THE IMPORTANCE OF EXTRA ELEMENTS
IN OLD ENGLISH

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Old English Constructions with Multiple Predicates, by Ohkado Masayuki, Hituzi Syobo, Tokyo, 2001, x+229pp. plus CD-ROM

Keywords: finite verb position, extra elements, word order

1. Introduction

The book under review is a historical survey of word order in subordinate clauses of Old English (OE, c.700–1100), written by a Japanese expert on diachronic syntax. It consists of the following nine (virtually ten) chapters:

Introduction
Chapter 1 Theoretical Framework
Chapter 2 Modal Constructions
Chapter 3 Participle Constructions
Chapter 4 Adjective Constructions
Chapter 5 Verb (Projection) Raising
Chapter 6 Head-Initial Order in Clauses with No Extra Elements
Chapter 7 Extraposition
Chapter 8 Topicalization and Scrambling
Chapter 9 Conclusion

In the Introduction, the author clarifies the three constructions to be

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discussed in Chapters 2, 3, and 4: (1) modal constructions, (2) participle constructions, and (3) adjective constructions, collected mainly from ÆElfric’s Catholic Homilies (compiled and attached as a CD-ROM).

(1) a. þæt ic mage geseon (= MV order)
that I may see
‘that I may see’
(ÆHom I, 152.21)

b. þæt he suwian sceolde (= VM order)
that he be-silent should
‘that he should be silent’
(ÆHom I, 152.17)

(2) a. þæt he beo wunigende (= BV order)
that he is existing
‘that he is existing’
(ÆHom I, 302.19-20)

b. þæt eal min hiwraeden gefullod wurðe (= VB order)
that all my household baptized is
‘that all my household is baptized’
(ÆHom I, 422.21-22)

(3) a. þæt God is ÆElmihtig (= BA order)
that God is Almighty
‘that God is Almighty’
(ÆHom I, 236.9)

b. þæt se lareow gimeleas beo (= AB order)
that the teacher heedless is
‘that the teacher is heedless’
(ÆHom I, 242.21-22)

As illustrated in (1)–(3), both head-initial (finite verb before non-finite predicate) order as in the (a) examples and head-final (non-finite predicate before finite verb) order as in the (b) examples are observed in OE. The central concern of the book is to explore what determines the choice between these two patterns.

In Chapter 1, a traditional V/I-final diagram like (4) is adopted by the author (as well as the reviewer) as the clause structure of OE, an SOV language, in accordance with the X’-schemas of Chomsky (1986) (cf. Chomsky (1995)).
The seven movement rules involved in the discussion are the following (Ohkado p. 25):

(5) a. Movement of subject to I' specifier
b. V-to-I movement
c. V-to-C movement
d. Topic movement
e. Extraposition
f. Verb Raising
g. Verb Projection Raising

Setting aside the familiar rules in (5a–e), (5f) is a rule affecting the position if non-finite verbs (Vnf), thus yielding the order of finite verb (Vf) before Vnf.

(6) S X Vnf Vf → S X t Vf Vnf

(5g) is another rule applying to phrases headed by Vnf, again yielding Vf Vnf order.

(7) S X Vnf Vf → S t Vf [X Vnf]

These two rules are discussed critically in Chapter 5. Chapters 6, 7, and 8 deal with other related theoretical issues, followed by a brief conclusion that summarizes the arguments put forward.

2. Data and Statistics for the Three Constructions

In Chapters 2, 3, and 4, Ohkado presents data showing that the presence or absence of extra elements is an important factor in determining
the ordering of finite and non-finite verbs. 'Extra elements' are defined as word sequences (objects, PPs, etc.) other than subjects, modal or finite verbs, and non-finite verbs.

2.1. Modal Constructions

Table (8) (adapted from Ohkado's (11), (12) and (13) on p. 34) gives figures concerning the relation between the number of extra elements and the order of modal and non-finite verbs in subordinate clauses in the first series of Ælfric's *Catholic Homilies*.

<table>
<thead>
<tr>
<th>No. of Extra Elements</th>
<th>MV</th>
<th>VM</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>8 (21.6%)</td>
<td>29 (78.4%)</td>
<td>37</td>
</tr>
<tr>
<td>1</td>
<td>84 (57.5%)</td>
<td>62 (42.5%)</td>
<td>146</td>
</tr>
<tr>
<td>2 or more</td>
<td>149 (71.6%)</td>
<td>59 (28.4%)</td>
<td>208</td>
</tr>
</tbody>
</table>

As the number of extra elements increases, so does the frequency of MV order. The extra elements are (actually) full noun object NPs, object personal pronouns, PPs, and adverbs. Ohkado (pp. 37–38) observes from Table (9) (adapted from his (19)–(20) on p. 37) that the presence of pronouns and adverbs seldom affects the original VM order.

<table>
<thead>
<tr>
<th>Kind of Single Extra Elements</th>
<th>MV</th>
<th>VM</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Noun Object NP</td>
<td>45 (71.4%)</td>
<td>18 (28.6%)</td>
<td>63</td>
</tr>
<tr>
<td>Object Personal Pronoun</td>
<td>3 (12.0%)</td>
<td>22 (88.0%)</td>
<td>25</td>
</tr>
<tr>
<td>PP</td>
<td>28 (70.0%)</td>
<td>12 (30.0%)</td>
<td>40</td>
</tr>
<tr>
<td>Adverb</td>
<td>0 (0.0%)</td>
<td>8 (100.0%)</td>
<td>8</td>
</tr>
</tbody>
</table>

In sum, especially with an object NP or a PP, Modal Constructions with extra elements tend to prefer MV order while those without extra elements tend to prefer VM order.

Ohkado (p. 38) next examines the two alternative approaches as in (10). As is well-known, heavy strings of words tend to shift towards the end of sentences.

(10) a. The heavier the non-finite verb is, the more likely it becomes that it follows the modal verb.

b. If non-finite verbs are heavier than modal verbs, the former tend to follow the latter. If non-finite verbs are lighter than modal verbs, the former tend to precede the latter.

By counting the number of syllables on non-finite verbs, Ohkado tries to refute the hypotheses in (10). Table (11) (his (30) on p. 40) shows figures concerning the weight and the position of non-finite verbs in the first series of Ælfric's *Catholic Homilies*.
(11) No. of Syllables on V MV VM Total
1 3(21.4%) 11(78.6%) 14
2 114(64.0%) 64(16.0%) 178
3 134(67.3%) 65(32.7%) 199
4 18(60.0%) 12(40.0%) 30
5 1(100.0%) 0(0.0%) 1

From this result, Ohkado rejects (10a): there seems to be no gradual increase of MV order from the second row of two syllables through the fourth row of four syllables.

Next, he counts the number of syllables on modals and examines the relative weight of modal and non-finite verbs regarding their order. Table (12) (his (38) on p. 43) demonstrates a tendency against (10b).

(12) Syllable Length MV VM Total
Modal > Verb 2(16.7%) 10(83.3%) 12
Modal = Verb 105(64.0%) 59(36.0%) 164
Modal < Verb 163(66.5%) 82(33.5%) 245

Here, Ohkado does not see any contrast between Modal = Verb and Modal < Verb, the latter of which should have been much greater in the frequency of MV order according to (10b). Moreover, in the case of Modal > Verb, non-finite verbs are monosyllabic in all the examples.

Looking into some other OE texts as well, Ohkado (pp. 57-58) concludes that, rather than the (relative) heaviness of non-finite verbs, the presence or absence of extra elements is an important decisive factor in the position of non-finite verbs in relation to modal verbs. He tentatively suggests that, with an extra element, MV order may be caused by (7) above, like ‘heavy-VP-shift.’

2.2. Participle Constructions

Table (13) (adapted from Ohkado’s (8), (9), and (10) on pp. 34-35) gives figures concerning the relation between the number of extra elements and the order of beon, wesan, and weorpan ‘be’ (B) and either present or past participles (V) (illustrated in (2)), in subordinate clauses in the first series of Ælfric’s Catholic Homilies.

(13) No. of Extra Elements BV VB Total
0 26(28.9%) 64(71.1%) 90
1 207(67.9%) 98(32.1%) 305
2 or more 87(62.6%) 52(37.4%) 139

He observes that the ratio of BV order to VB order with one or more extra elements is significantly higher than that with no extra element.
Especially with a predicative complement as an extra element like (14), V tends to follow B ((15) stems from his (12)--(16) on p. 67).

(14) *be wæs Octauianus gehaten*
    who was Octavianus called
    ‘who was called Octavianus’

(15) Kind of Single Extra Elements       BV     VB     Total
    Full Noun Object NP                   7(43.8%) 9(56.3%) 16
    Predicative Complement                61(98.4%) 1(1.6%) 62
    Object Personal Pronoun               0(0.0%) 13(100.0%) 13
    PP                                   110(69.2%) 49(30.8%) 159
    Adverb                               10(40.0%) 15(60.0%) 25

Ohkado (p. 68) next makes the same comparisons as in the case of Modal Constructions, proposing the following two hypotheses:

(16) a. The heavier the participle is, the more likely it becomes that it follows the auxiliary verb.

b. If participles are heavier than auxiliary verbs, the former tend to follow the latter. If participles are lighter than auxiliary verbs, the former tend to precede the latter.

Table (17) (his (19) on p. 68) shows figures concerning the weight and the position of non-finite participles (V) in the first series of Ælfric’s Catholic Homilies.

(17) No. of Syllables on V     BV     VB     Total
    1                     0     0     0
    2        49(59.8%) 33(40.2%) 82
    3   240(65.4%) 127(34.6%) 367
    4       89(63.1%) 52(36.9%) 141
    5       8(61.5%) 5(38.5%) 13

The frequencies of BV/VB order in each case are “surprisingly similar” to each other, so he rejects (16a). Considering the relative weight of *be* verb and participles, Table (18) (his (27) on p. 71) apparently shows a contrast between the cases where auxiliaries and verbs are equal in heaviness and those where participles are heavier than auxiliaries.

(18) Syllable Length     BV     VB     Total
     Aux > Verb            0     0     0
     Aux = Verb           3(42.9%) 4(57.1%) 7
     Aux < Verb 384(64.3%) 213(35.7%) 597

Ohkado is not satisfied, however, with the fact that there is no gradual increase of BV order when disyllabic auxiliaries are lighter than participles. Table (19) is part of his (26) (p. 71).
He therefore rejects (16b), as well as (16a).

With some research on other OE texts, Ohkado draws the same conclusion as in the case for Modal Constructions: The presence or absence of extra elements, rather than the weight of participles, is an important factor in determining the order of auxiliaries and participles in Participle Constructions. He suggests again that BV order may be brought about by (7) above.

2.3. Adjective Constructions

The figures in Table (20) (adapted from Ohkado’s (8), (9) and (10) on pp. 87–88) show the relation between the number of extra elements and the order of be verbs (B) and adjectives (A) in Adjective Constructions like (3) above in the first series of Ælfric’s Catholic Homilies.

<table>
<thead>
<tr>
<th>No. of Extra Elements</th>
<th>BA</th>
<th>AB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>27 (34.6%)</td>
<td>51 (65.4%)</td>
<td>78</td>
</tr>
<tr>
<td>1</td>
<td>37 (42.0%)</td>
<td>51 (58.0%)</td>
<td>88</td>
</tr>
<tr>
<td>2 or more</td>
<td>35 (62.5%)</td>
<td>21 (37.5%)</td>
<td>56</td>
</tr>
</tbody>
</table>

Ohkado observes the same tendency here: The frequencies of BA order are higher with the existence of one or more extra elements. With such exceptions as object pronouns and adverbs, in the presence of (an) extra element(s), finite verbs more often occupy the head-initial position, preceding adjectives (Table (21) is from his (12)–(15) on p. 89).

<table>
<thead>
<tr>
<th>Kind of Single Extra Elements</th>
<th>BA</th>
<th>AB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Noun Object NP</td>
<td>9 (40.9%)</td>
<td>13 (59.1%)</td>
<td>22</td>
</tr>
<tr>
<td>Object Personal Pronoun</td>
<td>0 (0.0%)</td>
<td>5 (100.0%)</td>
<td>5</td>
</tr>
<tr>
<td>PP</td>
<td>16 (55.2%)</td>
<td>13 (44.8%)</td>
<td>29</td>
</tr>
<tr>
<td>Adverb</td>
<td>4 (26.7%)</td>
<td>11 (73.3%)</td>
<td>15</td>
</tr>
</tbody>
</table>

Ohkado (p. 90) then turns to the following two hypotheses, similar to (10) and (16) above.

(22) a. The longer the adjective is, the more likely it becomes that it follows the finite verb.

b. If adjectives are heavier than BE, the former tend to fol-
low the latter. If adjectives are lighter than BE, the former tend to precede the latter.

Table (23) (his (18) on p. 90) shows figures concerning the weight and the position of adjectives (A) in the present text.

<table>
<thead>
<tr>
<th>(23)</th>
<th>No. of Syllables on A</th>
<th>BA</th>
<th>AB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>11(61.1%)</td>
<td>7(38.9%)</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>40(37.0%)</td>
<td>68(63.0%)</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>36(52.2%)</td>
<td>33(47.8%)</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>18(51.4%)</td>
<td>17(48.6%)</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>8(72.7%)</td>
<td>3(27.3%)</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>0(0.0%)</td>
<td>1(100.0%)</td>
<td>1</td>
</tr>
</tbody>
</table>

Ohkado does not see any correlation between the number of syllables of adjectives and their position in relation to BE, hence rejecting the hypothesis in (22a). Consider next the relative weight of be verb and adjectives in Table (24) (his (26) on p. 93).

<table>
<thead>
<tr>
<th>(24)</th>
<th>Syllable Length</th>
<th>BA</th>
<th>AB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BE &gt; Adjective</td>
<td>0</td>
<td>2(100.0%)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>BE = Adjective</td>
<td>16(42.1%)</td>
<td>22(57.9%)</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>BE &lt; Adjective</td>
<td>97(48.3%)</td>
<td>104(51.7%)</td>
<td>201</td>
</tr>
</tbody>
</table>

He does not see any significant difference, either, in the frequencies between the cases where BE and adjectives are equal in heaviness and the cases where adjectives are heavier than BE, turning down the proposition in (22b).

Ohkado (p. 100) looks into some other OE texts and observes the same tendency: With the exception of Blicking Homilies, the presence of extra elements counts much more than the weight of adjectives in determining the finite be verb position. As a theoretical analysis, he suggests rightward movement of AP when it is heavy with (an) extra element(s).

Summing up, Ohkado draws the general conclusion: It is the presence or absence of extra elements rather than the weight of either non-finite verbs, participles, or adjectives that is relevant to determining the position of the three in relation to finite verbs in either Modal, Participle, or Adjective Constructions, respectively.

3. Theoretical Issues

In Chapter 5, Ohkado examines Van Kemenade’s (1987) and Koopman’s (1990) arguments for Verb (Projection) Raising like (6) and
(7) above, finding them untenable, claiming that they render derivations unnecessarily complicated. Instead of Verb (Projection) Raising, he (pp. 111-113) employs successive extraposition of VPs shown in (26), in order to derive the common order as in (25a) from the original order as in (25b).

(25) a. þæt cripes ðewdom ne sceal beon geneadad

that Christ’s service not should be forced

‘that Christ’s service should not be forced’

(ÆCHom II, 9.79.220)

b. þæt heo haligra gemeted beon meahte

that it holier considered be could

‘that it could be considered holier’ (Bede 2.8.120.2)

(26) \[VP1 [VP2 [VP3 geneadad] beon] ne-sceal\] (extraposition) →

\[VP1 ti ne-sceal\] \[VP2 [VP3 geneadad] beon\] \[extraposition\] →

\[VP1 ti ne-sceal\] \[VP2 ti beon\] \[VP3 geneadad\]

Ohkado (1995) earlier favored an analysis involving Verb (Projection) Raising, thereby accounting for the higher frequencies of head-initial Modal and Participle Constructions than of head-initial Adjective Constructions. However, Ohkado (2001: 119) now reconsiders his data and discovers that those frequencies are not caused by the possibility of Verb (Projection) Raising, but by the presence of extra elements.

Chapter 6 examines head-initial examples involving no extra elements, which are apparent counterexamples to the analysis in Chapters 2, 3, and 4. The relevant figures from Ælfric’s Catholic Homilies are repeated here (adapted from his (5) on p. 122).

(27) Head-Initial Head-Final Total

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal Constructions</td>
<td>8(21.6%)</td>
<td>29(78.4%)</td>
<td>37</td>
</tr>
<tr>
<td>Participle Constructions</td>
<td>26(28.9%)</td>
<td>64(71.1%)</td>
<td>90</td>
</tr>
<tr>
<td>Adjective Constructions</td>
<td>27(34.6%)</td>
<td>51(65.4%)</td>
<td>78</td>
</tr>
</tbody>
</table>

Considering the fact that verb second phenomena are seen in embedded clauses of OE as well as other Germanic languages, the author suggests that clauses listed in (28) (his (25) on p. 129) may not be truly subordinate in OE.

(28) a. complement clauses of bridge verbs (e.g. cweban ‘say’)

b. clauses expressing a result

c. relative clauses introduced by demonstrative pronouns

d. forpan pe ‘because’ clauses

Reviewing his data, Ohkado (p. 135) observes that roughly one-third of the head-initial examples in Modal, Participle, and Adjective Construc-
tions can be regarded as embedded main clauses like (28). By subtracting those examples from the figures in (27), he obtains (29) (his (53) on p. 139, percentage corrected).

(29)  

<table>
<thead>
<tr>
<th></th>
<th>Head-Initial</th>
<th>Head-Final</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal Constructions</td>
<td>5 (14.7%)</td>
<td>29 (85.3%)</td>
<td>34</td>
</tr>
<tr>
<td>Participle Constructions</td>
<td>19 (22.9%)</td>
<td>64 (77.1%)</td>
<td>83</td>
</tr>
<tr>
<td>Adjective Constructions</td>
<td>18 (26.1%)</td>
<td>51 (73.9%)</td>
<td>69</td>
</tr>
</tbody>
</table>

As for examples which still cannot be accounted for in terms of the notion of embedded main clauses, he gives some descriptive reasons such as rhythm, chiasmus, and parallelism.

In Chapter 7, Ohkado (p. 143) notes that when finite verbs (Vf) precede predicates, extraposition is frequently observed; in contrast, when non-finite verbs (Vnf) do so, extraposition takes place with relatively low frequency. In Chart (30) (part of his (23) on p. 150) YES indicates that the tendency toward extraposition in head-initial constructions is observable in the first series of Ælfric’s *Catholic Homilies*. A case with fewer than ten examples is placed in parentheses.

(30)  

<table>
<thead>
<tr>
<th></th>
<th>Modal</th>
<th>Participle</th>
<th>Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object Extraposition</td>
<td>YES</td>
<td>(YES)</td>
<td>YES</td>
</tr>
<tr>
<td>PP Extraposition</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Predicate Complement Extraposition</td>
<td>YES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ohkado (§ 7.4) maintains that the fact that examples with Vf Vnf order prefer extraposition to those with Vnf Vf order may be accounted for by stylistic considerations. His argument is that extraposition is motivated not merely by the heaviness of extraposed elements, but by reason of harmony in headedness; in the extraposed word order Vf Vnf XP, the head Vf precedes its complement VP, in which another head Vnf also precedes XP.

As he argued against Koopman (1990) in Chapter 5, Ohkado (§ 7.5.2) critically considers Pintzuk (1991) here, dismissing her Verb (Projection) Raising, so that sentence (31), for example, may be derived as in (32) (his (83) on p. 169).

(31)  

\[\text{peat heora anwaldas moston standan him betweonum that their powers might remain among them}'\] (Or 65.1–2)

(32)  

\[[[\text{him betweonum} \text{standan}] \text{moston (VP extraposition)} \rightarrow t_i \text{moston } [[[\text{him betweonum} \text{standan}]_i (PP extraposition) \rightarrow t_i \text{moston } [t_f \text{standan}], [\text{him betweonum}]_j]

Although Pintzuk (1991) suggests the possibility of V-to-I movement of
moston in her head-initial IP, Ohkado rejects it and adopts (32), concluding that there is no convincing evidence for the existence of head-initial IPs in OE.

Chapter 8 deals with Topicalization and Scrambling Constructions, which were excluded from the data in Chapters 2, 3, and 4. (33) is an example of Topicalization, and (34) is one of Scrambling.

(33) baet hi man sceolde mid stnum oftorfian
that her man should with stones stone-to-death
‘that a man should kill her with stones’ (ÆCHom I, 42.1–2)

(34) þæt he siððan mihte on his dome us gehealdan
that he afterwards might at his judgement us preserve
‘that he might afterwards preserve us at his judgement’

(ÆCHom I, 320.11)

In Ohkado’s definition, Topicalization Constructions involve (an) intervening element(s) between complementizer and subject as in (35), while Scrambling Constructions carry one or more elements between the subject and the head-initial finite verb as in (36).

(35) a. C X SUB M (...) V (...)
b. C X SUB (...) V M (...)

(36) SUB X M (...) V (...)

Ohkado (pp. 174–176) analyzes personal pronominal objects like hi in (33) as being cliticized onto the preceding C (or the following M in the case of (36)), and adverbs like siððan as adjoining either IP in (35) or VP in (36). Neither pronouns nor adverbs therefore affect VM or MV order. What affects head-initial or -final order is the presence or absence of (an)other extra element(s) within embedded VPs or APs, once again. In Tables (37) and (38) (his (37) and (38) on p. 187), YES indicates the number of examples which observe the tendency in the first series of Ælfric’s Catholic Homilies.

<table>
<thead>
<tr>
<th>(37)</th>
<th>Topicalization</th>
<th>YES (%)</th>
<th>NO (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal Constructions</td>
<td>2(66.7%)</td>
<td>1(33.3%)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Participle Constructions</td>
<td>4(40.0%)</td>
<td>6(60.0%)</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Adjective Constructions</td>
<td>4(66.7%)</td>
<td>2(33.3%)</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(38)</th>
<th>Scrambling</th>
<th>YES</th>
<th>NO (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal Constructions</td>
<td>20(80.0%)</td>
<td>5(20.0%)</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Participle Constructions</td>
<td>40(67.8%)</td>
<td>19(32.2%)</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Adjective Constructions</td>
<td>7(53.8%)</td>
<td>6(46.2%)</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

Except for the topicalized Participle Constructions, more than half of the examples support the tendency that he maintains throughout his
4. Critique of Ohkado

4.1. Objective Statistics

Although Ohkado's data is sufficiently abundant and philological, unfortunately a few of his observations seem subjective and inconsistent. For example, when he wants to deny the proposition in (22b), he sees "no significant difference" (p. 93) in the frequencies of BA/AB order between BE = Adjective and BE < Adjective of Table (24), repeated here.

(39) Syllable Length BA AB Total
BE > Adjective 0 2(100.0%) 2
BE = Adjective 16(42.1%) 22(57.9%) 38
BE < Adjective 97(48.3%) 104(51.7%) 201

On the other hand, when he tries to support his argument for the tendency for one or more extra elements to cause Vf-initial, Vnf-final order, Ohkado (p. 82) says, even in Table (40) (adapted from his (68), (69), and (70) on pp. 69–70), "the same tendency we have seen in the first series of Ælfric's Catholic Homilies is also observable in ... Gregory's Pastoral Care."

(40) No. of Extra Elements BV VB Total
0 27(62.8%) 16(37.2%) 43
1 110(64.1%) 62(36.0%) 172
2 or more 64(66.0%) 33(34.0%) 97

Although Tables (39) and (40) are of different sorts, the point here is that, from a subjective angle, Ohkado disregards some 6% difference in (39) when he respects much smaller percentage differences in (40).

Another shortcoming of his discussion concerns the hypotheses in (16), repeated here, in the case of Participle Constructions.

(41) a. The heavier the participle is, the more likely it becomes that it follows the auxiliary verb.

b. If participles are heavier than auxiliary verbs, the former tend to follow the latter. If participles are lighter than auxiliary verbs, the former tend to precede the latter.

In his attempt to reject (41b), Ohkado (p. 71) does not admit a contrast between the cases for Aux = Verb and Aux < Verb in Table (18),
reproduced here.\(^1\)

\[\begin{array}{|c|c|c|c|}
\hline
\text{Syllable Length} & \text{BV} & \text{VB} & \text{Total} \\
\hline
\text{Aux > Verb} & 0 & 0 & 0 \\
\text{Aux = Verb} & 3(42.9\%) & 4(57.1\%) & 7 \\
\text{Aux < Verb} & 384(64.3\%) & 213(35.7\%) & 597 \\
\hline
\end{array}\]

He then refers to Table (19), repeated here as (43), to see there is no gradual increase of BV order.

\[\begin{array}{|c|c|c|c|}
\hline
\text{No. of Syllables} & \text{Aux} & \text{Verb} & \text{BV} & \text{VB} & \text{Total} \\
\hline
2 & 2 & 3(42.9\%) & 4(57.1\%) & 7 \\
2 & 3 & 28(48.3\%) & 30(51.7\%) & 58 \\
2 & 4 & 21(42.0\%) & 29(58.0\%) & 50 \\
2 & 5 & 3(42.9\%) & 4(57.1\%) & 7 \\
\hline
\end{array}\]

However, when there is no token in the case where participles are lighter than auxiliary verbs, the similarities of percentage in Table (43) do not actually disprove the hypothesis in (41b), although it does deny the one in (41a) according to which BV order should increase gradually in (43). His logic of comparison is slightly confusing here. This kind of inconsistency or confusion can be avoided only through a more objective and consistent application of statistical analysis.

### 4.1.1. About Extra Elements

Let us adopt the statistical method of chi-square and examine his data once again in this section. Recall Ohkado’s thesis:

\[\begin{array}{l}
(44) \text{In the presence of (an) extra element(s), finite verbs (Vf) often come head-initial. In the absence of (an) extra element(s), they often remain head-final.}
\end{array}\]

Tables (45), (46), and (47) are the modified versions of (8), (13), (20) above.

\[\begin{array}{|c|c|c|c|}
\hline
\text{No. of Extra Elements} & \text{MV} & \text{VM} & \text{Total} \\
\hline
0 & 8(21.6\%) & 29(78.4\%) & 37 \\
1 or more & 233(65.8\%) & 121(34.2\%) & 354 \\
\hline
\end{array}\]

\(^1\) Ohkado could have escaped from this situation by saying that the figures in the second line of Table (42) are too small to draw any conclusion.
(46) No. of Extra Elements  
0 26(18.9%) 64(71.1%) 90  
1 or more 294(66.2%) 150(33.8%) 444  

(47) No. of Extra Elements  
0 27(34.6%) 51(65.4%) 78  
1 or more 72(50.0%) 72(50.0%) 144  

Table (48) totalizes the above three tables.  
(48) No. of Extra Elements  
0 61(29.8%) 144(70.2%) 205  
1 or more 599(63.6%) 343(36.4%) 942  

In order to prove Ohkado’s thesis in (44), it is necessary and sufficient to hypothesize the reverse and then nullify it.  

(49) Regardless of the presence or absence of (an) extra element(s), finite verbs (Vf) distribute similarly taking either head-initial or head-final position.  

Assuming the hypothesis in (49), the ratio with respect to the Vf Vnf/A or Vnf/A Vf order will be the same for either number of extra elements. The expected frequencies will thus be the following.  
(50) No. of Extra Elements  
0 117.96 87.04 205.00  
1 or more 542.04 399.96 942.00  

To calculate the frequencies in Tables (48) and (50) by chi-square test, the resulting $\sigma^2$ amounts to 78.88. Referring to the distribution table, this value corresponds to $p<0.001$ at degree 3 of freedom (cf. Saito et al. (1998: 78–83); Murakami (2000)).  

This means, assuming the null hypothesis in (49), the data from Ohkado’s survey takes place at a significance level of less than 0.1 percent. And if the percentage is so low, then the hypothesis has been safely rejected and his thesis in (44) has been affirmed statistically. It is recommended for Ohkado to apply the chi-square test to all his data, including the texts other than the first series of Ælfric’s Catholic Homilies.
4.1.2. About Relative Heaviness

Let us next consider Ohkado's data concerning the weight of non-finite verbs or adjectives in the same fashion. (10), (16), and (22) above are combined into the following hypotheses.

(51) a. The heavier a(n) Vnf/participle/Adj is, the more likely that it follows the Vf.

b. If Vnf/participle/Adj is heavier than Vf, the former tends to follow the latter. If lighter, the former tends to precede the latter.

Ohkado wishes to reject both of the propositions in (51). Suffice it to say that (51a) was disconfirmed by his observations about Tables (11), (17), (19), and (23). I will focus on (51b) in this revised version.

(52) If Vnf/participle/Adj is heavier than Vf, the former tends to follow the latter. If not, there is no such tendency.

Tables (53), (54), and (55) are the condensed versions of (12), (18), and (24) in which there are actually few instances of Vnf/participle/Adj lighter than Vf.

(53) Syllable Length MV VM Total
   Modal ≥ Verb 107(60.8%) 69(39.2%) 176
   Modal < Verb 163(66.5%) 82(33.5%) 245

(54) Syllable Length BV VB Total
   Aux ≥ Verb 3(42.9%) 4(57.1%) 7
   Aux < Verb 384(64.3%) 213(35.7%) 597

(55) Syllable Length BA AB Total
   BE ≥ Adjective 16(40.0%) 24(60.0%) 40
   BE < Adjective 97(48.3%) 104(51.7%) 201

Table (56) totalizes the above three tables.

(56) Syllable Length Vf Vnf/A Vnf/A Vf Total
   Vf ≥ Vnf/Adj 126(56.5%) 97(43.5%) 223
   Vf < Vnf/Adj 644(61.7%) 399(38.3%) 1043

In order to disprove the hypothesis in (52), it is necessary and sufficient to hypothesize the reverse and then confirm it.

(57) Regardless of the weight of Vnf/participle/Adj in relation to Vf, finite verbs (Vf) distribute similarly, taking either head-initial or head-final position.

Assuming the hypothesis in (57), the ratio with respect to the Vf Vnf/A or Vnf/A Vf order will be the same in either case of Vf ≥ Vnf/Adj or Vf < Vnf/Adj. The expected frequencies will thus be the following.
Calculating the frequencies in Tables in (56) and (58) by chi-square test, the resulting sigma³ amounts to 2.11. Referring to the distribution table, this value corresponds to p>0.3 at degree 3 of freedom (cf. Saito et al. (1998: 82)).

This means, based on the data from Ohkado’s research, hypothesis (57) cannot significantly be nullified since its probability level is more than 30 percent. And if the percentage of (57) is so high, then the hypothesis in (52) has been rejected and the reverse that he assumes in (57) has been affirmed statistically.

Ohkado manually transcribed Thorpe’s (1844) edition of the first series of Ælfric’s Catholic Homilies into his original files, and it is epoch-making that he thereby offered the database electronically public and accessible as an attached CD-ROM. In his descriptive discussion, the data and statistics are trustworthy enough, but it would be better for Ohkado to employ the above kind of scientific methodology, too, in order to reinforce his argumentation.

4.2. Theoretical Problems

4.2.1. Verb (Projection) Raising

Recall these two rules from the Introduction.

(59) Verb Raising: S X Vnf Vf  →  S X t Vf Vnf
(60) Verb Projection Raising: S X Vnf Vf  →  S t Vf [X Vnf]

Ohkado’s argument against Verb Projection Raising in Chapter 5 seems quite successful, on the grounds that it is better replaced with VP extrapolation.⁴ Let me point out his slightly self-contradictory discussion,

³ (126–135.63)²/135.63+(97–87.37)²/87.37+(644–634.37)²/634.37+(399–408.63)²/408.63=2.11

⁴ The difference between Verb Projection Raising and VP extrapolation was not very clear to the present reviewer as far as she read Ohkado (2001). An anonymous reviewer of EL posed the question whether or not it is possible at all to extrapolate VPs, suggesting, if not, most of Ohkado’s discussion would be seriously damaged. However, extrapolation of other elements such as NP objects, PPs, and predicative complements is admitted in OE; as a result, various word order patterns which are deviant from the underlying structure are derived (Ohkado ch. 7). It is
however. He is satisfied that this rare order BE-M-Participle (0.5%) can be straightforwardly derived by applying VP extraposition like (61) (his (42) on p. 115).

(61) \[ V_{PI} [ V_{P2} [ V_{P3} \text{genumen} ] \text{beon} ] \text{wolde} ] \text{(extraposition)} \rightarrow \ [ V_{PI} [ V_{P2} \text{t beon} ] \text{wolde} ] [ V_{P3} \text{genumen} ] \]

But he does not very much like to derive the nonetheless infrequent order Participle-M-BE (0.8%) through the V Raising operation (his (44) on p. 115).

(62) \[ V_{PI} [ V_{P2} [ V_{P3} \text{genumen} ] \text{beon} ] \text{wolde} ] \text{(Verb Raising)} \rightarrow \ [ V_{PI} [ V_{P2} [ V_{P3} \text{genumen} ] \text{t} ] \text{wolde beon} ] \]

As he does not want to support Verb Raising, he mentions that this Participle-M-BE pattern in (62) was marginal, if not ungrammatical, in OE. Here, Ohkado does not hesitate to use VP extraposition for the explanation of the pattern like (61) (0.5%), while he does hesitate to employ V Raising for that of the pattern like (62) (0.8%).

Ohkado (p. 150, passim) further insists that this operation cannot be extended to Adjective Constructions (similar to Modal and Participle Constructions in many syntactic respects), since adjectives are by definition unable to undergo Verb Raising.

(63) S X Adj BE (Verb Raising) \rightarrow *S X \text{t BE-Adj}

This is just a matter of terminology, however. As Ohkado (p. 9) notes himself, “it is sometimes difficult to distinguish participles from adjectives.” To cite a pair of examples from present-day English.

(64) a. I was impressed by her splendid performance.
    b. I was impressed with her splendid performance.

We could argue that \textit{impressed} in (64a) is a past participle, namely V followed by by-agent, whereas \textit{impressed} in (64b) is an adjective with a PP complement following. But the difference is subtle and the two forms are identical; this is obviously a merging point for verbs and

therefore hard to maintain that, as an exception, VPs cannot be extraposed in OE. In the derivation of (32) above, for instance, it seems unreasonable to accept PP extraposition and abandon VP extraposition simultaneously.

What remains to be solved is, then, how extraposition in general should be motivated theoretically. From a minimalist point of view (Chomsky (1995)), all kinds of movement should be performed for the purpose of feature-checking. One possibility to pursue in the case of VP extraposition is to treat heaviness of a VP as features, as Ohkado’s argument for VP extraposition sounds like ‘heavy-VP-shift.’ But this is another issue beyond the scope of this article.
adjectives. It may therefore become possible to treat verbs and adjectives together and then apply ‘Verb Raising’—renaming it as ‘Head extraposition’—for adjectives as well as verbs. Just as Ohkado has abolished Verb Projection Raising in favor of VP extraposition, he could likewise dispense with Verb Raising and adopt Head extraposition in more general terms.

4.2.2. Adverbs and Pronominal Objects

Recall from Tables (9), (15), and (21) that these two kinds of extra elements, namely adverbs and object pronouns, hardly ever change Vnf/A Vf into Vf Vnf/A order. This must be for some reason. According to the standard theory, Ohkado (§ 8.1) convincingly places adverbs on the left periphery of VP, i.e., outside the embedded VP; that is why they do not count as heavy extra elements (but the PP on his dome does count, shown in (65)).

(65) paet he [VP sioōan [VP ti tj]] mihtej[VP on his dome
that he afterwards might at his judgement
us gehealdan]i
us preserve
‘that he might afterwards preserve us at his judgement’

(ÆCHom I, 320.11)

On the other hand, he analyzes personal pronominal objects as clitics, which also do not affect Vnf/A Vf or Vf Vnf/A order. In a more recent theory, however, Fischer et al. (2000: 118–128; cf. Murakami (2002)) postulate a functional maximal projection FP, which, immediately below C, hosts in its specifier personal pronouns, whether subject or object.

(66) [CP God C [FP him [F worhte] ḫa reaf of fellum]]
God them wrought then garments of skins
‘Then god made garments of skin for them’

(ÆCHom I, 1.18.18)

Fischer et al.’s novel claim here is that even pronominal objects, as well as subjects, can occupy a specifier of a certain maximal projection.

For Ohkado, this possibility may be worth pursuing. He maintains in Ohkado (1998ab; 2001: passim) that in OE, nominative case can be assigned to NPs in the object position of passive, impersonal, and unaccusative constructions, so that full nominal subjects may be extraposed in OE as freely as full nominal objects. Put simply, he argues for one syntactic similarity between subject and object in OE, which he could
elegantly tie together with the one that Fischer et al. discuss in their FP format.\textsuperscript{5}

The final suggestion here is that Ohkado could more accurately discuss positions of adverbs and personal pronominal objects, so that these two elements might be completely differentiated from heavy extra elements. In that case, by discounting the data with adverbs or object pronouns which prefer Vnf/A Vf order, the number of examples of that order should decrease in all his data, changing the ratio of Vf Vnf/A order to Vnf/A Vf order even higher in his statistics. This will certainly contribute to Ohkado’s thesis.

5. Conclusion

This is an intriguing book, both philologically and theoretically; supplied with abundant examples from his own database, the author’s argumentation is coherent and persuasive. He has clearly demonstrated the importance of extra elements in determining the head-initial or -final position of finite verbs in OE subordinate clauses. His approach is threefold: descriptive, statistical, and theoretical.

The reviewer has reinforced part of his statistical discussion by utilizing chi-square test in § 4.1. His claim has been confirmed at significant levels of probability: The decisive factor as to whether Vf Vnf/A or Vnf/A Vf order must be the presence or absence of one or more extra elements, but not the weight of Vnf/A in relation to Vf. She has herself appreciated the tendency that the existence of extra elements results in higher frequencies of Vf Vnf/A order.

The reviewer has also suggested a couple of theoretical points in § 4.2, which might be improved or refined in his further research. Problematic as they may seem right now, they do little damage to his overall argumentation.

Additionally, it is regrettable that there are many errors of typography and of substance. The reviewer has also produced a two-page list of errata. She hopes that Ohkado will publish a second edition of this book with corrections and improvements.

\textsuperscript{5} The other anonymous reviewer of \textit{EL} urged against this possibility, saying that it may be a hasty suggestion as long as the contents of the head F—which Fischer et al. do not specify—are unclear. The suggestion is tentative in any case.
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