

On Word Order Phenomena in Old English Constructions with Two Predicates**

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1. Introduction

The aim of this study is to examine word order phenomena in constructions involving two predicates, one finite and the other non-finite in Old English subordinate clauses, as illustrated in (1)–(4). (1) Modal Constructions, (2) and (3) Participle Constructions, and (4) Adjective Constructions.

(1) Modal Constructions

- a. *þæt ic mage geseon*
that I may see
'that I may see' (ÆCHom I, 152. 21)
- b. *þæt he suwian sceolde*
that he be-silent should
'that he should be silent' (ÆCHom I, 152. 17)

(2) Participle Constructions (with present participles)

- a. *þæt he beo wunigende*
that he is existing
'that he is existing' (ÆCHom I, 302. 19–20)
- b. *þæt ic wanigende beo*
that I waning am
'that I am waning' (ÆCHom I, 356. 27)

(3) Participle Constructions (with past participles)

- a. *þæt ðeos burh beo geclænsod*
that this city is cleansed

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‘that this city is cleansed’ (ÆCHom I, 424. 25-26)

- b. *þæt eal min hiwraeden gefullod wurðe*
 that all my household baptized is
 ‘that all my household is baptized’ (ÆCHom I, 422. 21-22)

(4) Adjective Constructions

- a. *þæt God is Ælmihtig*
 that God is Almighty
 ‘that God is Almighty’ (ÆCHom I, 236. 9)
- b. *þæt se lareow gimeleas beo*
 that the teacher heedless is
 ‘that the teacher is heedless’ (ÆCHom I, 242. 21-22)

Modal Constructions involve modal verbs such as *magan* ‘may,’ *cunnan* ‘can,’ etc. together with their infinitival complements.

Participle Constructions involve finite auxiliary verbs (= *beon*, *weorpan*, or *wesan* ‘be’) together with their dependent participles. Participles can be either present participles as in (2), or past participles as in (3). Participles involved in (3) are derived from transitive verbs so that these examples are passives. A group of intransitive verbs form perfect constructions with *beon*, *weorpan*, or *wesan* ‘be’ as illustrated in (5).

(5) Perfect Constructions with BE.

- a. *ðe wæron on ðære ealdan æ forðfarene*
 who were in the old law died
 ‘who had died in the old law’ (ÆCHom I, 224. 32)
- b. *þæt he arisen wæs*
 that he arisen was
 ‘that he has arisen (been resurrected)’
 (ÆCHom I, 222. 9-10)

These constructions are also included in Participle Constructions. Thus, Participle Constructions involve three subtypes: (i) constructions with a present participle; (ii) passive constructions; and (iii) perfect constructions (with *beon*, *weorpan*, or *wesan*).

Adjective Constructions also involve *beon*, *weorpan*, or *wesan* ‘be.’

They differ from Participle Constructions in that they involve adjectives instead of participles.

As demonstrated in (1)–(4), either head-initial (=‘finite-verb-non-finite-predicate’) order as in the (a) examples or head-final order (=‘non-finite-predicate-finite-verb’) order as in the (b) examples is observed in Old English. The central concern of this paper is to clarify what determines the choice between these two patterns. Since head-initial/head-final alternation is typically observed in subordinate clauses, data examined here are restricted to subordinate clauses.

Section 2, 3, and 4, respectively, present figures concerning Modal, Participle, and Adjective Constructions. Section 5 gives some theoretical considerations concerning the data presented in the preceding three sections.

2. Modal Constructions

In Ohkado (1999), it is shown that, in Modal Constructions, the choice between head-initial patterns as illustrated in (1a) and head-final patterns as illustrated in (1b) is affected by the presence or absence of extra elements, especially, the presence or absence of objects or PPs: Modal Constructions without these extra elements tend to prefer head-final patterns, whereas Modal Constructions with them tend to prefer head-initial patterns. As an illustration, examples with no extra elements, with full noun objects, with object personal pronouns, with prepositional phrases, and with adverbs are given in (6)–(9).

(6) *Example with No Extra Element*

þæt he suwian sceolde
that he become-silent should
‘that he should become silent’ (ÆCHom I, 152, 17)

(7) *Example with Full Noun Object*

þæt he sceolde *Godes bebod* tobrecan
that he should God’s command break

- ‘that he should break God’s command’ (ÆCHom I, 18. 28-29)
- (8) *Example with Object Personal Pronoun*
 þæt ðu woldest us fordon.
 that you would us destroy
 ‘that you would destroy us’ (ÆCHom I, 304. 4-5)
- (9) *Example with Prepositional Phrase*
 þæt ic moste to ðe faran,
 that I might to you go
 ‘that I might go to you’ (ÆCHom I, 74. 28-29)

In Ohkado (1999) seven Old English texts are examined, but, since examples in some of the texts are very small in number, especially in Participle and Adjective Constructions, which we will see in the following sections, I only present figures concerning three Old English prose texts, namely, the first series of Ælfric’s *Catholic Homilies*, Bede’s *Ecclesiastical History of the English People*, and Gregory’s *Pastoral Care*. Furthermore, for the reason of space, the data presented here is restricted to cases with no extra element and cases with one extra element, where extra elements are (i) Personal Pronoun Objects, (ii) Full Noun Objects, and (iii) Prepositional Phrases as shown in (7), (8), and (9). (10)–(12) present the relevant figures in the three texts.

(10) Extra Elements and Word Order of Modal Constructions in Ælfric’s First Series of *Catholic Homilies*

a. Extra Element = None

MV	VM	total
8(21.6%)	29(78.4%)	37

b. Extra Element = Object Personal Pronoun

	MV	VM	total
(i) –Extraposition	3(12.0%)	22(88.0%)	25
(ii) +Extraposition	0	0	0
(iii) total	3(12.0%)	22(88.0%)	25

c. Extra Element = Full Noun Object NP

	MV	VM	total
(i) –Extraposition	26(60.5%)	17(39.5%)	43

(ii) +Extraposition	19(95.0%)	1(5.0%)	20
(iii) total	45(71.4%)	18(28.6%)	63

d. Extra Element = PP

	MV	VM	total
(i) -Extraposition	12(63.2%)	7(36.8%)	19
(ii) +Extraposition	16(76.2%)	5(23.8%)	21
(iii) total	28(70.0%)	12(30.0%)	40

(11) Extra Elements and Word Order of Modal Constructions in Bede's *Ecclesiastical History of the English People*

a. Extra Element = None

	MV	VM	total
	0(0.0%)	29(100.0%)	29

b. Extra Element = Object Personal Pronouns

	MV	VM	total
(i) -Extraposition	0(0.0%)	14(100.0%)	14
(ii) +Extraposition	0(0.0%)	0(0.0%)	0
(iii) total	0(0.0%)	14(100.0%)	14

c. Extra Element = Full Noun Object NP

	MV	VM	total
(i) -Extraposition	22(44.0%)	28(56.0%)	50
(ii) +Extraposition	1(25.0%)	3(75.0%)	4
(iii) total	23(42.6%)	31(57.4%)	54

d. Extra Element = PP

	MV	VM	total
(i) -Extraposition	8(34.8%)	15(65.2%)	23
(ii) +Extraposition	4(80.0%)	1(20.0%)	5
(iii) total	12(42.9%)	16(57.1%)	28

(12) Extra Elements and Word Order of Modal Constructions in Gregory's *Pastoral Care*

a. Extra Element = None

	MV	VM	total
	13(19.7%)	53(80.3%)	66

b. Extra Element = Object Personal Pronouns

	MV	VM	total
(i) -Extraposition	0(0.0%)	30(100.0%)	30
(ii) +Extraposition	0	0	0
(iii) total	0(0.0%)	30(100.0%)	30
c. Extra Element = Full Noun Object NP			
	MV	VM	total
(i) -Extraposition	23(44.2%)	29(55.8%)	52
(ii) +Extraposition	22(95.7%)	1(4.3%)	23
(iii) total	45(60.0%)	30(40.0%)	75
d. Extra Element = PP			
	MV	VM	total
(i) -Extraposition	3(13.0%)	20(87.0%)	23
(ii) +Extraposition	15(83.3%)	3(16.7%)	18
(iii) total	18(43.9%)	23(56.1%)	41

In each text the frequencies of head-initial constructions in clauses with no extra elements, and clauses with object personal pronouns are lower than in clauses with full noun objects or PPs. The data in (10)-(12) are graphically shown in figure 1.

In figure 1, each column shows the percentage of head-initial patterns in the four types of clauses.

If personal pronouns are clitics as argued in van Kemenade (1987), Koopman (1992), and Pintzuk (1999) among others, they can be disregarded as extra elements. Therefore, examples with object personal pronouns can also be regarded as examples with no extra elements.

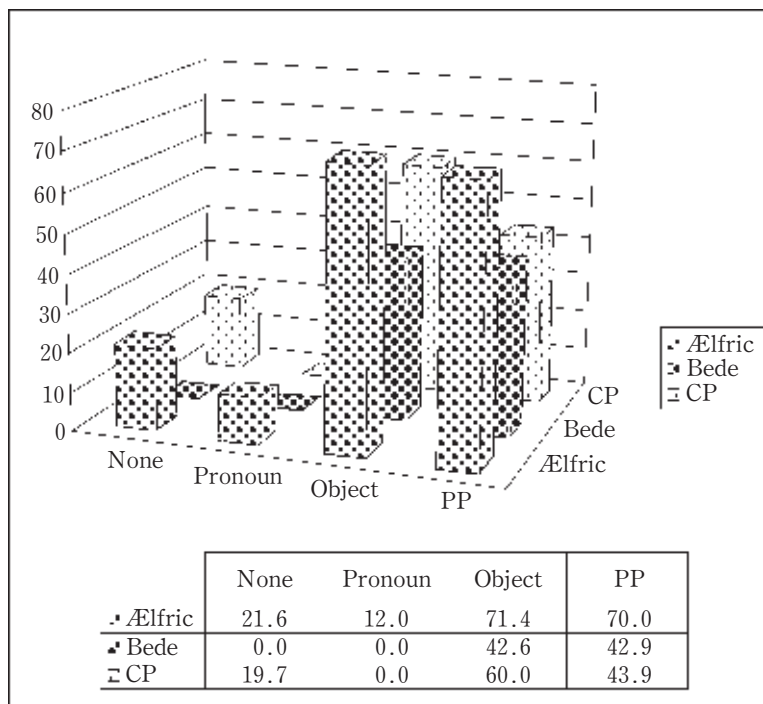


Figure 1 The Frequencies of Head-Initial Patterns in Modal Constructions

3. Participle Constructions

The data concerning Participle Constructions in the three texts are given in (13)–(15).

- (13) Extra Elements and Word Order of Participle Constructions in Ælfric's First Series of *Catholic Homilies*

a. Extra Element = None

BV	VB	total
26(28.9%)	64(71.1%)	90

b. Extra Element = Object Personal Pronoun

	BV	VB	total
(i) -Extraposition	0(0.0%)	13(100.0%)	13
(ii) +Extraposition	0	0	0
(iii) total	0(0.0%)	13(100.0%)	13
c. Extra Element = Full Noun Object NP			
	BV	VB	total
(i) -Extraposition	5(41.7%)	7(58.3%)	12
(ii) +Extraposition	2(50.0%)	2(50.0%)	4
(iii) total	7(43.8%)	9(56.3%)	16
d. Extra Element = Predicative Complement			
	BV	VB	total
(i) -Extraposition	22(95.6%)	1(4.4%)	23
(ii) +Extraposition	39(100.0%)	0(0.0%)	39
(iii) total	61(98.4%)	1(1.6%)	62
e. Extra Element = Prepositional Phrase			
	BV	VB	total
(i) -Extraposition	56(58.3%)	40(41.7%)	96
(ii) +Extraposition	54(85.7%)	9(14.3%)	63
(iii) total	110(69.2%)	49(30.8%)	159
(14) Extra Elements and Word Order of Participle Constructions in			
Bede's <i>Ecclesiastical History of the English People</i>			
a. Extra Elements = None			
	BV	VB	total
	5(6.0%)	79(94.0%)	84
b. Extra Element = Object Personal Pronouns			
	BV	VB	total
(i) -Extraposition	0(0.0%)	6(100.0%)	6
(ii) +Extraposition	0	0	0
(iii) total	0(0.0%)	6(100.0%)	6
c. Extra Element = Full Noun Object NP			
	BV	VB	total
(i) -Extraposition	4(57.1%)	3(42.9%)	7
(ii) +Extraposition	1(100.0%)	0(0.0%)	1

(iii) total	5(62.5%)	3(37.5%)	8
d. Extra Element = Predicative Complement			
	BV	VB	total
(i) –Extraposition	16(88.9%)	2(11.1%)	18
(ii) +Extraposition	31(79.5%)	8(20.5%)	39
(iii) total	47(82.5%)	10(17.5%)	57
e. Extra Element = PP			
	BV	VB	total
(i) –Extraposition	13(18.3%)	58(81.7%)	71
(ii) +Extraposition	22(68.8%)	10(31.3%)	32
(iii) total	35(34.0%)	68(66.0%)	103
(15) Extra Elements and Word Order of Participle Constructions in Gregory's <i>Pastoral Care</i>			
a. Extra Element = None			
	BV	VB	total
	27(62.8%)	16(37.2%)	43
b. Extra Element = Object Personal Pronouns			
	BV	VB	total
(i) –Extraposition	0(0.0%)	6(100.0%)	6
(ii) +Extraposition	0(0.0%)	0(0.0%)	0
(iii) total	0(0.0%)	6(100.0%)	6
c. Extra Element = Full Noun Object NP			
	BV	VB	total
(i) –Extraposition	2(66.7%)	1(33.3%)	3
(ii) +Extraposition	3(100.0%)	0(0.0%)	3
(iii) total	5(83.3%)	1(16.7%)	6
d. Extra Element = Predicative Complement			
	BV	VB	total
(i) –Extraposition	1(100.0%)	0(0.0%)	1
(ii) +Extraposition	2(100.0%)	0(0.0%)	2
(iii) total	3(100.0%)	0(0.0%)	3
e. Extra Element = PP			

	BV	VB	total
(i) –Extraposition	20(54.1%)	17(45.9%)	37
(ii) +Extraposition	58(78.4%)	16(21.6%)	74
(iii) total	78(70.3%)	33(29.7%)	111

It should be noted that in Participle Constructions, examples with predicative complements as illustrated in (16) are included in the data.

- (16) þe wæs *Octavianus* gehaten
 who was Octavianus called
 ‘who was called Octavianus’ (ÆCHom I, 32. 18)

The data in (13)–(15) are graphically shown in figure 2 on the next page.

(13)–(15) show that Participle Constructions also show the tendency for examples with full noun objects or PPs to have head-initial patterns. The (d) examples in (13)–(15) show that Examples with Predicative Complements behave in parallel fashion with examples with full noun objects or PP.

4. Adjective Constructions

The data concerning Adjective Constructions are given in (17)–(19).

- (17) Extra Elements and Word Order of Adjective Constructions in Ælfric’s First Series of *Catholic Homilies*

a. Extra Element = None

	BA	AB	total
	27(34.6%)	51(65.4%)	78

b. Extra Element = Object Personal Pronoun

	BA	AB	total
(i) –Extraposition	0(0.0%)	5(100.0%)	5
(ii) +Extraposition	0	0	0
(iii) total	0(0.0%)	5(100.0%)	5

c. Extra Element = Full Noun Object NP

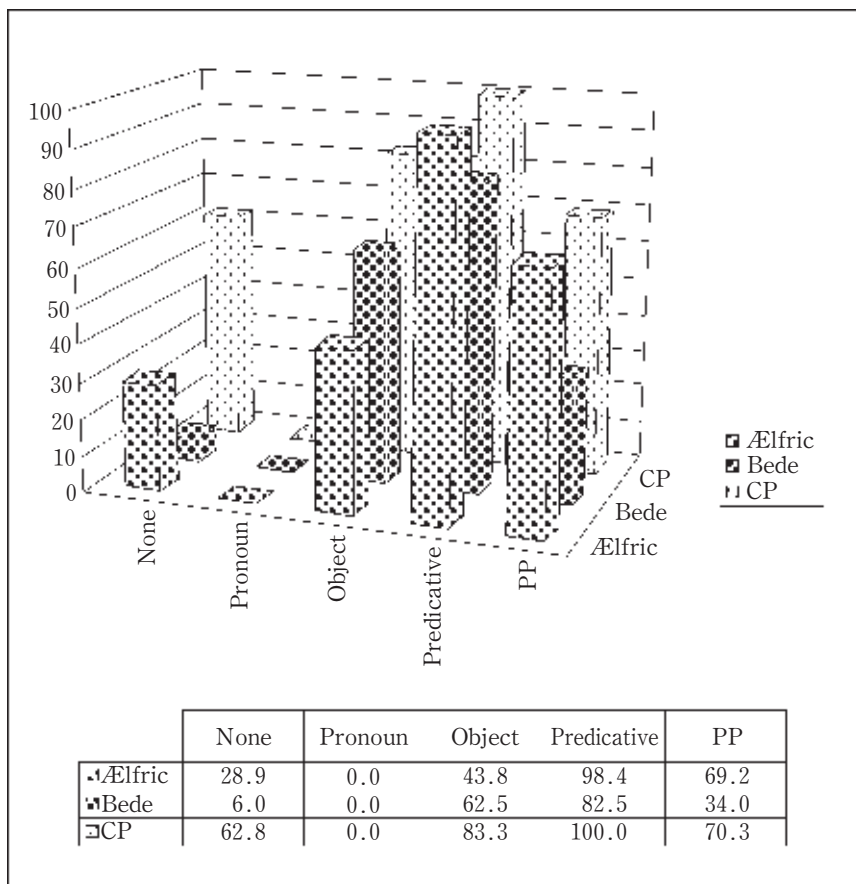


Figure 2 Frequencies of Head-Initial Patterns in Participle Constructions

	BA	AB	total
(i) –Extrapolation	2(18.2%)	9(81.8%)	11
(ii) +Extrapolation	7(63.6%)	4(36.4%)	11
(iii) total	9(40.9%)	13(59.1%)	22
d. Extra Element = Prepositional Phrase			
	BA	AB	total
(i) –Extrapolation	0(0.0%)	5(100.0%)	5

	(ii) +Extraposition	16(66.7%)	8(33.3%)	24
	(iii) total	16(55.2%)	13(44.8%)	29
(18)	Extra Elements and Word Order of Adjective Constructions in Bede's <i>Ecclesiastical History of the English People</i>			
	a. Extra Element = None			
		BA	AB	total
		3(10.3%)	26(89.7%)	29
	b. Extra Element = Object Personal Pronouns			
		BA	AB	total
	(i) –Extraposition	2(20.0%)	8(80.0%)	10
	(ii) +Extraposition	0	0	0
	(iii) total	2(20.0%)	8(80.0%)	10
	c. Extra Element = Full Noun Object NP			
		BA	AB	total
	(i) –Extraposition	7(70.0%)	3(30.0%)	10
	(ii) +Extraposition	3(100.0%)	0(0.0%)	3
	(iii) total	10(76.9%)	3(23.1%)	13
	d. Extra Element = PP			
		BA	AB	total
	(i) –Extraposition	0(0.0%)	8(100.0%)	8
	(ii) +Extraposition	0	0	0
	(iii) total	0(0.0%)	8(100.0%)	8
(19)	Extra Elements and Word Order of Adjective Constructions in Gregory's <i>Pastoral Care</i>			
	a. Extra Element = None			
		BA	AB	total
		19(28.4%)	48(71.6%)	67
	b. Extra Element = Object Personal Pronouns			
		BA	AB	total
	(i) –Extraposition	0(0.0%)	19(100.0%)	19
	(ii) +Extraposition	0	0	0
	(iii) total	0(0.0%)	19(100.0%)	19
	c. Extra Element = Full Noun Object NP			

	BA	AB	total
(i) –Extrapolation	3(75.0%)	1(25.0%)	4
(ii) +Extrapolation	9(60.0%)	6(40.0%)	15
(iii) total	12(63.2%)	7(36.8%)	19
d. Extra Element = PP			
	BA	AB	total
(i) –Extrapolation	2(22.2%)	7(77.8%)	9
(ii) +Extrapolation	8(53.3%)	7(46.7%)	15
(iii) total	10(41.7%)	14(58.3%)	24

The data in (17)–(19) are graphically shown in figure 3.

We can see that the tendency observed in Modal and Participle Constructions is also observed in Adjective Constructions.

5. Theoretical Considerations

In this section I present an analysis of the phenomena observed in the preceding sections and consider some related theoretical problems.

I propose that the tendency for examples with extra elements to show head-initial patterns is accounted for in terms of heaviness. Suppose that Old English is underlyingly SOV as assumed in Allen (1975), Closs (1965), and van Kemenade (1987) among others and that verb phrases or adjective phrases containing extra elements are heavier than those with no extra elements.

- (20) a. Heavy VP or AP b. Light VP or AP



In this analysis Modal, Participle, and Adjective Constructions with heavy VPs or heavy APs will have the following underlying structure.

- (21) a. [_{VP} X Verb_[infinitive]] Modal
 heavy

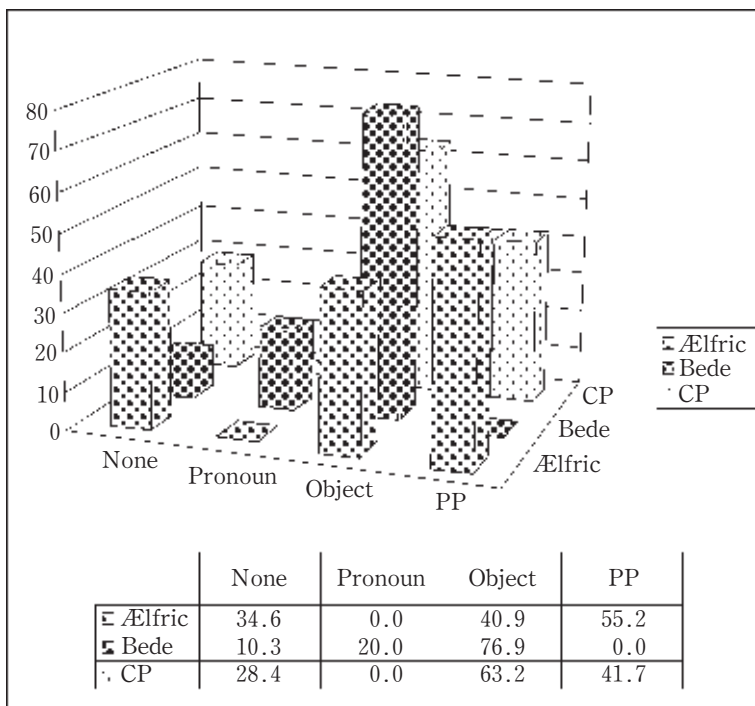


Figure 3 The Frequencies of Head-Initial Patterns in Adjective Constructions

b. [_{VP} X Participle] BE

heavy

c. [_{AP} X Adjective] BE

heavy

In such cases, heavy VPs or APs are likely to undergo rightward movement as shown in (22) in accordance with the general tendency in Old English that heavy elements tend to move rightward.

(22) a. t_i Modal [_{VP} X Verb_[infinitive]]_i

b. t_i BE [_{VP} X Participle]_i

c. t_i BE [_{AP} X Adjective]_i

In contrast, if VPs or APs involve no extra element as in (23), they are light so that they tend to remain in situ, exhibiting underlying head-final order.

- (23) a. [_{VP} Verb_[−finite]] Modal
light
b. [_{VP} Participle] BE
light
c. [_{AP} Adjective] Verb
light

In the so-called standard analysis of Old English as proposed in van Kemenade (1987), head-initial patterns in subordinate Modal or Participle Constructions as illustrated in (22a) and (22b) are analyzed as being derived by a process called Verb Raising or Verb Projection Raising, which is observed in contemporary Germanic languages such as Dutch and West Flemish. The present analysis cast doubt on this analysis.

In West Flemish Modal Constructions as in (24), Verb Projection Raising obligatorily applies. Therefore head-final order, which reflects the underlying structure, is ungrammatical, as illustrated in (24a).

(24) *Modal Constructions*

- a. *da Jan dienen boek lezen wil
that Jan that book read wants
b. da Jan wil dienen boek lezen
that Jan wants that book read
'that Jan wants to read that book'

In contrast, Verb Projection Raising cannot apply to participles, so that in Participle Constructions only head-final structures are grammatical as illustrated in (25).

(25) *Participle Constructions*

- a. da dienen boek gelezen is
that that book read is
b. *da dienen boek is gelezen
that that book is read
'that that book is read'

In Adjective Constructions, to which Verb Projection Raising cannot apply by definition, only underlying head-final order is grammatical as shown in (26).

(26) *Adjective Constructions*

- a. da dienen roman interessant is
that that novel interesting is
- b. *da dienen roman is interessant
that that novel is interesting
'that that novel is interesting'

In other words, Verb Projection Raising in West Flemish is a process that applies only to Modal Constructions, and it obligatorily moves VPs headed by non-finite verbs rightward. Now consider examples in Dutch, which is a representative language with Verb Raising.

Verb Raising in Dutch applies to Participle Constructions as well as Modal Constructions as illustrated in (27) and (28).

(27) *Modal Constructions*

- a. dat ik een brief schrijven zal
that I a letter write will
- b. dat ik een brief zal schrijven
that I a letter will write
'that I will write a letter'

(28) *Participle Constructions*

- a. dat de brief (door mij) geschreven wordt
that the letter by me written is
- b. dat de brief (door mij) wordt geschreven
that the letter by me is written
'that the letter is written by me'

Note that in (27) and (28) application of Verb Raising is optional so that head-initial (examples (27b) and (28b)) as well as head-final (examples (27a) and (28a)) orders are grammatical. In contrast to Modal and Participle Constructions, Adjective Constructions do not allow head-initial order since Verb Raising cannot apply to adjectives.

(29) *Adjective Constructions*

- a. dat deze roman interessant is
that this novel interesting is
- b. *dat deze roman is interessant
that this novel is interesting
'that this novel is interesting'

The behavior of Modal, Participle, and Adjective Constructions in Old English, West Flemish, and Dutch is summarized in (30).

(30) Word Order in Subordinate Clauses

	Verb-Initial	Verb-Final
Old English		
Modal	ok	ok
Participle	ok	ok
Adjective	ok	ok
West Flemish		
Modal	ok	*
Participle	*	ok
Adjective	*	ok
Dutch		
Modal	ok	ok
Participle	ok	ok
Adjective	*	ok

Verb Raising or Verb Projection Raising, by definition, applies only to verbal elements, but in Old English, the process generating head-initial patterns, affects Adjective Constructions, as well as Modal and Participle Constructions. Furthermore, the process generating head-initial Modal and Participle Constructions tends to apply under the same circumstances as where the process generating head-initial Adjective Constructions applies. Namely, the processes tend to apply when the target is heavy. This is the characteristic of extraposition which usually moves NPs or PPs, and therefore, I assume that the process which yields head-initial Modal, Participle, and Adjective Constructions in subordinate clauses is a case of extraposition.

Let us finally consider the analysis of Pintzuk (1999), which is incom-

patible with the present proposal.

Pintzuk (1999) argues that the majority of subordinate clauses with the auxiliary verb in medial position [=head-initial Modal and Participle Constructions] must be derived from INFL-medial phrase structure by Verb Fronting. (p. 64).

It should be noted that Pintzuk (1999) uses the terms, Verb Raising and Verb Projection Raising, only for expository convenience (p. 120–121, note 16). Therefore, what Pintzuk calls Verb Raising or Verb Projection Raising can be different in status from Verb Raising or Verb Projection Raising in contemporary Germanic SOV languages.

In Pintzuk's (1999) analysis, example (31) is structurally ambiguous.

- (31) for-þan þe hi *sceoldon fyrdrian*
 because they must serve-in-the-army
 'because they must serve in the army' (ÆLS/Pintzuk (1999: 63))
 It can be derived by Verb Raising as in (32a) or by Verb Fronting as in (32b).

- (32) a. Verb Raising
 for-þan þe hi t_i *sceoldon fyrdrian* _{t_i}
 b. Verb Fronting
 for-þan þe h_i *sceoldon* _{t_i} *fyrdrian* t_i

Likewise, (33) can be derived by Verb Projection Raising as in (34a) or Verb Fronting as in (34b).

- (33) þæt Libertinus *mihte* ðis *gedon*
 that Libertinus might this do
 'that Libertinus might do this' (GD(C) 19. 7–8/Pintzuk (1999: 72))
 (34) a. Verb Raising
 þæt Libertinus t_i *mihte* [ðis *gedon*] _{t_i}
 b. Verb Fronting
 þæt Libertinus *mihte* _{t_i} ðis *gedon* t_i

In contrast, in Pintzuk's analysis examples with two or more heavy constituents with the 'AUX-Verb' cluster are not structurally ambiguous: They are derived only by Verb Raising. Therefore, the frequency of Verb

Raising can be unambiguously calculated by restricting data to examples with two or more heavy constituents before nonfinite verbs. Examples with and without Verb Raising are given in (35).

(35) a. Verb Raising Not Applied

þe [se ealdormon][wiþ hiene] *gedon hæfde*

that the alderman against him done had

‘that the alderman had done against him’

(Or 33. 13–14/Pintzuk (1999: 68))

b. Verb Raising Applied

þe æfre [on gefeohte][his handa] *wolde afylan*

who ever in battle his hands would defile

‘who would ever defile his hands in battle’

(ÆLS 25. 858/ibid.)

Likewise, Pintzuk (1999) claims that examples with three or more heavy constituents with the ‘AUX-X-Verb’ string can be derived only by Verb Projection Raising and that by restricting data to examples with three or more heavy constituents, the frequency of Verb Projection Raising can be calculated. Examples with and without Verb Projection Raising are given in (36).

(36) a. Verb Projection Raising not applied

forþon [of Breotone][nædran][on scipum] lædde wæron

because from Britain vipers on ships brought were

(Bede 30. 1–2/Pintzuk (1999: 74))

b. Verb Projection Raising applied

hwær [ænegu þeod][æt oþerre] *mehte [frið] begietan*

where any people from other might peace obtain

‘where any people might obtain peace from another’

(Or 31. 14–15/ibid.)

In this way, Pintzuk (1999) calculates the frequency of Verb Raising and Verb Projection Raising. She also compares the frequencies of these processes in ambiguous cases with the frequencies of head-initial patterns in unambiguous cases.

Pintzuk's distinction between examples undergoing Verb Raising and examples undergoing Verb Projection Raising is somewhat problematic. Consider the example in (37), which shows head-initial order and involves an extra element.

- (37) *pat heora anwaldas moston standan him betweenum*
 that their powers might remain them among
 'that their powers might remain among them'

(Or 65. 1-2/Pintzuk (1999: 69))

In Pintzuk's classification, (37) is analyzed as undergoing Verb Raising, but technically, it can also be derived by Verb Projection Raising and PP extraposition as illustrated in (38).

- (38) *pat heora anwaldas [him betweenan standan] moston =>*
pat heora anwaldas t_i moston [him betweenan standan]_i
pat heora anwaldas t_i moston [t_j standan]_i [him betweenan]_j

Because of this problem, I put together the figures concerning Verb Raising and Verb Projection Raising and recalculate the frequencies of ambiguous and unambiguous cases. The result is given in (39).

- (39) The Percentages of Unambiguous and Ambiguous Cases
 unambiguous: 13.4%
 ambiguous: 85.6%

(39) shows that the frequency of head-initial constructions in unambiguous cases are much lower than the frequency of head-initial constructions in ambiguous cases, which seems to suggest that ambiguous cases are truly "ambiguous" in that they involve head-initial examples resulting from Verb Fronting as well as head-initial examples resulting from Verb Raising or Verb Projection Raising.

However, this analysis is based on the dubious assumption that in both ambiguous and unambiguous cases the frequencies of Verb Raising and Verb Projection Raising are the same.

In the present analysis "unambiguous" examples such as (35b) and (36b) will have to be derived by (i) extracting an element out of the embedded VP leftward, and then (ii) extraposing the relevant VP. This

is illustrated in (40) and (41).

(40) Deriving (35b)

þe æfre [his handa] [[on gefeohte] afylan] wolde
 þe æfre [on gefeohte]_i [his handa] [t_i afylan] wolde
 þe æfre [on gefeohte]_i [his handa] t_j wolde [t_i afylan]_j

(41) Deriving (36b)

hwær [ænegu þeod] [[æt oþerre] [frið] mehte]] begietan
 hwær [ænegu þeod] [æt oþerre]_i [t_i [frið] mehte]] begietan
 hwær [ænegu þeod] [æt oþerre]_i t_j begietan [t_i [frið] mehte]]_j

If the motivation of VP extraposition is to move heavy constituents rightward, it is not clear why part of the heavy constituent is extracted in (35b) and (36b). Whatever the motivation of extracting an element out of the embedded VP is, unambiguous cases are more complex in that they involve leftward movement.

In contrast, in the so-called ambiguous cases, the whole VP undergoes rightward movement and the process is more in accordance with the motivation. In such examples as (42), a simple process of VP extraposition yields the head-initial structure, as illustrated in (43).

- (42) þæt hi mihton twa þeode gehabban
 that they might two nations have
 ‘that they might have two nations’ (Bede 28. 11-12)

- (43) þæt hi [twa þeode gehabban] mihton
 þæt hi t_i mihton [twa þeode gehabban]_i

In more complex cases as (37), VP extraposition is followed by PP extraposition. I cannot go into details here, but I suggest that the motivation of the second extraposition is to obtain harmonic structures with respect to headedness: In (37), the order of the modal and nonfinite verbs as well as the order of the nonfinite verb and the PP is head-initial. Double extraposition itself is possible in Old English as shown in (44).

- (44) a. Ðaða se Hælend acenned *wæs on þære Iudeiscan*
 when Jesus born was in (of) the Judæa

Bethleem , *on* *Heordes dagum cyninges*
 Bethlehem in (of) Herod days king's
 'When Jesus was born in Bethlehem of Judæa, in the days of
 Herod the king' (ÆCHom I, 104. 11-13)

- b. *swa hi gehendran beoð heora Scyppende,*
 as they nearer are (to) their Creator
ðurh wurðscipe heora geearnunga
 through worthiness (of) their deserts
 'as they are nearer to their Creator through the worthiness of
 their deserts' (ÆCHom I, 344. 4-5)

Therefore, the higher frequencies of head-initial patterns in ambiguous cases does not warrant Pintzuk's conclusion that the majority of head-initial patterns in Modal and Participle Constructions are derived by Verb Fronting.

Furthermore, Pintzuk's analysis cannot account for the differences in frequencies between examples with extra elements and those with no extra elements. If Pintzuk's conclusion that the majority of head-initial examples in subordinate clauses are derived by Verb Fronting is correct, we would have to assume that Verb Fronting tends to apply when examples contain extra elements. However, there seems to be no reason to assume that the presence of extra elements and the application of Verb Fronting are related to each other. In the present analysis, the presence of extra elements and the application of extraposition are related to each other through the concept of heaviness.

6. Conclusion

In this paper, I have examined the three Old English constructions which involve two predicates. It has been shown that the presence or absence of extra elements is an important determining factor of the order of finite and nonfinite predicates in subordinate clauses. I have also considered some theoretical implications of the fact.

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