12), and adverbs, as in (13)

(11) Questions

a. **Bileuest thou** this thing? (*The New Testament,Wycliffe* XI,20.1033)
b. And lo, what **seith Seneca** in this matere?
(*Chaucer's Tale of Melibee* 290.C2.237)

(12) verb + *not*

a. I **herde nott** from you syns. (*Paston Letters* 450.602)
b. but he **spack not** one worde (*Caxton's History of Reynard the Fox* 52.278)

(13) verb + adverb

a. and [he] **suffryd euer** grete penaunce for Goddis sake in weryng of the
and [he] suffered always great penance for God's sake in wearing of the
heyre.
hair (*Life of St. Edmund* 165.61)
b. Here men **vndurstonden ofte** by þis ny t þe ny t of synne.
here men understood often by this night the night of sin
(*Wycliffite Sermons* I,477.605)

According to Roberts (1985) and Kroch (1989b), English lost V-I movement for lexical verbs in the middle of the 16th century. When V-I movement was lost, only *be*, auxiliary *have* and modal verbs, such as *can, may, must*, etc. could appear in I^0. Based on the behavior of indicative sentences, Roberts (1985) argues that the rise of *do* forms is a reflex of the loss of V-I movement. As V-I movement was lost, INFL lowering replaced it (or verb movement to I^0 at LF, as in Chomsky 1991, 1993) and so the verb remains in situ. In questions, the requirement that the material in I^0 overtly move to C^0 persists; thus, auxiliary *do* is inserted in I^0 as a last resort device and then moves to C^0. Examples of questions with *do*-support are given in (14).

(14) Questions

a. and wherfore doth the earth sustaine me? (304 25-24)
b. Dyd ye wryte this with your owne hande? (308 96-25)
c. doeste thou enuy to him the monarchye of the thing mortal? (326 109-30)

In negative declaratives, negation blocks INFL lowering (or verb movement to I^0 at LF), stranding the material in I^0. Again, auxiliary *do* is inserted in I^0 to support the stranded

material as a last resort device. Examples of negative declaratives with *do*-support are given in (15).

(15) Negative declaratives

a. They dyde not set theyr mynde on golde or rychesse. (305 35-23)
b. Christ dyd not praye for Iames and Iohan & for the other. (305 319-11)
c. but the shepe did not heare them. (310 jn10-8)

Kroch (1989b) provides empirical support for the proposal that the rise of *do* forms is a reflex of the loss of V-I movement by showing that the rate of the rise of *do* forms in various contexts, such as questions, negative declaratives and affirmative declaratives, is the same up to the middle of the 16th century (why this is evidence is discussed in section 12.5.2).

Comparing the development of *do* forms in negative declaratives and negative imperatives raises an interesting puzzle. The development of *do* forms in the two contexts does not show the same pattern. As can be seen in Figure 1, up to the end of the 16th century the relative frequency of *do* in negative imperatives was as low as that in affirmative declaratives. Then after 1600, there was a big change in the development of negative imperatives. The relative frequency of *do* in negative imperatives jumped to the much higher rate found in negative declaratives, and subsequently the two negative environments evolved identically. If *do*-support is triggered when negation intervenes between V^0 and I^0, it is mysterious why the development of *do* forms in negative imperatives pattern with negative declaratives only after 1600.

Comparing the development of *do* forms in questions and imperatives raises another puzzle. In Middle English, subject-verb inversion is attested in both questions and imperatives, indicating verb movement to C^0 for both types of sentences, as was shown in (3) and (11). If *do* support is triggered in questions as a reflex of the loss of V-I movement, as proposed in Roberts (1985) and Kroch (1989b), then we expect to see imperatives pattern with questions with respect to the development of the corresponding *do* forms. However, as can be seen in Figure 1, the rate of use of *do* forms in negative imperatives is much lower than the rate of use of *do* forms in questions at all periods prior to the completion of the change. It is only after 1700 that the rate of use of *do* forms in negative imperatives catches up with the rate in questions. As for affirmative imperatives with *do* forms, the relative frequency is extremely low. The relative frequency of *do* in affirmative imperatives never exceeds 1% according to Ellegård (1953), who therefore does not plot them in Figure 1. Here are some examples of negative imperatives and affirmative imperatives with *do*-support:

(16) Negative imperatives

a. Sir, do not marvel if I do bless your coming hither (344 21-17)
b. Alas syr kinge Pepyn doo not moue your selfe in Ire (304 46-13)
c. doe not wrong the gentleman, and thy selfe too. (360 I:435)

(17) Affirmative Imperatives

a. Rather, O God! do thou have mercy on us (323 355-8-34)
b. Do you let it alone. (350 7-24)
c. Do you and your fellows attend them in. (361 M:5-1-106)

In Present-day English, although *do*-support is required in negative imperatives, it is not allowed in (non-emphatic) affirmative imperatives. If both questions and imperatives had verb movement to C^0, then it is mysterious why there should be this asymmetry in the rate of development of *do* forms in questions and negative imperatives. Moreover, if both questions and imperatives had verb movement to C^0, it is even more mysterious why *do* in affirmative imperatives is not categorical, whereas it is in questions.

12.2.3 Issues

I summarize below the issues raised by the data considered so far:

- Why does the development of *do* forms in negative imperatives statistically pattern with negative declaratives only after 1600?

- Why don't affirmative imperatives pattern with questions in the development of *do* forms? That is, why don't affirmative imperatives require *do*-support in Present-day English?

- Why does the development of *do* forms in negative imperatives statistically pattern with negative declaratives and not with negative questions after 1600?

12.3 Infinitivals in Middle English

Before addressing the issues raised in section 12.2, I discuss a new set of data from Middle English negative infinitivals. We will see that the word order attested in negative infinitivals in Middle English provides evidence for the inventory of functional projections and their relative positioning in English clause structure. We will then see that the questions raised in section 12.2 can be given an elegant account if the clause structure proposed here is adopted.

12.3.1 Infinitive Verb and Negation

For negative infinitivals, Middle English allowed both '*not-to*-verb' order (as in (18)) and '*to*-verb-*not*' order (as in (19)), as attested in the PPCME.

(18) *not-to*-verb

a. .. ƥat sche wuld vwche-save **nowth to labowre** a ens w jn ƥis matere
that she would promise not to labour against you in this matter
tyl e kom hom
until you come home (*Paston Letters* 221.310)

b. ... that they that ben sike of hir body ben worthy to ben hated but rather
that they that are sick of their body are worthy to be hated but rather
worthy of pite wel more worthy **nat to ben** hated
worthy of pity even more worthy not to be hated (*Chaucer's Boethius* 449.C2.379)

(19) *to*-verb-*not*

a. **to sorow noght** for hys syn as he sulde do
to sorrow not for his sin as he should do (*Rolle's Form of Living* 99.260)

b. And herfore monye men vson wel **to come not** in bedde wiƥ
and therefore many men are-accostomed well to come not in bed with
schetis, but be hulude aboue ƥe bed
sheets but be covered above the bed (*Wycliffite Sermons* I,479.641)

Table 1 provides the number of infinitivals with '*to*-verb-*not*' and '*not-to*-verb' order ranging from early to late Middle English. I did not find any tokens from the corpus in the first two periods. But importantly the counts show that in the third and fourth periods, 50% of negative infinitivals have '*to*-verb-*not*' order.

	not-to-verb	*to*-verb-*not*
1150-1250	0	0
1250-1350	0	0
1350-1420	10	4
1420-1500	4	10

Table 1: '*not-to*-verb' and '*to*-verb-*not*' order in negative infinitivals

For the counts in Table 1, I excluded purpose infinitival clauses in the form of '*not-to*-verb'. This is because the *not* in '*not-to*-verb' may be negating the entire purpose clause and so may not be a sentential negation of the infinitival clause.

According to Frisch (1997), *not* in Middle English is either a VP-adjoined adverbial, or a sentential negation. Let us assume that the infinitive marker *to* originates and stays in a fixed position, namely I^0, and that *not* originates and stays in a fixed position lower than I^0 as a head of NegP, as in (20).

(20) $[_{IP}\ [_{I}$ to] $[_{NegP}$ not $[_{VP}$ ...verb...]]]

(21) $[_{NegP}$ not $[_{IP}\ [_{I}$ to] $[_{VP}$ ...verb...]]]

Given the phrase structure in (20), the word order '*to*-verb-*not*' can be derived only if the verb moves across *not* and right-adjoins to I^0. But this is an unattractive solution in that we are forced to admit right-adjunction in syntax. Moreover, the phrase structure in (20) cannot derive the word order '*not-to*-verb'. Alternatively, if *to* is in I^0, and *not* originates and stays in a fixed position higher than I^0, as in (21), then the word order '*not-to*-verb' can be derived. But there is no way to derive the word order '*to*-verb-*not*' with this phrase structure.

12.3.2 Two Possible Positions for Negation

If there are two possible structural positions for negation in the clause structure of English (see Zanuttini 1991, 1997), then both the '*to*-verb-*not*' and the '*not-to*-verb' order in Middle English can be accommodated. Motivations for positing two structural positions for negation exist in Present-day English as well. In this section, I discuss what they are and determine where the two negations are located in the phrase structure of a sentence.

In *to*-infinitivals, *not* can either precede or follow *to*, as shown in (22). If *to* is structurally fixed, then the variable word order calls for two possible locations for negation.

(22) a. I promise not to be late.
b. I promise to not be late.

Furthermore, in declaratives with a modal verb, negation *not* can occur either before or after an adverb, or in both positions, as shown in (23).

(23) a. John would not often eat meat dishes.
b. John would often not eat meat dishes.
c. John wouldn't often not eat meat dishes.

Following Cinque (1999), let us assume that adverbs occur in fixed positions. Since *often* occupies the same position in the sentences in (23), the fact that negation *not* can be located above or below the adverb suggests again that there are two possible locations for negation.

The higher negation requires *do*-support for lexical verbs (as in (24)), and it licenses negative polarity items (NPIs) (as in (25)).

(24) a. *John not often eats meat dishes.
b. John does not often eat meat dishes.

(25) John would not often eat any meat dishes.

The lower negation also requires *do*-support for lexical verbs (as in (26)), and it also licenses NPIs (as in (27)).[3]

(26) a. *John often not eats his vegetables.
b. John does often not eat his vegetables.

(27) John would often not eat any vegetables.

In addition, both the higher negation and the lower negation have similar scope properties. For instance, both the sentences in (28) are ambiguous in that the negation can take either wide scope or narrow scope with respect to the universal quantifier of the subject NP. The ambiguous readings are paraphrased in (29).

(28) a. All of the players will not certainly drop the ball.
b. All of the players will certainly not drop the ball.

(29) a. for all x, x is a player, x will not drop the ball. ($\forall$ > not)
b. It is not the case that for all x, x is a player, x will drop the ball. (not > $\forall$)

Given that the syntactic behavior of the lower negation is similar to that of higher negation, I conclude that the lower negation heads its own NegP projection, just like the higher negation.

There are however some differences between the syntax of the lower negation and the higher negation. For instance, the higher negation determines the polarity of the tag question but the lower negation does not, as shown in (30).

(30) a. John wouldn't often eat any vegetables, would he?
b. John would often not eat any vegetables, wouldn't he?

One may argue that the reason for this contrast is that the higher negation is a sentential negation and the lower negation is a constituent negation. The account proposed in this paper does not hinge on this matter. The crucial point here is that both the high and low negations are syntactic heads that each project NegP and require *do*-support for lexical verbs. And the contrast attested in (30) can simply be attributed to the structural difference between the two negations: that is, one negation is higher in the structure than the other.

Then where are the higher negation and the lower negation located in the phrase structure of a sentence? The variable word order of negative infinitivals in Middle English suggests an answer. The word order '*not*-*to*-verb' indicates that the higher negation is located immediately above *to*, and the word order '*to*-verb-*not*' suggests that

[3] Unlike in negative sentences in which *do* is adjacent to *not*, in negative sentences in which *do* is separated from *not* by an adverb, *do* is emphatic, as in (26b). I do not have an explanation for this fact.

the lower negation is located somewhere below *to*. Let us assume that TP is the highest functional projection for tensed clauses and that in infinitivals TP does not project at all (following Baltin 1993). Such a phrase structure for infinitivals reflects the fact that the infinitive does not have tense morphology.[4] Let us further assume that *to* is in a functional head that hosts mood features, namely M^0. Then, the higher negation is immediately above MP, deriving the word order '*not-to*-verb'.

Supporting evidence for the assumption that infinitivals do not project TP and that infinitive *to* cannot occupy T^0 is provided by Baltin (1993), who points out that negation can never precede finite auxiliaries, as shown in (31).

(31) a. *John not will leave.
b. John will not leave.

If finite auxiliaries occupy T^0, the highest functional head for tensed clauses, and negation occurs lower than T^0, as I have assumed, then finite auxiliaries cannot follow negation as shown in (31a). Further, if *to* also occurred in T^0, then *to* should not be able to follow negation. But the fact is that *to* can either precede or follow negation. Thus, *to* cannot be in T^0, and it therefore occupies a functional head lower than T^0.[5] Infinitive *to* contributes the modality of irrealis (Cf., Stowell 1982 and Portner 1992). Therefore the appropriate functional head for infintive *to* is M^0. The clause structure in which the tense projection is higher than the (irrealis) mood projection is consistent with Cinque's (1999) proposal for the universal hierarchy of functional projections.

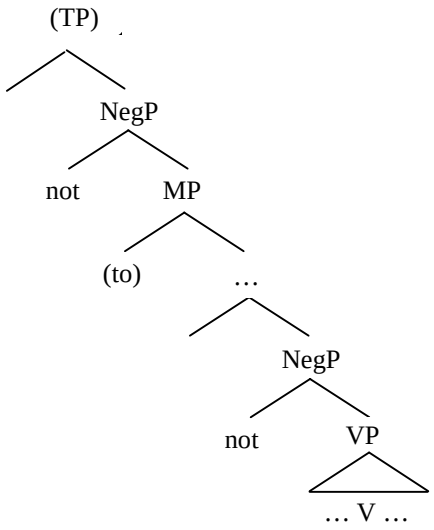
As for the lower negation, I propose that it occupies a position intermediate between MP and VP. The skeletal phrase structure assumed here for English is given in (32).[6]

[4] For a different approach in which infinitivals are tensed, see Chomsky (1981), Stowell (1982), Pollock (1989), Zanuttini (1991).

[5] The clause structure assumed here for English is similar to Baltin (1993). The main difference is that in Baltin (1993), AgrOP projects immediately below TP and *to* is placed in $AgrO^0$, whereas I do not assume the existence of AgrP. Instead, I assume that MP projects below TP and *to* is placed in M^0.

[6] Zanuttini (1991) also argues that English has two positions for negation. The analysis proposed here differs from Zanuttini (1991) in that she assumes that the presence of the higher negation is parasitic on the presence of a tense phrase, whereas I make no such assumption. As a consequence, unlike the analysis proposed here, Zanuttini is forced to assume that infinitivals project TP.

(32)



12.3.3 Infinitive Verb Movement

I propose that the '*to*-verb-*not*' order in Middle English is derived by the movement of the verb over the lower negation to an intermediate position between M^0 and the lower Neg^0, which I assume to be a head of aspect (Asp^0) that encodes (im)perfectivity. If infinitives move over the lower NegP, then we expect to find cases in which the infinitive verb precedes *not* and *not* in turn precedes a participle or a direct object. Such cases can be found in the PPCME, as illustrated in (33) and (34).

(33) *to*-verb-*not*-participle

a. and said mayster parson, I praye you **to be not displeasyd** ...
   and said master parson I pray you to be not displeased ...
   (*Caxton's Prologues and Epilogues* 88.176)
b. Ha! What it es mykell to be worþi lovyng and **be noght loved**!
   ha what it is much to be worth loving and be not loved
   (*Rolle's Form of Living* 88.52)

(34) *to*-verb-*not*-direct object

a. **to conforme noght his will** to Gods will, **to gyf noght entent** till hes prayers
   to conform not his will to God's will, to give not heed to his prayers
   (*Rolle's Form of Living* 99.263)
b. ... and **to spille not oure tyme**, be it short be it long at Goddis ordynaunce.
   ... and to waste not our time, be it short be it long at God's ordinance
   (*Purvey's Prologue to the Bible* I,56.73)

A widely accepted diagnostic for verb movement is adverb placement with respect to the verb. In Middle English finite clauses, adverbs such as *often* and *ever* usually follow the tensed verb, as in (13) (repeated below as (35)). If these adverbs are VP-adjoined, then the fact that the tensed verbs precede the adverbs suggests that the verb moves over the adverb.

(35) a. and [he] **suffryd euer** grete penaunce for Goddis sake in weryng
and [he] suffered always great penance for God's sake in wearing
of the heyre
of the hair (*Life of St. Edmund* 165.61)
b. Here men **vndurstonden ofte** by þis ny t þe ny t of synne.
here men understood often by this night the night of sin
(*Wycliffite Sermons* I,477.605)

In Middle English infinitival clauses, adverbs can also follow the infinitive, as shown in (36). This suggests that in Middle English infinitive verbs can also undergo movement.

(36) a. Monye men han a maner **to ete ofte** for to drynke
many men have a manner to eat often in-order to drink
(*Wycliffite Sermons* I,478.631)
b. þe oþur was þat God wold eue hur þat grace, to hur þat was þe modur of
the other was that God would give her that grace, to her that was the mother of
God to do euer plesaund seruyse to God.
God **to do always** pleasing service to God
(*Sermons from the MS Royal* 256.260)

There is some evidence from adverb placement that the head which hosts verbal aspect is located low in the clause structure. Cinque (1999) argues that different classes of adverbs each occur in a fixed position in the specifier of a different functional projections and that these functional projections are hierarchically structured. Based on this premise, he derives a universal hierarchy of functional projections. In particular, he observes that in English (just as in other languages), aspectual adverbs such as *completely* must follow other classes of adverbs, as shown in (37) and (38).

(37) a. He rarely completely eats his vegetables.
b. *He completely rarely eats his vegetables.

(38) a. He hasn't yet completely ruined it.
b.*He hasn't completely yet ruined it.

Based on this fact he concludes that the aspect projection in English is located quite low in the clause structure, lower than tense projection and mood projection.

In summary, I have shown that Middle English phrase structure for clauses allows two possible positions for negation based on the data from negative infinitivals. I have also argued that in Middle English, infinitive verbs move over the lower negation to

an intermediate position between M^0 and the lower Neg^0. Moreover, I have argued that infinitivals do not project TP and that *to* is in M^0, which is located lower than the higher Neg^0. The phrase structure for infinitivals that I adopt is given in (39). If the proposed analysis is correct, then Middle English infinitivals are like their Present-day French counterparts in that the infinitive verb can move to an intermediate functional head (see Pollock 1989 for an account of French infinitivals). The difference is that infinitive verb movement is optional in French but it is feature driven obligatory movement in Middle English. The phrase structure for tensed clauses in Middle English is similar to that for infinitivals, except that in tensed clauses, TP projects as the highest functional projection and the verb moves all the way up to T^0, as shown in (40).

(39) $[_{NegP}\ [_{Neg}\ \text{not}\ ]\ [_{MP}\ [_{M}\ \text{to}\ ]\ [_{AspP}\ [_{Asp}\ V_i\ ]\ [_{NegP}\ [_{Neg}\ \text{not}\ ]\ [_{VP}\ \ldots\ t_i\ \ldots\ ]]]]]$

(40) $[_{TP}\ [_{T}\ V_i\ ]\ [_{NegP}\ [_{Neg}\ \text{not}\ ]\ [_{MP}\ [_{M}\ t_i\ ]\ [_{AspP}\ [_{Asp}\ t_i\ ]\ [_{NegP}\ [_{Neg}\ \text{not}\ ]\ [_{VP}\ \ldots\ t_i\ \ldots\ ]]]]]]$

12.4 The Development of *Do*-support in Imperatives

12.4.1 *Do*-support in Present-day English

At this point, I need to clarify the mechanism I am assuming for *do*-support in Present-day English given the clause structure in (40). The facts are: (i) *do*-support is required in questions (except for subject *wh*-questions), and negative declaratives for lexical verbs, but prohibited for *be* and auxiliary verbs, and (ii) *do*-support is prohibited for affirmative declaratives. The explanations for these facts in the literature are largely based on the widely accepted assumptions that auxiliary verbs and *be* undergo overt movement to INFL (which is equivalent to T^0 in the clause structure in (40)), that lexical verbs undergo movement at LF in Present-day English and that negation is a head that blocks this LF verb movement (Cf., Chomsky 1989, Roberts 1993).

In questions, tense features in T^0 must move to C^0 in the overt syntax. *Be* or auxiliary verbs in questions overtly move to T^0 and then they further move to C^0, carrying along tense features, thereby satisfying the requirement that tense features overtly move to C^0. On the other hand, lexical verbs are stuck in situ in the overt syntax, and so they cannot carry the tense features to C^0 in the overt syntax. As a last resort, *do* is inserted in Asp^0 and moves through M^0 and T^0 to C^0 carrying along tense.

In negative declaratives, negation blocks LF verb movement, and so for lexical verbs *do* is inserted in Asp^0 as a last resort and it moves through M^0 to T^0 checking verbal features. But negation does not block overt verb movement, and so *be* and auxiliary verbs do not require *do*-support (hence prohibiting it for reasons of economy). Affirmative declaratives do not require *do*-support for lexical verbs (as well as *be* and auxiliary verbs) since there is nothing that blocks LF verb movement. The question that arises is why negation blocks LF verb movement but not overt verb movement. Here, I just refer the readers to Chomsky (1989) and Roberts (1993) for two possible accounts. For the purposes of this chapter it does not matter which particular account is adopted.

12.4.2 Verb Movement in Imperatives

Imperative verbs lack tense in their morphological makeup, just as infinitive verbs do. I take this to mean that TP does not project at all in imperatives, as represented in (41).[7]

(41) $[_{CP}\ [_{C}\ ]\ [_{MP}\ [_{M}\ ]\ [_{AspP}\ [_{Asp}\ ]\ [_{VP}\ \ldots\ [_{V}\ ]\ \ldots\ ]]]]$

Supporting evidence for this comes from the fact that modal verbs such as *must, can, might, should*, etc. cannot occur in imperatives. If modal verbs are merged in T^0 and if imperatives do not project tense phrase, then we expect modal verbs to be barred from imperatives.

In Old English and Middle English, the word order in imperatives suggests that the imperative verb is in C^0. If we adopt the phrase structure in (41) for imperatives, then the imperative verb moves to Asp^0, M^0 and then to C^0. Under this analysis, imperatives are similar to infinitivals in that the verb moves to Asp^0, but they differ in that the verb moves further to C^0.[8]

12.4.3 *Do*-support in Imperatives

12.4.3.1 Negative Imperatives

As noted earlier, the standard view in the literature is that the development of *do*-support is a reflex of the loss of V-I movement for lexical verbs in the history of English. Under the more articulated clause structure proposed here, we are able to divide up V-I movement into M-T movement, Asp-M movement and V-Asp movement.

Recall that *do* forms in negative imperatives are almost non-existent before the end of the 16th century, but gain ground rapidly after 1600. I propose that this is a reflex of the loss of V-Asp movement, which begins at the end of the 16th century. As V-Asp movement disappears, overt verb movement to C^0 is replaced with LF verb movement to C^0. But when Asp^0 and V^0 are separated by negation *do*-support is required as a last resort device since LF verb movement is blocked by the intervening negation.[9] *Do* is

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[7] Zanuttini (1991) argues for Romance that imperatives do not project a tense phrase.

[8] A reviewer noted that the presence of AspP is strange in imperatives, since some have denied that perfect imperatives exist. However, perfect imperatives are indeed possible, as shown in Davies (1986).

(i) a. Do at least have tried it before you begin to criticize. (Davies 1986, Ch.1, 88)
b. Don't have eaten everything before the guests arrive. (Davies 1986, Ch.1, 89)

Moreover, progressive imperatives and perfective imperatives are possible as well, as in (ii).

(ii) a. Be waiting for me in front of the gate.
b. Eat up the cake!

Given these facts, positing an AspP for imperatives is not without some motivation.

[9] An alternative approach to why *do*-support is required in negative sentences is given in Bobaljik (1995). According to Bobaljik, *do*-support is triggered by a PF adjacency requirement between the

inserted in Asp^0, and then it moves to C^0, deriving *do*-(subject)-*not*-verb order, as represented in (42). Some examples of negative imperatives with *do*-support are given in (43).

(42) $[_{CP} [_{C} do_i] [_{MP} [_{M} t_i] [_{AspP} [_{Asp} t_i] [_{NegP} [_{Neg} not] [_{VP} ...verb...]]]]]$

(43) a. Do not send me any letters (363 W:212a-33)
b. but I will be your good lord, do you not doubt. (361 O:4-2-39)
c. Do not bite your thumbs, sir. (364 N:281a-7)

The loss of V-Asp movement requires *do*-support in negative imperatives with higher negation as well: as V-Asp movement is lost, further verb movement to M^0 and to C^0 is prohibited, and overt verb movement to C^0 is replaced by LF verb movement to C^0. When negation intervenes between M^0 and C^0, LF verb movement to C^0 is blocked, and so *do*-support is required. In the spirit of Baltin (1993), the high negation has a clitic-like nature in that it must adjoin onto an adjacent verbal element. Thus, in negative imperatives with *do*-support and high negation, auxiliary *do* and the negation move to C as a unit, deriving the '*do-not*-(subject)-verb' order as illustrated in (44).

(44) a. Good brother, do not you envy my fortunate achievement. (361 W:3-1-86)
b. Don't read this, you little rogue, with your little eyes; (379 61-20)
c. But don't lose your money. (379 13-16)

12.4.3.2 Affirmative Imperatives

Following Roberts (1985) and Kroch (1989b), I assume that as English lost verb movement for lexical verbs, questions, which require overt verb movement to C^0, resorted to *do*-support. Under the articulated clause structure assumed here, *do* is inserted in Asp^0 and then moves through M^0 and T^0 to C^0. This is represented in (45).

(45) $[_{CP} [_{C} do_i] [_{TP}$ subject $[_{T} t_i] [_{MP} [_{M} t_i] [_{AspP} [_{Asp} t_i] [_{VP} ...verb...]]]]]$

Since imperatives also show overt verb movement to C^0, we expect the development of *do* forms in affirmative imperatives to pattern with questions. However, the relative frequency of *do* forms of affirmative imperatives has never exceeded 1%. In Present-day English, *do* forms are restricted to emphatic affirmative imperatives, as illustrated in (46).

(46) a. Do come early.
b. Do enjoy the movie.

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morphology in INFL and the verb. Given this approach, I can say that *do*-support is required in negative imperatives because negation blocks PF adjacency between the morphology in the functional heads and the verb.

The proposed phrase structure for imperatives differs from that of questions: imperatives do not project TP, whereas questions do. I argue that this is exactly why the development of *do* forms in affirmative imperatives does not pattern with that of questions. In questions, as overt verb movement is lost, the tense feature in T^0 is stranded. But even after the loss of overt verb movement, the requirement that features in T^0 overtly move to C^0 persists. As a last resort device for movement to C^0, the stranded tense feature is supported by *do*, which then overtly moves to C^0. But imperatives contain no functional head with tense features. This means that once overt verb movement to C^0 is replaced by LF movement, the requirement that features in T^0 move to C^0 cannot apply to imperatives, and so imperatives do not develop *do* forms.

12.5 Sequential Loss of Verb Movement

If we assume the articulated clause structure proposed here, we can imagine two different ways in which the loss of verb movement can proceed: (i) the loss of V-Asp movement, and M-T movement begin simultaneously; (ii) the loss of M-T movement historically precedes the loss of V-Asp movement. In the rest of section 12.5, I will show that the possibility (ii) makes the correct predicts for the overall statistical patterns shown in Figure1: the loss of M-T movement begins at the beginning of the 15th century, and the loss of V-Asp movement begins at the end of the 16th century. At this point, I know of no evidence that indicates when exactly the loss of Asp-M movement begins. For the purposes of this paper, I will simply assume that Asp-M movement is string vacuous and is lost in conjunction with the loss of V-Asp movement. The validity of the argument presented here does not hinge on when the loss of Asp-M movement takes place.

In a series of works on syntactic change, Kroch develops a model of change that accounts for the gradual replacement of one form by another form (Kroch 1989a, 1989b, 1994; see also Pintzuk 1991, Santorini 1992, Taylor 1994). According to Kroch, the gradual change in the relative frequencies of two forms is a reflex of the competition between two grammars, rather than a series of grammatical reanalyses. In particular, Kroch argues that the statistical pattern in the development of *do* forms reflects the competition between the old grammar that has V-I movement for lexical verbs and the new one that has lost it. In time, the grammar without V-I movement wins, at the expense of the grammar that has V-I movement.

Extending Kroch's grammar competition model to the proposed analysis here, I make a conjecture as to how the loss of M-T and V-Asp movements proceeds. I hypothesize that at the beginning of the 15th century, the competition between the grammar with M-T movement and the one without such M-T movement begins. Before the grammar with M-T movement completely loses out, the competition between the grammar with V-Asp movement and the one without such V-Asp movement begins at the end of the 16th century. The grammar without V-Asp movement is constrained not to have M-T movement (as well as Asp-M movement), since the loss of lower verb movement prevents the verb from moving higher up. Thus, at this point, competition between three grammars is taking place: one grammar with both M-T and also V-Asp movement, a second grammar with V-Asp movement but no M-T movement, and a third

grammar with neither V-Asp nor M-T movement. In what follows, I will discuss some evidence for the hypothesis that the loss of M-T movement precedes the loss of V-Asp movement in the history of English.

12.5.1 *Do*-support in Negative Imperatives and Negative Declaratives

As shown in Figure 1, by 1575, the relative frequency of *do* forms in negative declaratives is almost 40%, whereas the frequency of *do* forms in negative imperatives is remarkably low. But at the end of the 16th century, the frequency of *do* forms in negative imperatives suddenly rises, and around 1600, the development of *do* forms in negative imperatives is roughly the same as in negative declaratives.

Given the articulated clause structure proposed here, in declaratives in Middle English, the verb moves all the way up to T^0, as represented in (40). Negative declaratives formed with higher negation require *do*-support when M-T movement is lost. Moreover, all negative declaratives, whether formed with higher or lower negation require *do*-support when V-Asp movement is lost. If the loss of M-T movement begins at the beginning of the 15th century, we expect to find *do*-support in negative declaratives well before 1575. And this is indeed what we see in Figure 1.

On the other hand, in the proposed phrase structure for imperatives, TP does not project at all. Thus, in imperatives in Middle English, the verb moves to Asp^0 and to M^0 and then directly to C^0, as represented in (47).

(47) $[_{CP}\ [_{C}\ V_i\ ]\ [_{NegP}\ [_{Neg}$ not] $[_{MP}\ [_{M}\ t_i\ ]\ [_{AspP}\ [_{Asp}\ t_i\ ]\ [_{NegP}\ [_{Neg}$ not] $[_{VP}$ ...t_i...]]]]]]

The absence of T^0 in imperatives means that the loss of M-T movement has no consequences for the development of *do* forms in negative imperatives. But the loss of V-Asp movement does. If the loss of V-Asp movement begins at the end of the 16th century, we do not expect to find much *do*-support in negative imperatives before 1600. As shown in Figure 1, our expectation is supported.

Another difference between negative declaratives and negative imperatives has to do with the development of *do* forms with *be* and auxiliary *have*. While negative imperatives require *do*-support with these verbs, negative declaratives prohibit it. Ellegård's data contains 2 negative imperatives with *be* in 17th century, and both of them have *do*-support, as shown in (48).

(48) Negative Imperatives

a. Well then, don't be so tedious, Mr. Presto (379 107-5)
b. I mean decently, don't be rogues (379 174-17)

The standard view of why negative declaratives with an auxiliary verb prohibit *do*-support is that auxiliary verbs undergo overt movement. The question then is why auxiliary verbs in imperatives do not undergo overt movement, hence requiring *do*-support when negated. The answer lies in the presence or the absence of the tense projection. That is, auxiliary verbs can undergo overt movement only when the clause is

tensed. Following Chomsky (1995), let us think of movement as attraction. Then tense features in T^0 attract auxiliary verbs, allowing them to move up to T^0. If there is no tense projection, then there is no tense feature to attract auxiliary verbs. I have assumed that imperatives are not tensed and so do not project a tense phrase. This means that auxiliary verbs cannot be attracted by tense features, and so they must remain in situ.

12.5.2 *Do*-support in Questions and Negative Declaratives

Figure 1 shows that *do*-support was much more favored in questions than in negative declaratives. By 1575, while the frequency of *do* forms is 40% in negative declaratives, it is almost 60% in affirmative questions and almost 90% in negative questions. The difference in the frequency of *do* forms in questions and negative declaratives can be explained if the loss of M-T movement precedes the loss of V-Asp movement.

In questions, the loss of M-T movement leads to *do*-support, and *do* moves to C^0. On the other hand, in negative declaratives, the loss of M-T movement does not necessarily correlate with the development of *do*-support because negative declaratives have two possible analyses. That is, a negative declarative can be formed with negation either in the higher NegP (as in (49)) or the lower NegP position (as in (50)). During the period in which M-T movement is being lost and before the period in which the loss of V-Asp movement begins, if (49) is chosen, then *do*-support is required, and if (50) is chosen, then *do*-support is not required. This explains why the frequency of *do* forms in negative declaratives is much lower than in questions before 1600. When V-Asp movement is lost after 1600, both analyses in (49) and (50) require *do*-support and so the frequency of *do* forms in negative declaratives rises rapidly.

(49) $[_{TP}\ [_{T}\ ]\ [_{\mathbf{NegP}}\ [_{Neg}\ ]\ [_{MP}\ [_{M}\ ]\ [_{AspP}\ [_{Asp}\ ]\ [_{VP}$ ...verb...$]]]]]$

(50) $[_{TP}\ [_{T}\ ]\ [_{MP}\ [_{M}\ ]\ [_{AspP}\ [_{Asp}\ ]\ [_{\mathbf{NegP}}\ [_{Neg}\ ]\ [_{VP}$ ...verb...$]]]]]$

Kroch (1989a, 1989b) has argued that the rise of *do* forms is a reflex of an abstract grammatical change, the loss of V-I movement, by showing a correlation between the rise of *do* forms in the various linguistic contexts up to 1575. The rates of the change in *do*-support were shown to be constant across these contexts using logistic regression. However, his calculation for the rate in negative declaratives is based on a set of sentences that includes both high and low negation, since he was assuming a clause structure with one NegP. According to the analysis proposed here, only high negation is relevant for the rise of *do* forms in negative declaratives before 1575. What this means is that in order to get an accurate measure, sentences formed with low negation should not be counted in the calculation of the rate of rise of *do* forms in negative declaratives. This distinction has implications for the constant rate effect of change in *do*-support discussed in Kroch.[10]

[10] The implications of high versus low negation towards the constant rate effect of the development of *do*-support is a topic of my current research.

The proposed analysis also explains why the development of *do* forms in negative imperatives patterns with that of negative declaratives and not with that of negative questions after 1600. In negative questions, *do*-support takes place because of the requirement of overt tense feature movement to C^0, and due to the presence of negation which blocks LF verb movement. When V-Asp movement is lost, the requirement for overt tense feature movement to C^0 does not apply in imperatives since imperatives are not tensed. The only source for *do*-support in negative imperatives is therefore the presence of negation, which blocks LF verb movement. We have seen that *do*-support in negative declaratives is also due to the presence of negation. Hence, it is not surprising that negative imperatives pattern like negative declaratives with respect to the development of *do* forms after 1600.

Some questions remain: (i) why is the frequency of *do* forms in negative questions always higher than in affirmative questions prior to the completion of the loss of verb movements, (ii) why does the frequency of *do* forms drop suddenly in negative questions and in negative declaratives during 1560-1590 and (iii) why don't infinitivals and subjunctives in Present-day English have *do*-support. For a possible answer to the third question, see Han (1998).

12.7 Conclusion

I have argued that the syntax of Middle English infinitivals can be explained if we allow two possible positions for negation and an intermediate functional projection, which I assume to be an aspect phrase (AspP), between the mood phrase (MP) and the verb phrase (VP). I was able to account for the patterns of *do*-support in various sentence types based on the articulated clause structure that I have proposed for Middle English. In particular, I have proposed that the development of *do*-support in negative imperatives is a reflex of the loss of V-Asp movement. That is, as V-Asp movement was lost, the verb in imperatives moves to C^0 at LF. In negative imperatives, *do*-support is required as a last resort device because negation blocks LF verb movement. I have also argued that the differences and similarities attested in the statistical patterns of the development of *do* forms between imperatives and questions, between imperatives and declaratives, and between questions and declaratives can be explained if the loss of M-T movement precedes the loss of V-Asp movement in the history of English.

Appendix: Abbreviations

This appendix lists the abbreviations and their full names for the texts from Late Middle English and Early Modern English that are cited in this chapter. I refer to the texts by the abbreviations specified in Ellegård (1953).

[302] Atkynson, William. *De Imitatione Christi*. 1502. Ed. J. K. Ingram, Early English Text Society, Ex. 63. 1893.

[304] *Valentine and Orson*. 1505 Ed. A. Dickson. Early English Text Society 204. 1936.

[305] Fisher, John. *English Works*. 1509-1521. Ed. J. E. B. Mayor. Early English Text Society, Ex. 27. 1876.

[308] Whittinton, Robert. *Vulgaria*. 1519. Ed. B. White. Early English Text Society, 187. 1931.

[310] Tindale, William. *The Four Gospels*. 1525. Ed. J. Bosworth. The Gothic and Anglo-Saxon Gospels . London. 1865.

[323] Latimer, Hugh. Letters. ca. 1525-1555. Ed. G. E. Corrie. *Remains of Bishop Latimer*. Parker Society 10. 1845.

[326] Palsgrave, John. *Acolastus*. 1540. Ed. P. L. Carver. Early English Text Society, 202. 1935.

[344] Palace of Pleasure. 1566. Ed. Haworth. *An Elizabethan Story Book*. London. 1928.

[350] Mulcaster, Richard. *Elementarie*. 1582. Ed. E. T. Campagnac. Tudor and Stuart Library. London. 1925.

[356] Queen Elizabeth. *Boethius*. 1593. Ed. C. Pemberton. Early English Text Society, 113. 1899.

[360] *Ben Jonson's Plays*. 1598-1609. Ed. W. Bang. *Ben Jonsons Dramen* , in *Materialien zur Kunde des Älteren Englischen Dramas, Vol. VII:1-2*. 1905-8.

[361] Chapman, George. *Plays*. 1606-1612. Ed. T. M. Parrot. London. 1914.

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