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Arguments against a universal base: evidence from Old English[1]

SUSAN PINTZUK
University of York
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This article presents arguments against a uniform head-initial analysis of Old English clause structure. Three analyses that have been proposed for Old English – variation in the headedness of underlying structure, uniform head-initial structure with object movement, and uniform head-initial structure with pied piping – are presented and evaluated in terms of the Old English data that they are able to account for. In particular, it is argued that the positions of verbs and their complements in constructions with quantified and nonquantified objects, pronominal objects, particles, and double objects cannot be derived without stipulations within uniform head-initial accounts, but can be derived unproblematically within a framework that incorporates a headedness parameter, requiring only a stipulation to block V–O–Aux order.

1 Introduction

This article incorporates and summarizes research that I have done during the past decade or more, in which I have used Old English data as evidence for the necessity of a headedness parameter within a Principles and Parameters framework. In the early stages of this research I argued against uniformly head-final analyses of Old English, such as van Kemenade (1987), that were at that time standard for West Germanic languages. Since Kayne (1994), it has generally been accepted that all languages can be analysed as underlyingly head-initial, with complements to the left of heads being derived by leftward movement. Zwart (1994), for example, argues that such an analysis can be explanatory even for languages like Modern Dutch, with much surface head-final order. Despite this shift in theoretical assumptions, empirical coverage of the Old English data remains inadequate, with the result that I now use some of the same data to demonstrate that uniform head-initial analyses such as Biberauer & Roberts (2003, 2004), Nunes (2002), Roberts (1997), and van der Wurff (1999) cannot derive the normal constituent orders of Old English.

[1] Different parts and versions of this article have been presented at the Workshop on Historical Syntax (University of Aarhus, 2004); the University of Geneva (2004); the University of Stuttgart (2003); the University of York (2003); the Second Holland–York Symposium on the History of English Syntax (University of Leiden, 2003); the Eighteenth Comparative Germanic Syntax Workshop (University of Durham, 2003), the Seventh Diachronic Generative Syntax Conference (University of Girona, 2002); the Sixth Diachronic Generative Syntax Conference (University of Maryland, 2000). I thank the audiences at these talks, especially Eric Haeberli and Ann Taylor, and the two editors of this special issue for helpful discussion. I am particularly grateful to two anonymous reviewers for suggestions that helped to clarify my thinking on the contents of this article, even though I was not able to incorporate all of their comments and ideas. All errors and omissions remain my own responsibility. This work has been supported by AHRB Research Leave Grant 4727 APN 13199 and a matching grant from the Department of Language and Linguistic Science, University of York; this support is gratefully acknowledged.

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The one constant principle in my approach is that data are more important than theory: if a theory, however 'elegant', cannot account for the data in a nonstipulative way, then that theory must be modified or abandoned. I should perhaps state explicitly that I have no *a priori* objections to a Kaynian framework. If a head-initial analysis of Old English clause structure could be devised that would completely account for the data, I would be delighted, for at least three reasons. First, the theoretical advantages of such an analysis are obvious. Second (a related issue), there is some difficulty in realizing the headedness parameter within a Principles and Parameters framework, not only Minimalism but also its precursors. Third, the headedness parameter approach requires a stipulation to rule out one nonexistent constituent order (see section 3.1). It is difficult to see how this stipulation can be eliminated within a headedness parameter approach, but it may be possible in a Kaynian framework (see section 3.2.2).

The main goals of this article, then, are to present a core set of construction types that must be handled by any analysis of Old English, and to evaluate the current theoretical models proposed to account for them: grammatical competition in the headedness of the verb projection (Kroch & Taylor, 2000; Pintzuk, 2002) and uniform head-initial structure with optional leftward movement (Biberauer & Roberts, 2003, 2004; Nunes, 2002; Roberts, 1997). I show that while some of the data can be handled by both accounts, and one construction (V–O–Aux order) is problematic for both, the distribution of objects and prosodically light elements in particular presents problems for a universal base account, but can be handled straightforwardly under the competition model. The challenge now for any new or revised theory is to account for all the data presented here in a principled way.

This article is organized as follows: in section 2 the range of word-order variation found in Old English is introduced. In section 3 three analyses that have been used to account for the data are briefly sketched, and I point out the stipulations that are required for each. In section 4, negative objects in Old English are discussed, and it is shown that their distribution cannot be easily derived within a uniform head-initial account. In section 5, I demonstrate that prosodically light elements show a distribution similar to negative objects and present the same problem. In section 6, the behaviour of positive objects is shown to be different from quantified and negative objects, which again is not easily accounted for within a uniform base analysis. Section 7 presents conclusions and implications. All of the data used in the analysis have been extracted from the *York–Helsinki–Toronto Parsed Corpus of Old English Prose* (henceforth the YCOE), an annotated corpus of about 1.5 million words of Old English prose (Taylor et al., 2003).

Since this article is the summary of previous and current research, readers may have encountered some of the data and arguments before. In particular, the distribution of negative objects (section 4) has been discussed in Pintzuk (to appear); the distribution of prosodically light elements and positive objects (section 5) in Pintzuk (2002, to appear). In addition, much of this work has been presented orally at conferences and other venues (see acknowledgements in footnote 1). But the entire range of data and arguments has not so far appeared all together in one place. It is my hope that these

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data can be used to test the viability of future analyses of Old English, both my own and those of other scholars.

2 Old English word order

In Old English, constituents of all types can appear either before or after the main verb, as shown in the examples below for nominal objects. Here and in the remainder of this article, three types of objects are distinguished: nonquantified non-negative objects (henceforth 'positive' objects), as in (1); negative objects, as in (2); and quantified objects, as in (3). Since Old English is a verb-second language,[2] the data under consideration are limited to clauses with finite auxiliaries and nonfinite main verbs, in order to abstract away from the effect of finite verb movement. The (a) examples in (1) through (3) have preverbal objects, the (b) examples have postverbal objects.[3] All of these orders are common in both root and embedded clauses.

(1) Positive objects

(a) Aux O-pos V

Ac he sceal <u>þa sacfullan</u> **gesibbian**
But he must the quarrelsome reconcile
'But he must reconcile the quarrelsome . . . '
(colwstan1,+ALet_2_[Wulfstan_1]:188.256)

(b) Aux V O-pos

Se wolde **gelytlian** <u>þone lyfigendan hælend</u>
He would diminish the living saviour
'He would diminish the living saviour . . . '
(colwstan1,+ALet_2_[Wulfstan_1]:55.98)

(2) Negative objects

(a) Aux O-neg V

þæt heora nan ne mehte <u>nanes wæpnes</u> **gewealdan**
that of-them none NEG could no sword wield
'that none of them could wield a sword' (coorosiu,Or_4:10.103.24.2162)

(b) Aux V O-neg

þæt nan cristen mon ne moste **habban** <u>nænne his sunderfolgeþa</u>
that no Christian man NEG might have none (of) his official-teachings
'that no Christian man might have any of his official teachings'
(coorosiu, Or_6:31.150.14.3217)

(3) Quantified objects

(a) Aux O-quan V

hu heo ana mihte <u>ealle þa gewytan</u> **awægan** mid aðe
how she alone could all the sages deceive with oath
'how she alone could deceive all the sages with an oath'
(coaelive,+ALS_[Eugenia]:223.324)

[2] Verb seconding in Old English is different from verb seconding in other Germanic languages: it appears to apply in both root and embedded clauses but not categorically. See Haeberli (to appear), Fischer et al. (2000), and Pintzuk (1999) for discussion.

[3] In the examples below and elsewhere, the following abbreviations are used: Aux = finite auxiliary (modal, *be*/*have*), V = nonfinite main verb, O/O1/O2 = (nominal) object, O-pos = (nominal) positive object, O-neg = negative object, O-quan = quantified object, O-pro = pronominal object. The relevant complements are underlined, and nonfinite verbs are in boldface.

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(b) Aux V O-quan
þe hæfde **geinnod** ealle þas halgan
who had lodged all the saints
'who had lodged all the saints' (coaelive,+ALS_[Sebastian]:382.1442)

In addition to variation in the position of arguments and adjuncts, Old English also exhibits variation in the position of the finite verb: in both root and embedded clauses, the finite auxiliary may follow the nonfinite main verb, with objects appearing either before or after the verb cluster, as shown in (4) with positive objects:

(4)(a) O V Aux
him þær se gionga cyning þæs oferfæreldes **forwiernan** mehte
him there the young king the crossing prevent could
'the young king could prevent him from crossing there'
(coorosiu,Or_2:4.44.18.845)

(b) V Aux O
þæt he **miltsian** wolde his agenum slagum
that he pity would his own executioners
'that he would pity his own executioners'
(coaelive,+ALS_[Exalt_of_Cross]:181.5692)

As might be expected, in double-object constructions, the objects exhibit the same type of variation and more: the two objects may appear either before the nonfinite verb, as in (5a) and (6a), after the nonfinite verb, as in (5b) and (6b), or one object on either side of the nonfinite verb, as in (5c–d)[4] and (6c).

(5)(a) Aux O1 O2 V
þæt he sceolde Osweo þæm cyninge wiif **fetigan**
that he had-to O. the king woman obtain
'that he had to obtain a woman for O. the king' (cobede,Bede_3:13.198.24.2014)

(b) Aux V O1 O2
þæt se godcunda anweald ne mihte **afyrran** þone anweald þam unrihtwisan kasere
that the sacred authority NEG could remove the power the unrighteous emperor
'that the sacred authority couldn't remove the power from the unrighteous emperor' (coboeth,Bo:16.39.28.727)

(c) Aux O1 V O2
þæt ælc mann sceolde . . . his geleafan **andettan** oþrum menn
so-that each man had-to . . . his faith.ACC acknowledge other man.DAT
'so that each man had to acknowledge his faith to another man'
(coaelhom,+AHom_18:130.2555)

(d) Aux O1 V O2
þæt he scile þæm goodum **leanian** hiora good
that he must the good.DAT reward their virtue.ACC
'that he must reward the good for their virtue' (coboeth,Bo:39.134.24.2683)

[4] O1 and O2 simply indicate the two objects, with no attempt made to distinguish direct from indirect object here. But notice that accusative and dative objects can appear on either side of the nonfinite verb.

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(6)(a) O1 O2 V Aux
hu he þæt rice þam unrihtwisan cyninge **aferran** mihte
how he the kingdom the unjust king deprive could
'how he could deprive the unjust king of the kingdom' (coboeth,Bo:1.7.17.64)

(b) V Aux O1 O2
for þam ðe hi **wyrcan** sceoldon gode wæstmas Gode
because they perform had-to good results (for) God
'because they had to perform good results for God'
(coaelhom,+AHom_3:61.439)

(c) O1 V Aux O2
siððan he his cnihtas **gelæred** hæfde ðone cræft ðæs lareowdomes
after he his disciples taught had the skill (of) the ecclesiastical-authority
'after he had taught his disciples the skill of ecclesiastical authority'
(cocura,CP:49.383.36.2599)

Any viable analysis of Old English must be able to account for all of this variation in the order of verbs and their objects.

3 Three possible analyses

In this section I briefly present three analyses that have been proposed to account for the position of objects in Old English. In general, I will not discuss the motivations behind the analyses or their theoretical strengths and weaknesses, but rather focus on their coverage of the data. I will adopt the terminology used by an anonymous reviewer and call them the Head Parameter analysis (variation in the headedness of underlying structure), the Many Movements analysis (uniform head-initial structure with leftward movement of objects and remnant vPs), and the Pied Piping analysis (uniform head-initial structure with object movement and optional pied piping).

3.1 The Head Parameter analysis

Within a framework in which projections can vary in headedness, Pintzuk (1999, 2002) has proposed that both IP and VP can be either head-initial or head-final, as shown in (7). To simplify the exposition, the minimal amount of structure and movement is shown: I and V take VP complements, with no further functional projections above VP. Old English has strong overt verbal morphology, and I therefore assume that finite verbs move obligatorily to I, regardless of the position of I.

(7)(a) head-initial IP, head-final VP1 and VP2, deriving (1a) Aux O V
$[_{IP}$ Aux+I $[_{VP1}$ $[_{VP2}$ O V] $t_{Aux}]$]

(b) head-initial IP, head-initial VP1 and VP2, deriving (2b) Aux V O
$[_{IP}$ Aux+I $[_{VP1}$ t_{Aux} $[_{VP2}$ V O]]]

(c) head-final IP, head-final VP1 and VP2, deriving (4a) O V Aux
$[_{IP}$ $[_{VP1}$ $[_{VP2}$ O V] $t_{Aux}]$ Aux+I]

(d) head-final IP, head-initial VP1 and VP2, deriving *V O Aux
* $[_{IP}$ $[_{VP1}$ t_{Aux} $[_{VP2}$ V O]] Aux+I]

Notice that although there are four possible structures, only three occur with any frequency in Old English. Instances of the order in (7d) are very rare: I have found only

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three clauses in the YCOE in which a constituent appears between the nonfinite verb and the finite auxiliary where the auxiliary is unambiguously in clause-final position.[5] In all three of these clauses, the intervening constituent is a PP or an adverb; an example is given in (8). I will assume that this structure is not grammatical in Old English.

(8) hu hie **gedon** ymbe þa menn haefdan
how they done about the men had
'how they had dealt with the men' (cobede,Bede_5:11.416.25.4189)

To this variation in headedness of structure, we must add optional rightward movement rules to derive clauses like (4b), with constituents after the V Aux cluster. The derivation is sketched in (9), with postposition shown as right-adjunction to IP. The factor that has the most significant effect on postposition is the length of the complement: the heavier the DP, the more likely it is to appear postverbally (Pintzuk, 2002; Pintzuk & Taylor, 2003).

(9) head-final IP, head-final VP1 and VP2, with postposition, deriving (4b) V Aux O
$[_{IP}\ [_{IP}\ [_{VP1}\ [_{VP2}\ t_O\ V]\ t_{Aux}]\ Aux+I]\ O]$

The derivation of the clauses in (5) and (6) depends upon the structure assumed for double-object constructions, but it is clear that the combination of variation in headedness of VP/IP and rightward movement can handle all of these clause types.[6]

In summary, we can see that the variation in structure approach can account for the constituent orders in (1)–(6), but a stipulation is necessary to block the derivation in (7d).[7]

3.2 Uniform head-initial structure

In contrast to the Head Parameter approach, Roberts (1997), Nunes (2002) and Biberauer & Roberts (2003, 2004) propose uniform head-initial analyses for these data.[8] I will discuss the first two analyses together, since they are similar to each other and differ from the last in the types of movement proposed.

[5] In fact this order does not occur in other languages that exhibit this type of variation, e.g. older stages of Yiddish (Beatrice Santorini, p.c.). Although verb–object order varies in older stages of Icelandic, the finite verb is almost always in second or initial position (Rögnvaldsson, 1996), and therefore the question of whether (7d) is possible does not arise.

[6] The Head Parameter analysis requires some additional movement rules to account for data not discussed in this section, e.g. leftward movement of pronominal objects and quantified objects.

[7] See Kiparsky (1996) for some proposals to eliminate the need for this stipulation. Discussion of his analysis goes beyond the scope of this article.

[8] Van der Wurff (1999) proposes a uniform head-initial account for Middle English, which he suggests can be used for Old English as well. However, except for the earliest Middle English period, the position of the finite auxiliary in Middle English does not vary as it does in Old English. It will be shown below that it is the combination of variation in the position of the finite auxiliary and variation in the position of objects that is the source of problems for most analyses of Old English.

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3.2.1 The Many Movements analysis (Nunes, 2002; Roberts, 1997)[9]

Under this account, all projections are head-initial, with object movement and remnant vP movement deriving the surface position of verbs and their objects. As shown in (10a), auxiliary verbs take complements that contain at least two functional projections, for reasons that will be made clear below. If there is no movement within the vP, (10a) derives clauses with uniform head-initial surface order. Movement of the object to SpecvP for case checking purposes, as shown in (10b), derives preverbal objects. Remnant vP movement (optional movement of vP to SpecAuxP, the projection associated with Aux) derives clauses with uniform head-final surface order, as shown in (10c).

(10)(a) underlying structure, deriving (1b) Aux V O
$[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ $[_{VP}$ V O]]]]
(b) case-checking (movement of O to SpecvP), deriving (1a) Aux O V
$[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ O $[_{VP}$ V t_O]]]]
(c) remnant vP movement (movement of vP to SpecAuxP), deriving (4a) O V Aux
$[_{AuxP}$ $[_{vP}$ O $[_{VP}$ V t_O]] Aux $[_{YP}$ t_{vP}]]

To derive (4b), with objects after the V–Aux verb cluster, objects may optionally scramble out of the vP to SpecYP before remnant vP movement occurs, as shown in (11). This has the effect of leaving the object behind, deriving postverbal objects after the V–Aux verb cluster.

(11)(a) underlying structure
$[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ $[_{VP}$ V O]]]]
(b) case-checking
$[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ O $[_{VP}$ V t_O]]]]
(c) scrambling to SpecYP
$[_{AuxP}$ Aux $[_{YP}$ O $[_{vP}$ t_O $[_{VP}$ V t_O]]]]
(d) remnant vP movement, deriving (4b) V Aux O
$[_{AuxP}$ $[_{vP}$ t_O $[_{VP}$ V t_O]] Aux $[_{YP}$ O t_{vP}]]

And finally, the double-object constructions shown in (5) and (6) can be derived by combinations of movement for case-checking purposes, scrambling, and remnant vP movement: for (5a) and (6a), both objects move for case checking, with remnant vP movement in (6a); for (5b), neither object moves (assuming that both objects are underlyingly postverbal); for (5c), only the first object moves for case checking; for (6b), both objects scramble out of the vP, with remnant vP movement; and for (6c), the first object moves for case checking, while the second object scrambles out of the vP, with subsequent remnant vP movement.

Let us consider more closely the possibility that objects may remain within the VP. It is clear that movement for case-checking purposes must be optional, so that both Aux–V–O and Aux–O–V orders can be derived (10a–b). Roberts (1997: 412) suggests that focused objects may escape case checking and remain in postverbal position within the VP. If so, then we must prevent remnant vP movement with focused objects, so that V–O–Aux order is not derived, as in (12b).

[9] For the sake of concreteness, I frequently use Nunes' projection labels in this section; but the syntactic processes are the same for Nunes and Roberts except where noted.

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(12)(a) underlying structure
[$_{AuxP}$ Aux [$_{YP}$ [$_{vP}$ [$_{VP}$ V O]]]]
(b) remnant vP movement, deriving (7d) * V O Aux
* [$_{AuxP}$ [$_{vP}$ [$_{VP}$ V O]] Aux [$_{YP}$ t_{vP}]]

Roberts (1997: 418) proposes that focused elements must raise at LF, but that elements cannot raise out of a constituent on a left branch; thus (12b) cannot be interpreted when the object is focused. However, this account does not work. The link between postverbal position and focus is not a direct one in Old English: we know this because the frequency of postverbal objects increases during the period (Pintzuk, 2002; Pintzuk & Taylor, 2003), and it is of course unlikely that this increase is due to speakers using more and more focused objects as time goes on. Therefore, postverbal position in Old English must have been used for constituents that were not focused. This means that movement for case-checking purposes really is optional (perhaps due to optionality in feature strength), and we cannot block (12b) if the object has not been focused. We are left with the same problem: if remnant vP movement applies when the object has not moved, the unattested V–O–Aux order is derived.[10]

Nunes (2002: 304, footnote 6) suggests that Roberts' analysis can be adapted in the following way: object movement to SpecvP is obligatory rather than optional. Under the copy theory of movement, the object in (10b) can be pronounced either in preverbal position, to derive (1a), or in postverbal position, to derive (1b); focal stress forces the pronunciation of the lower copy. Again we are left with the same problem: if movement for case-checking purposes is obligatory, and if either copy of the object can be pronounced in (10b), then there is no reason why either copy of the object cannot be pronounced in (10c); again, in the case of focused objects, the lower copy is pronounced, deriving the unattested V–O–Aux order.

Thus the Many Movements analysis as presented so far derives all of the same constituent orders that the Head Parameter analysis does, but both analyses need a stipulation to block the derivation of V–O–Aux surface order. To eliminate the need for the stipulation, we might assume that there is no remnant vP movement, and that all constituents of the lowest VP move leftward independently. The nonfinite main verb optionally raises and attaches to the finite auxiliary, as shown in (13b) (Roberts, 1997: 417). The incorporation of the verb blocks the movement of any constituent to a position between the two verbal elements; thus the unattested V–O–Aux order cannot be derived. Optional scrambling of the object to SpecAuxP derives uniform

[10] As an anonymous referee points out, Roberts quickly abandons this analysis and goes on to provide two other possible derivations: first, fronting the object to a position before the nonfinite verb with subsequent remnant movement (Roberts, 1997: 412). This derives clauses with the finite auxiliary following the nonfinite main verb, as in his example (20), and not the type we are interested in, which is clauses with the finite auxiliary preceding the nonfinite main verb. To derive S Aux V O, Roberts (1997: 417) suggests 'a variant of the standard verb raising idea . . . the infinitive attaches [right-adjoins – SP] to the auxiliary in these cases . . . This captures the further fact that nothing can intervene between Aux and V in such cases.' But it is simply not true that Aux and V are adjacent in all clauses with postverbal objects; an example with the verbal cluster split by a second object is shown in (5c). It is clear that Roberts' attempts to derive S Aux V O without also deriving S V O Aux are not successful.

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head-final surface order, as shown in (13c). This analysis correctly derives the orders in (1) through (6). However, I will show in section 4 that there are other problems that prevent it from being a viable alternative to remnant vP fronting.

(13)(a) underlying structure
$[_{AuxP}$ Aux $[_{VP}$ V O]]
(b) nonfinite verb incorporation, deriving (4b) V Aux O
$[_{AuxP}$ V+Aux $[_{VP}$ t_V O]]
(c) object scrambling, deriving (4a) O V Aux
$[_{AuxP}$ O V+Aux $[_{VP}$ t_V t_O]]

3.2.2 The Pied Piping analysis (Biberauer & Roberts, 2003, 2004)[11]

Under this analysis, all structure is once again uniformly head-initial. Biberauer & Roberts account for word-order variation and change in the history of English by pied piping and its loss. In particular, in Old English T with a D-feature attracts either the subject or the vP containing the subject (optional pied piping), and v with a D-feature attracts either the object or the VP containing the object (again optional pied piping). In addition, there is obligatory head movement of V to v. The derived structures for the word orders in (1) through (4) are shown in (14). I have followed Biberauer & Roberts (2003) in assuming that auxiliary verbs are merged in T, and that the infinitival complements are vPs not dominated by their own nonfinite TPs. For ease of exposition (and contrary to Biberauer & Roberts, 2003) I have extended these assumptions to modals as well, but nothing crucial rests on this extension.

(14)(a) V to v, VP to inner SpecvP, S to SpecTP, deriving Aux O V:
$[_{TP}$ S Aux $[_{vP}$ t_S $[_{VP}$ t_V O] V+v t_{VP}]]
(b) V to v, S to SpecTP, deriving Aux V O:
$[_{TP}$ S Aux $[_{vP}$ t_S V+v $[_{VP}$ t_V O]]]
(c) V to v, VP to inner SpecvP, vP to SpecTP, deriving O V Aux:
$[_{TP}$ $[_{vP}$ S $[_{VP}$ t_V O] V+v t_{VP}] Aux t_{vP}]
(d) V to v, vP to SpecTP, deriving V Aux O:
$[_{TP}$ $[_{vP}$ S V+v] Aux t_{vP} $[_{VP}$ t_V O]]

Notice that optional pied piping of the vP to SpecTP derives the surface order of the auxiliary and main verb: if the entire vP is moved, the order is V–Aux, as in (14c–d); if only the subject is moved, the order is Aux . . . V, as in (14a–b). Similarly, movement of the VP to the inner SpecvP derives the surface position of the object: if the VP moves, the object is preverbal, as in (14a) and (14c); otherwise, the object is postverbal, as in (14b) and (14d).[12] Not only is pied piping optional in the case of the object DP, movement itself is optional because the EPP feature of v is optional, i.e. it is possible not to move any constituent at all to the (inner) SpecvP, as shown in (14b) and (14d).

[11] The reader should note that my understanding of this analysis is based on Biberauer & Roberts' (2003, 2004) presentations and handouts.

[12] Note that (14a) and (14c) could be derived either by movement of VP to SpecvP, as shown above, or by movement of O to SpecvP, as shown below in (ia–b).

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According to Biberauer (p.c.), this analysis blocks the ungrammatical word order V–O–Aux. To demonstrate this, let us consider the derivation of (14d) in more detail, shown step by step in (15). The structure shown in (14d), which is the same as (15d), requires some comment. Under the Phase Impenetrability Condition (cf. Chomsky, 2000: 108), as soon as the vP phase is complete, the complement (i.e. the VP) is spelled out and becomes inaccessible. Biberauer & Roberts interpret this to mean that the VP is fixed in place and cannot move when the vP containing it is fronted. It thus appears that a nonconstituent (the left branch and the head of vP) has moved, but instead the vP has moved with the complement VP remaining behind. If the entire vP were to move, we would instead derive the ungrammatical V–O–Aux order, as shown in (15d′).

(15)(a) V to v
$[_{vP}$ V+v $[_{VP}$ t_V O]]
(b) merge S in SpecvP
$[_{vP}$ S V+v $[_{VP}$ t_V O]]
(c) merge Aux in T
$[_{TP}$ Aux $[_{vP}$ S V+v $[_{VP}$ t_V O]]]
(d) move vP (without the VP) to SpecTP
$[_{TP}$ $[_{vP}$ S V+v] Aux $[_{VP}$ t_V O]]
(d′) move (the entire) vP to SpecTP
* $[_{TP}$ $[_{vP}$ S V+v $[_{VP}$ t_V O]] Aux]

In the case of inner and outer specifiers, both move during the derivation of (14c), given below in (16) in greater detail. Note that in (16e), both the outer specifier S and the inner specifier VP (containing the trace of the nonfinite verb and the object) are moved to SpecTP, along with the nonfinite verb; but the trace of VP is left behind, as it is in the complement of the spelled-out phase vP.

(16)(a) V to v
$[_{vP}$ V+v $[_{VP}$ t_V O]]
(b) VP to inner SpecvP
$[_{vP}$ $[_{VP}$ t_V O] V+v t_{VP}]
(c) merge S in outer SpecvP
$[_{vP}$ S $[_{VP}$ t_V O] V+v t_{VP}]
(d) merge Aux in T
$[_{TP}$ Aux $[_{vP}$ S $[_{VP}$ t_V O] V+v t_{VP}]]
(e) move vP to SpecTP
$[_{TP}$ $[_{vP}$ S $[_{VP}$ t_V O] V+v] Aux t_{VP}]

(i)(a) (compare (14a)): V to v, O to SpecvP, S to SpecTP, deriving Aux O V
$[_{TP}$ S Aux $[_{vP}$ t_S O V+v $[_{VP}$ t_V t_O]]]
(b) (compare (14c)): V to v, O to SpecvP, vP to SpecTP, deriving O V Aux
$[_{TP}$ $[_{vP}$ S O V+v $[_{VP}$ t_V t_O]] Aux t_{vP}]

If there is no semantic difference between the two structures, as suggested by Biberauer & Richards (2004), then this is problematic, since one constituent order can be derived in two different ways. Although the constituent order in (7b) can be derived in two different ways under the Head Parameter analysis (base generation of the postverbal object in a head-initial VP, or rightward movement of the object from a head-final VP), I assume that rightward movement is triggered by information structure (with heaviness as the reflex of information structure), and therefore the semantics/pragmatics of the two derivations are different.

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Table 1. *Accounting for the order of verbs and their objects in Old English*

	Head Parameter (Pintzuk, 1999, 2002)	Uniform head-initial structure		
		Many Movements (Nunes, 2002; Roberts, 1997)	Many Movements with nonfinite verb movement (example (13))	Pied Piping (Biberauer & Roberts, 2003, 2004)
Objects in Aux V and V Aux clauses (examples (1)–(4))	√	√	√	√
* V O Aux (example (8))	stipulation	stipulation	√	√
Double-object constructions (examples (5)–(6))	√	√	√	√

The Pied Piping analysis therefore has a clear advantage over the other two: it blocks the derivation of the ungrammatical V–O–Aux order without requiring a stipulation to do so.

For clauses with two objects, the Pied Piping analysis correctly accounts for all of the word-order variation: as was shown in (5) and (6), the two objects can appear either both before the main verb, both after the main verb, or one on either side of the main verb, for clauses with either Aux–V or V–Aux order. The derivations of double-object constructions are sketched in (17) below, where I have assumed a Larson (1988) VP analysis.[13] Clauses with the two objects adjacent are derived in much the same way as single-object constructions (17a–d). For clauses with objects on either side of the main verb, one of the two objects moves to SpecvP, as in (17e–f).[14] It is these last two constituent orders that demonstrate that pied piping of the VP must be optional in Old English.

(17)(a) V to v, VP to inner SpecvP, S to SpecTP, deriving (5a) Aux O1 O2 V:
$[_{TP}$ S Aux $[_{vP}$ t_S $[_{VP}$ O1 t_V O2] V+v $t_{VP}]]$

(b) V to v, S to SpecTP, deriving (5b) Aux V O1 O2:
$[_{TP}$ S Aux $[_{vP}$ t_S V+v $[_{VP}$ O1 t_V O2]]]

(c) V to v, VP to inner SpecvP, vP to SpecTP, deriving (6a) O1 O2 V Aux:
$[_{TP}$ $[_{vP}$ S $[_{VP}$ O1 t_V O2] V+v $t_{VP}]$ Aux $t_{vP}]$

(d) V to v, vP to SpecTP, deriving (6b) V Aux O1 O2:
$[_{TP}$ $[_{vP}$ S V+v] Aux t_{vP} $[_{VP}$ O1 t_V O2]]

(e) V to v, O1 to SpecvP, S to SpecTP, deriving (5c) Aux O1 V O2:
$[_{TP}$ S Aux $[_{vP}$ t_S O1 V+v $[_{VP}$ t_{O1} t_V O2]]]

(f) V to v, O1 to SpecvP, vP to SpecTP, deriving (6c) O1 V Aux O2:
$[_{TP}$ $[_{vP}$ S O1 V+v] Aux t_{vP} $[_{VP}$ t_{O1} t_V O2]]

[13] An invariable Larsonian structure may not be viable if both the orders in (5c) and (5d) are to be derived: if the first object asymmetrically c-commands the second object, the second object cannot be the Goal of v with a D-Probe.

[14] Note that in (17f), the VP complement has been left behind when the vP is fronted.

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In this section I have briefly described three analyses, the Head Parameter analysis, the Many Movements analysis (including a variant with nonfinite verb movement), and the Pied Piping analysis, and examined how they derive the basic orders of verbs and their objects in Old English. The results are summarized in table 1.

4 The distribution of negative objects

The next type of Old English data that is problematic for all uniform head-initial analyses involves negative objects and negative concord. As can be seen from the examples in (2) above, repeated as (18), Old English is a negative concord language. Since negative objects can appear either preverbally or postverbally, it is clear that they do not obligatorily move overtly to NegP or any other projection in order to satisfy the Neg Criterion.

(18)(a) þæt nan cristen mon ne moste habban nænne his sunderfolgeþa
that no Christian man NEG might have none (of) his official-teachings
'that no Christian man might have any of his official teachings'
(coorosiu,Or_6:31.150.14.3217)

(b) þæt heora nan ne mehte nanes wæpnes gewealdan
that of-them none NEG could no sword wield
'that none of them could wield a sword' (coorosiu,Or_4:10.103.24.2162)

Haeberli & Haegeman (1995), in a brief sketch of Old English clause structure and negative concord under the universal base hypothesis, propose that the nonfinite complements of auxiliary verbs in Old English are truncated structures smaller than NegP, with the Neg Criterion applying at LF. Negative objects do not satisfy the Neg Criterion within the nonfinite verb projection, and instead enter into negative concord with other negative constituents outside the nonfinite verb projection after Spellout. If this were true, we would predict that negative constituents in Old English could appear anywhere within the clause and still receive a negative concord reading. However, while positive and quantified objects can appear postverbally in clauses traditionally analysed as head-final, negative constituents almost never do. To demonstrate this point, consider one of the clause types discussed earlier, clauses with the finite auxiliary after the nonfinite main verb. As shown in (19) and (20), positive and quantified objects can appear either before or after the verb cluster in these clauses.

(19) Positive objects

(a) him þær se gionga cyning þæs oferfæreldes **forwiernan** mehte
him there the young king the crossing prevent could
'the young king could prevent him from crossing there'
(coorosiu,Or_2:4.44.18.845)

(b) þæt he **miltsian** wolde his agenum slagum
that he pity would his own executioners
'that he would pity his own executioners'
(coaelive,+ALS_[Exalt_of_Cross]: 181.5692)

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(20) Quantified objects
(a) gif we ænige bote **gebidan** sculon
if we any relief expect must
'if we must expect any relief' (cowulf,WHom_20.2:18.1649)
(b) þæt ænig mon **atellan** mæge ealne þone demm
that any man relate can all the misery
'that any man can relate all the misery' (coorosiu,Or_2:8.52.6.1011)

In contrast, negative objects can appear only preverbally in such clauses, never postverbally; an example is given in (21a), with the unattested order in (21b).

(21) Negative objects
(a) þæt heoræ naðor nan word **cwæðen** ne mihte
that of-them neither no word say NEG could
'that neither of them could say a word'
(corood,LS_5_[InventCrossNap]:120.111)
(b) *. . . V Aux O-neg

As shown in table 2, there are 81 clauses of this type with negative objects in the YCOE, and in all 81 clauses the object is preverbal. This does not mean, of course, that negative objects can never appear postverbally; they do so, but only in clauses with Aux–V order, i.e. clauses that could be uniformly head-initial in underlying structure. As noted above, object position in Old English is strongly influenced by weight: the heavier the object, the more likely it is to appear postverbally. Of the 81 I-final clauses with negative objects, 10 objects are very heavy (four words or longer). Based on the behaviour of positive and quantified objects, we would expect 11 of the 81 negative objects to appear postverbally in I-final clauses. But this expectation is not fulfilled: there are no postverbal negative objects in I-final clauses. The contrast between I-final and I-initial clauses is shown in table 2: 17.5 per cent of the negative objects appear postverbally in I-initial clauses, but none do in I-final clauses.

In a framework that permits either head-initial structure or head-final structure with rightward movement, there is a traditional explanation for the lack of postverbal objects in head-final clauses. V–Aux–O order is derived by rightward movement from head-final structure, as was shown in (9), creating an island that blocks negative concord.[15] This explanation can be used within the Head Parameter analysis, since it includes a head-final option. In contrast, analyses that permit only head-initial structure cannot account for the distribution of negative objects. Consider the stipulations that must be proposed. For the Many Movements analysis discussed in section 3.2.1, leftward movement of the negative object cannot be obligatory: as shown above with respect to the clauses in (18), negative objects are not forced to move leftward from postverbal position, since they can appear either before or after the main verb in clauses with Aux–V order. What must instead be stipulated is that case checking is obligatory

[15] That rightward movement from head-final structure blocks negative concord can also be seen in West Flemish, traditionally analysed as a head-final language: negative concord is blocked in verb-projection-raising structures (see Haeberli & Haegeman, 1995).

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Table 2. *The position of positive, quantified, and negative objects in Old English clauses with auxiliary verbs*

Type of clause	Type of object	Postverbal	N	% Postverbal
I-final (V Aux)	positive	154	1070	14.4%
	quantified	25	167	15.0%
	negative	0	81	0.0%
I-initial (Aux. . . V)	positive	1815	3893	46.6%
	quantified	150	376	39.9%
	negative	25	143	17.5%

(and scrambling before remnant vP movement is prohibited) for negative objects only in derivations where the remnant vP is subsequently fronted, as shown in (22).

(22)(a) underlying structure
$[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ $[_{VP}$ V O-neg]]]]
(b) case checking
$[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ O-neg $[_{VP}$ V $t_O]]]]$
(c) remnant vP movement, deriving (21a) O-neg V Aux
$[_{AuxP}$ $[_{vP}$ O-neg $[_{VP}$ V $t_O]]$ Aux $[_{YP}$ $t_{vP}]]$

For the derivation sketched in (13), where objects and nonfinite verbs move independently, leftward movement of negative objects must be obligatory when the nonfinite main verb moves and incorporates, but optional when the main verb doesn't move. For the Pied Piping analysis discussed in section 3.2.2, a similar stipulation must be proposed: if the option of pied piping vP is used to satisfy the EPP feature of T, then the object or the VP containing it must front to SpecvP if and only if the object is negative. In other words, the two movements are linked when the object is negative. The derivations are shown in (23), where (23d) must be blocked:

(23)(a) V to v, VP to inner SpecvP, S to SpecTP, deriving Aux O-neg V:
$[_{TP}$ S Aux $[_{vP}$ t_S $[_{VP}$ t_V O-neg] V+v $t_{VP}]]$
(b) V to v, S to SpecTP, deriving Aux V O-neg:
$[_{TP}$ S Aux $[_{vP}$ t_S V+v $[_{VP}$ t_V O-neg]]]
(c) V to v, VP to inner SpecvP, vP to SpecTP, deriving O-neg V Aux:
$[_{TP}$ $[_{vP}$ S $[_{VP}$ t_V O-neg] V+v $t_{VP}]$ Aux $t_{vP}]$
(d) V to v, vP to SpecTP, deriving * V Aux O-neg:
* $[_{TP}$ $[_{vP}$ S V+v] Aux t_{vP} $[_{VP}$ t_V O-neg]]

The requirement for each head-initial analysis to block the V–Aux–O-neg order is a highly stipulative link between two unrelated movements.

5 The distribution of prosodically light elements

Prosodically light elements (e.g. pronominal objects and particles[16]) show the same distribution as negative objects: they can appear either before or after the nonfinite verb

[16] It is irrelevant here whether particles are analysed as small-clause predicates or arguments of the main verb.

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Table 3. *The position of pronominal objects in Old English clauses with finite auxiliary verbs*

Clause type	Postverbal	N	% Postverbal
I-final (V Aux)	1	202	.5%
I-initial (Aux . . . V)	51	932	5.5%

Chi-square = 9.40, p ≤ .01

Table 4. *The position of particles in Old English clauses with finite auxiliary verbs*

Clause type	Postverbal	N	% Postverbal
I-final (V Aux)	2	670	.3%
I-initial (Aux. . . V)	31	1848	1.7%

Chi-square = 7.23, p ≤ .01

in I-initial clauses, but they must be preverbal in I-final clauses. Examples are given in (24) and (25), and the distributions are shown in tables 3 and 4.

(24)(a) We ne magan eow **neadian**
We NEG can you constrain
'We cannot constrain you. . . ' (colwstan1,+ALet_2_[Wulfstan_1]:85.132)

(b) ac nan ne mot swaþeah **syllan** him bletsunge
but no-one NEG may however give them consecration
'But no one may give them consecration however. . . '
(colwstan1, +ALet_2_[Wulfstan_1]:156.224)

(c) swa Datianus him **gediht** hæfde
as Datian them directed had
'as Datian had directed them' (coaelive,+ALS_[George]:158.3167)

(d) *. . . V Aux O-pronoun

(25)(a) & woldon hit ut**dragan**
and (they) would it out-drag
'and they would drag it out' (cochronE,ChronE_[Plummer]:1083.12.2778)

(b) he wolde **adræfan** ut anne æþeling
he would drive out a prince
'he would drive out a prince' (ChronB (T) 82.18–19 (855))

(c) þa he ða eft þonan ut**faran** wolde
when he then again thence out-go would
'when he would go out from there then again'
(cochronA-2b,ChronA_[Plummer]: 905.8.1182)

(d) *. . . V Aux particle

Although the number of postverbal elements is small in all clause types, the difference between I-initial and I-final clauses for both pronominal objects and particles is statistically significant by a chi-square test. Again, in a framework that permits either head-initial or head-final structure with rightward movement, the fact that pronouns and

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particles do not appear postverbally in V–Aux clauses receives a natural interpretation: as a general rule, West Germanic languages do not permit the rightward movement of prosodically light elements like pronouns and particles in head-final structure.

To summarize, we are considering five surface orders in Old English; these are shown in (26a–e), together with an indication of their derivation under the Many Movements analysis. (26e) must be blocked for all types of XP. (26a–d) are possible if XP is a positive or quantified object. But if XP is a negative object, a pronominal object or a particle, (26a–c) can occur, but (26d) is unattested.

(26)(a) Aux V XP $[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ $[_{VP}$ V XP]]]]
(b) Aux XP V $[_{AuxP}$ Aux $[_{YP}$ $[_{vP}$ XP $[_{VP}$ V t_{XP}]]]]
(c) XP V Aux $[_{AuxP}$ $[_{vP}$ XP $[_{VP}$ V t_{XP}]] Aux $[_{YP}$ t_{vP}]]
(d) V Aux XP $[_{AuxP}$ $[_{vP}$ t_{XP} $[_{VP}$ V t_{XP}]] Aux $[_{YP}$ XP t_{vP}]]
(* for XP = negative object, pronominal object, particle)
(e) * V XP Aux $[_{AuxP}$ $[_{vP}$ $[_{VP}$ V XP]] Aux $[_{YP}$ t_{vP}]]

Notice that once again the derivation sketched in (13) won't account for the patterns above: incorporation of the nonfinite verb must be possible without the leftward movement of positive and quantified objects to derive V Aux XP ((19b) and (20b)); but it must trigger leftward movement of negative objects, pronominal objects and particles, to block the derivation of that constituent order for these XPs ((21b), (24d), and (25d)).

Let us see how we might adapt the Many Movements analysis to account for the constituent orders in (26a–d). Nunes (2002) proposes that pronoun scrambling to a high position blocks long-distance remnant vP movement. The derivation is shown in (27): objects move to SpecvP for case checking (27b), and then objects of all types may scramble to SpecYP (27c). At this point, remnant vP movement may apply to move the vP to SpecAux, deriving V–Aux–O order for nonpronominal objects. But pronouns move higher to SpecWP (27d), and in this high position block remnant vP movement by Relativized Minimality. It should be pointed out that pronouns frequently appear in a high position in Old English clauses, so this analysis at first blush seems a plausible one.

(27)(a) underlying structure
$[_{AuxP}$ Aux $[_{WP}$ $[_{YP}$ $[_{vP}$ $[_{VP}$ V O-pro]]]]]
(b) case checking (movement of O-pro to SpecvP)
$[_{AuxP}$ Aux $[_{WP}$ $[_{YP}$ $[_{vP}$ O-pro_i $[_{VP}$ V t_i]]]]]
(c) scrambling (movement of O-pro to SpecYP)
$[_{AuxP}$ Aux $[_{WP}$ $[_{YP}$ O-pro_i $[_{vP}$ t_i $[_{VP}$ V t_i]]]]
(d) pronoun scrambling (movement of O-pro to SpecWP)
$[_{AuxP}$ Aux $[_{WP}$ O-pro_i $[_{YP}$ t_i $[_{vP}$ t_i $[_{VP}$ V t_i]]]]]
(e) remnant vP movement (movement of vP to SpecAuxP) is blocked
* $[_{AuxP}$ $[_{vP}$ t_i $[_{VP}$ V t_i]]$_k$ Aux $[_{WP}$ O-pro_i $[_{YP}$ t_i t_k]]

We will generalize this account in the following way. Let us assume that movement of arguments (including objects of all types and particles) to SpecvP is optional. Once arguments are in SpecvP, they can remain there and move with remnant vP movement. In particular, particles and negative objects cannot move further, and therefore remain

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within the vP and are fronted with it; this prevents the derivation of (26d) for these XP types. In contrast, positive, quantified and pronominal objects may scramble higher to SpecYP, as shown in (27c). Positive and quantified objects may remain in that position, and do not block subsequent remnant vP movement. But pronominal objects move higher to SpecWP, and if they do so before remnant vP movement, they block this movement by Relativized Minimality.

There are both empirical and theoretical problems with this proposal. First, pronouns do not necessarily raise higher than full DPs, as shown in (28). Notice in this example that *þære byrgene* 'the grave' and *hine* 'him' precede the adverb *eft* 'again', indicating that both objects have moved out of the VP. However, the nominal object has moved higher than the pronominal object. Therefore pronominal objects are not always high enough to block remnant vP movement as required, and this cannot be the explanation for the absence of the word order in (26d) with pronominal objects in Old English texts.

(28) þæt hi woldon þære byrgene hine eft **befæstan**
that they would the grave him again entrust
'that they would again entrust him to the grave'
(cogregdC,GD_2_[C]:24.154.21.1843)

Secondly, the scrambling of pronouns to a position above scrambled DP objects does not necessarily block remnant vP movement. In (29), the pronominal object *him* 'him' is higher than the demonstrative object *þæt* 'that', and both objects precede the adverb *eft* 'again', indicating that the objects have scrambled out of the VP. But in this example the auxiliary verb follows the nonfinite main verb, a word order that under this analysis can only be derived by remnant vP movement. Thus we see from (28) and (29) that pronouns do not always move high enough to block remnant vP movement, and that even when they do move high, remnant vP movement is not always blocked.

(29) hu God him þæt eft **forgyldan** wille
how God him that again repay will
'how God will repay him again for that'
(coblick,HomS_14_[BlHom_4]:41.36.533)

Thirdly, consider preverbal particles and negative objects. It is certainly true that preverbal particles are almost invariably adjacent to the nonfinite main verb, supporting the hypothesis that once they move leftward to SpecvP, they cannot move further. However, this is not true of negative objects, which are frequently separated from the nonfinite verb by other material. Examples are shown in (30). Thus this analysis cannot be used to explain the absence of the constituent order shown in (26d) for negative objects.

(30)(a) þæt ic ne myhte nanne gylt on þysum men **fyndan**
that I NEG might no sin in these men find
'that I might find no sin in these men' (conicodA,Nic_[A]:3.1.1.122)
(b) Ne we nan þing heonon mid us **lædan** ne magon
Nor we no thing hence with us carry NEG can
'Nor can we carry anything hence with us . . . '
(cocathom1, +ACHom_I,_18:323.188.3657)

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In addition to these empirical problems, it is not at all clear that pronoun scrambling and remnant vP movement are triggered by the same type of feature so that the latter can be blocked by Relativized Minimality. According to Biberauer & Roberts, vP moves to satisfy the EPP feature of TP in Old English; therefore remnant vP movement, like subject movement, is A-movement; scrambling of pronouns and full DPs as presented in (the adapted version of) the Many Movements analysis is clearly A′-movement. Using Relativized Minimality as an explanation in this context cannot be correct. As I will show in section 6, there are additional problems with the use of Relativized Minimality.

I conclude that the distribution of negative objects and prosodically light elements cannot be accounted for by the head-initial analyses discussed in section 3.2. In contrast, the fact that these constituents do not appear postverbally in head-final structures receives a natural and traditional explanation under the Head Parameter account.

6 The distribution of positive objects

We have seen in the previous section that in clauses with postverbal pronouns, particles or negative objects, remnant vP movement must be blocked. In this section, I show that these postverbal constituents also block preverbal positive objects.

We have seen that in constructions with two arguments, both can be postverbal, both can be preverbal, or one postverbal and one preverbal. This was shown for double-object constructions in (5), repeated as (31) below.

(31)(a) Aux O1 O2 V
þæt he sceolde Osweo þæm cyninge wiif **fetigan**
that he had-to O. the king woman obtain
'that he had to obtain a woman for O. the king'
(cobede,Bede_3:13.198.24.2014)

(b) Aux V O1 O2
þæt se godcunda anweald ne mihte **afyrran** þone anweald þam unrihtwisan kasere
that the sacred authority NEG could remove the power the unrighteous emperor
'that the sacred authority couldn't remove the power from the unrighteous emperor'
(coboeth,Bo:16.39.28.727)

(c) Aux O1 V O2
þæt ælc mann sceolde . . . his geleafan **andettan** oþrum menn
so-that each man had-to . . . his faith-ACC acknowledge other man-DAT
'so that each man had to acknowledge his faith to another man'
(coaelhom, +AHom_18:130.2555)

(d) Aux O1 V O2
þæt he scile þæm goodum **leanian** hiora good
that he must the good-DAT reward their virtue-ACC
'that he must reward the good for their virtue' (coboeth,Bo:39.134.24.2683)

However, if the postverbal constituent is either a negative object or a prosodically light element (pronominal object or particle), the position of additional objects is constrained in the following way: negative objects, quantified objects and pronominal

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Table 5. *The distribution of nominal objects in clauses with auxiliary verbs in Early Middle English: the effect of postverbal pronouns (data from Kroch & Taylor, 2000: tables 6.9, 6.10, and 6.11)*

	Preverbal	Postverbal	Total	% Preverbal
Clauses with postverbal pronouns				
Positive objects	1	19	20	5.0%
Quantified objects	4	9	13	30.8%
Clauses without postverbal pronouns				
Positive objects	244	565	809	30.2%
Quantified objects	60	85	145	41.4%

objects can appear preverbally, but positive nominal objects cannot. In other words, the distribution is as shown in (32):

(32)(a) Aux O-neg V O-neg/O-pro/particle[17]
þæt þu ne mihtst nænne weg **findan** ofer
that you NEG can no way find across
'that you cannot find a way across' (coboeth,Bo:34.85.22.1646)

(b) Aux O-quan V O-neg/O-pro/particle
þysra feower wyrta man sceal mæst **don** to
these four herbs.GEN one must most.ACC add thereto
'To that one must add most of these four herbs . . . '
(colacnu,Med_3_[Grattan-Singer]:63.23.360)

(c) Aux O-pro V O-neg/O-pro/particle
ac we nu wyllað mid fægerum andgite hi **gefrætewian** eow
but we now will with agreeable understanding them adorn (for) you
'but we will now with agreeable understanding adorn them for you . . . '
(coaelhom, +AHom_8:50.1197)

(d) *Aux O-pos V O-neg/O-pro/particle

Because the number of relevant clauses is so small, I use data from both Old English & Early Middle English to illustrate the constraint. Kroch & Taylor (2000) demonstrate that the southern dialect of Early Middle English can be analysed as the continuation of Old English, the main difference being the frequency with which different underlying structures are used: Early Middle English exhibits far less head-final structure than Old English, particularly in the IP. In Early Middle English clauses with postverbal pronouns,[18] positive objects appear postverbally rather than preverbally, while quantified objects (including negative objects) may appear in preverbal position. In contrast, in clauses without postverbal pronouns, both quantified and positive objects may appear preverbally. The distribution is shown in table 5.

[17] In the example in (32a), the particle is clearly a small clause predicate (see footnote 16).

[18] Particles are uncommon in Early Middle English, so Kroch & Taylor looked at clauses with postverbal pronouns only.

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Table 6. *The distribution of nominal objects in I-initial clauses with auxiliary verbs in Old English: the effect of postverbal diagnostic elements*

	Preverbal	Postverbal	Total	% Preverbal
Clauses with postverbal diagnostic elements				
Positive objects (total)	1	39	40	2.5%
+postverbal neg object	0	2	2	0.0%
+postverbal pronoun	0	29	29	0.0%
+postverbal particle	1	8	9	11.1%
Quantified objects	3	1	4	75.0%
Clauses without postverbal diagnostic elements				
Positive objects	2077	1789	3866	53.7%
Quantified objects	341	175	516	66.1%

The same pattern holds for Old English. As shown in table 6, postverbal pronouns, particles and negative objects block positive objects in preverbal position, while quantified (including negative) objects may appear there. There is only one exception to this generalization, shown in (33).

(33) þæt ma ne mæge þæt drincgemett **bringan** forð
that one NEG may the measure-of-drink bring forth
'that one may not bring forth the measure of drink. . . '
(cochdrul,ChrodR_1:6.28.168)

As stated above, the number of clauses with postverbal diagnostic elements and quantified and negative objects is very small. Since there are only four tokens of this type in the entire YCOE, we would not want to rely on these data alone in the formulation of constraints on scrambling in Old English. However, a comparison of tables 5 and 6 shows that Old English exhibits the same pattern as Kroch & Taylor's Early Middle English data. In clauses that are unambiguously head-initial in underlying structure (i.e. clauses with postverbal pronouns, particles, or negative objects), positive objects do not scramble leftward over the nonfinite verb: 39 out of 40 appear postverbally in their underlying position. In contrast, as was illustrated in (32) above, three out of four quantified objects do appear preverbally in clauses with head-initial structure; this suggests that in Old English, as in Middle English, quantified objects may scramble leftward over the nonfinite verb.[19] Now compare the distribution of objects in I-initial clauses without postverbal diagnostic elements shown in table 6. In these clauses, the frequency of preverbal objects is very high: 53.7 per cent for positive objects, and 66.1 per cent for quantified objects. If the frequency of leftward movement is the same in clauses without postverbal diagnostic elements as in clauses with postverbal diagnostic elements, then it is clear that leftward movement cannot account for the high frequency of objects in preverbal position. This high frequency, I claim, is due to

[19] See Rögnvaldsson (1987), Svenonius (2000), and van der Wurff (1999) for discussion of Icelandic data that show the same behaviour.

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objects being generated in preverbal position. In other words, the difference between the frequencies shown in table 6 for clauses with postverbal diagnostic elements and clauses without postverbal diagnostic elements is additional strong evidence for the existence of head-final VPs in Old English.

How can the uniform head-initial accounts explain these distributions? As stated above in section 5, Nunes (2002) suggests that scrambled pronouns, via Relativized Minimality, block the long-distance movement of remnant vPs, thus preventing the derivation of V–Aux–O-pro (compare table 3, where it was demonstrated that this order does not occur). In addition, he suggests that scrambled pronouns also block the long-distance movement of positive objects, thus blocking the derivation of Aux–O-pos–V–O-pro (compare table 6 above); but since the scrambling of quantified objects is triggered by different types of features, Relativized Minimality does not constrain the leftward movement of quantified objects past scrambled pronouns. But this explanation is simply an error, since scrambled pronouns appear to the left of the nonfinite verb, while in the clauses discussed here, the scrambled pronouns are postverbal.[20] As for the Pied Piping analysis, it is difficult to see how the type of preverbal argument can be constrained based on the characteristics of the postverbal argument.

To summarize, I know of no way to formulate a uniform head-initial account so that postverbal negative objects, pronominal objects and particles block the leftward movement of positive objects, but permit the leftward movement of pronouns and quantified and negative objects.

7 Conclusions and implications

I have demonstrated in this article that uniform head-initial analyses that have been proposed for Old English are not able to account for the variation in the position of verbs and different types of arguments; this is in contrast to an analysis that proposes variation in the headedness of underlying structure for both IPs and VPs. This is not to claim that no head-initial analysis can ever be formalized, but certainly no analysis that has been proposed up to now can account for the Old English data described in this article. A summary of the analyses and data is given in table 7. Note that this table is intended as an aid to the reader and not as an evaluation metric: as an anonymous referee observed, the analysis with the fewest stipulations is not necessarily the best

[20] Nunes' account, while appealing in principle, has other problems, and it turns out to be stipulative when examined more closely. The first problem is that particles and negative objects behave in the same way as pronominal objects: they cannot appear postverbally in clauses with the nonfinite verb before the finite auxiliary (see tables 2 and 4), and they block the leftward movement of nonquantified objects. As Nunes (2002: 304, footnote 8) himself notes, he has no explanation for this. Second, consider the classes of constituents that are affected (or not) by Relativized Minimality once the pronominal object has scrambled to SpecWP: the leftward movement of positive objects and remnant-vPs is blocked, but the leftward movement of subjects, quantified objects and second pronominal objects is permitted. Nunes assumes that the scrambling of quantified objects is triggered by a different type of feature, but surely this is true of remnant vP movement as well. Similarly, it is not clear why the long-distance movement of a second pronominal object is not blocked by the scrambling to SpecWP of the first pronominal object.

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Table 7. *Accounting for the order of verbs and their arguments in Old English*

	Head Parameter (Pintzuk, 1999, 2002)	Uniform head-initial structure		
		Many Movements (Nunes, 2002; Roberts, 1997)	Many Movements with nonfinite verb movement (example (13))	Pied Piping (Biberauer & Roberts, 2003, 2004)
Objects in Aux V and V Aux clauses (see (1)–(4))	√	√	√	√
* V O Aux (see (8))	stipulation	stipulation	√	√
Double-object constructions (see (5)–(6))	√	√	√	√
Negative objects (see (21))	√	stipulation	stipulation	stipulation
Prosodically light elements (see (24) and (25))	√	stipulation	stipulation	stipulation
Positive objects (see (32))	√	stipulation	stipulation	stipulation

one. But the fact that the head-initial analyses cannot account for basic distribution patterns for different types of objects must weigh heavily against them.

The problem that head-initial accounts cannot resolve without stipulation is that the position of arguments is not independent of the positions of the finite auxiliary and nonfinite main verb. Certain processes and word orders are permitted in Aux–V structures which are not permitted in V–Aux structures, and vice versa. In other words, arguments behave differently in head-final structure than they do in head-initial structure. These behavioural differences do not surface in languages with stable and uniform constituent order (like Modern German and Dutch), but emerge only in languages like Old English that are in the process of syntactic change that affects constituent order.

The only problem that the Head Parameter account faces is that a stipulation is required to block the derivation of V–O–Aux constituent orders. However, it appears that this is a general problem, one that is perhaps not limited to the functional and verbal projections considered here. Chris Hook (p.c.), in his investigation of change in the position and structure of adjectival phrases in the history of English, has discovered that head-initial adjectival phrases never appear prenominally in Old English. Postnominal AdjPs may be either head-initial or head-final, but prenominal AdjPs must be head-final; in other words, head-final NPs cannot be pre-modified by head-initial AdjPs, just as head-final IPs cannot dominate head-initial VPs. Examples of relevant DPs and their structure are shown in (34), where it is assumed that AdjPs are NP adjuncts:

(34)(a) head-initial NP, head-initial AdjP
& heo hafað [$_{DP}$ [$_{NP}$ [$_{NP}$ sæd] [$_{ADJP}$ gelic [$_{DP}$ mannes nafolan]]]]
and it has fruit like man's navel
'and it has fruit like a man's navel' (coherbar,Lch_I_[Herb]:174.0.2517)

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(b) head-initial NP, head-final AdjP
for ðy þe heo byrð [DP [NP [NP corn] [ADJP [DP golde] gelice]]]
because it bears grain gold like
'because it bears grain like gold' (coherbar,Lch_I_[Herb]:121.0.1836)
(c) head-final NP, head-final AdjP
Hæfde þæt deor [DP [NP [ADJP [DP horse] gelic] [NP heafod]]]
Had that animal horse like head
'That animal had a head like a horse. . . ' (coalex,Alex:20.4.232)
(d) head-final NP, head-initial AdjP* [NP [ADJP ADJ DP] [NP N]]

It is necessary to determine whether the constraint blocking (34d) is the same as the constraint blocking V–O–Aux; if they are the same, it is unlikely that the phase-edge solution of Biberauer & Roberts is the correct one. The question of how such a constraint can be incorporated into the grammatical system, as well as the means of realizing the headedness parameter within a Minimalist framework, are topics for future research.

Author's address:
Department of Language and Linguistic Science
University of York
Heslington
York YO10 5DD
UK
sp20@york.ac.uk

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