

The Development of Floating Quantifiers in the History of English

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1. Introduction

In present-day English (PE), subject-oriented floating quantifiers (SFQs) must occur in the position preceding the main verb, as illustrated in (1), and object-oriented floating quantifiers (OFQs) are not allowed in ordinary transitive constructions, as shown in (2).

- (1) a. *My friends* (**all**) rely (***all**) on Mary.
b. *The students* have (**all**) arrived (***all**).
- (2) a.* John saw *the men* **all**.
b.* They read *the papers* **both** yesterday.

However, the distribution of FQs in other languages differs from that in PE; for example, Pollock (1989) observes that the word order of SFQs with respect to finite verbs in French is diametrically opposite to English, as shown in (3).

- (3) a.* *My friends* love **all** Marie.
b. *Mes amis* aiment **tous** Marie.
c. *My friends* **all** love Marie.
d.* *Mes amis* **tous** aiment Marie. (Pollock (1989: 367))

In (3b), the French SFQ *tous* is allowed to follow the underlined verb *aiment*, and in (3d) it is not allowed to precede the verb. As lexical verbs can overtly move to the T in French but not in PE, Pollock assumes that the facts in (3) are because of the presence of V-movement, which involves a movement to the inflectional domain. However, as illustrated in the

following section, SFQs did follow the main verb in early English and could have been related to the historical development of V-movement in English; the loss of the V-SFQ order was probably due to the loss of V-movement in the history of English.

In contrast to (2a), OFQs are allowed in transitive constructions in other Germanic languages, as can be seen in the comparison between German sentence in (4a) and the PE sentence in (4b).

- (4) a. Der Lehrer hat *den Schülern* (gestern) **allen** eine
 the teacher has the students (yesterday) all an
 Fünf gegeben.
 F given
- b.* The teacher gave an F to *the students* **all**. (cf. Giusti (1990))

Giusti (1990) claims that the German object *den Schülern* “the students” undergoes object movement, with the quantifier *allen* “all” being left in its base position; however, this is ungrammatical in PE, as shown in (4b). However, in the earlier stages of English, OFQs were allowed in transitive sentences, which may have been related to object movement in the history of English.

Although the syntactic properties of FQs in early English have been discussed (Carlson (1978) and Lightfoot (1979)), there have not been systematic investigations of the distribution of SFQs and OFQs, no principled explanation have been offered as to why SFQs must not follow the main verbs, and no reasons have been given as why OFQs in transitive constructions have been lost in PE. Therefore, to address these gaps, based on historical corpora, this paper investigates the distribution of FQs in the history of English and attempts to account for the historical changes in the distributions of SFQs and OFQs within a minimalist program framework by approaching the topic in terms of the loss of V-movement (SFQs) and object movement (OFQs).

The remainder of this paper is organized as follows. Section 2 provides quantitative data of the distribution of SFQs and OFQs in the history of English by employing *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE), *The Penn-Helsinki Parsed Corpus of Middle English, Second Edition* (PPCME2), *The Penn-Helsinki Parsed Corpus of Early Modern English* (PPCEME), *The Parsed Corpus of Early English Correspondence* (PCEEC) and *The Penn-Helsinki Parsed Corpus of Modern British English* (PPCMBE). Section 3 outlines the licensing condition for the distribution of FQs proposed by Xia (2017). Section 4 examines the historical development of syntactic structures of FQs under the

licensing condition proposed in Section 3. Section 5 offers concluding remarks.

2. The Historical Development of FQs¹

In this section, the historical development of the distribution of FQs is investigated based on the historical corpora; YCOE, PPCME2, PPCEME, PCEEC, and PPCMBE.²

2.1. SFQ Data

The recent diachronic study by Haerberli and Ihsane (2016) identified the major changing points in the development of V-movement, namely, the first decline of V-movement at the end of the 15th century and the second decline at the end of the 17th century. With these changes in mind, the related SFQ data is examined.

First, the overall results for the distribution of SFQs with transitive/unergative verbs in the history of English are summarized in Table 1, followed by examples from OE to LModE.

Table 1. Tokens of SFQs with Transitive/Unergative Verbs in Main Clauses

| | EOE | LOE | EME | LME | E1 | E2 | E3 | L1 | L2 | L3 |
|-----------|-----|------|------|------|------|------|------|-----|----|----|
| SFQ-V | 2 | 11 | 1 | 1 | 6 | 24 | 15 | 24 | 28 | 28 |
| V-SFQ | 3 | 27 | 12 | 20 | 25 | 13 | 4 | 2 | 0 | 0 |
| V-SFQ (%) | 60 | 71.1 | 92.3 | 95.2 | 80.6 | 35.1 | 21.1 | 7.7 | 0 | 0 |

1 Here are the standardly assumed historical periods of English: Early Old English (500 – 950), Late Old English (950 – 1150), Early Middle English (1150 – 1350), Late Middle English (1350 – 1500), Early Modern English (1500 – 1710), E1 (1500 – 1569), E2 (1570 – 1639), E3 (1640 – 1710), Late Modern English (1710 – 1920), L1 (1710 – 1780), L2 (1780 – 1850), and L3 (1850 – 1920).

2 The paradigms of quantifiers *all*, *both* are as follows.

Table i. FQ Paradigms in OE

| | all | | | both | | |
|------------|------------|----------------|-------------|-----------|--------|----------|
| | Masculine | Neuter | Feminine | Masculine | Neuter | Feminine |
| Nominative | ealle/alle | ealle/all | ealle/ealla | bēgen | bū/bā | bā |
| Accusative | ealle/alle | ealle/eal/eall | ealle/ealla | bēgen | bū/bā | bā |
| Dative | eallum | | | bām/bæm | | |

Although several examples with FQ *each* are indeed attested in the earliest stage of English, the frequency is too low to be significant. Because of its complexity and ambiguous usage with *every*, the examples of FQ *each* in OE and ME are discussed in this paper, pending further empirical research. Some of the examples with FQ *each* are shown in (i).

- (i) a. and *we* magon us sylfe betwux us on life **ælc**
 and *we* may ourselves between us on life **each**
 oðrum fultumian to ðam upplican life. gif we
 others help to their heaven life if we
 ðæs cepað.
 that notice
 'and we may ourselves each help others between us in life, if we notice
 that' (cocathom2, ÆCHom_II_23:203.131.4511)
- b. Nu com tid & cymð þæt *ge* tofaron **æghwylc** to
 Now came time and come that you to-go **each** to
 his agenon & forlæton me anne
 his own and let me alone
 'Now the time that you each go to his own and leave me alone.'

(cowsgospJn_[WSCp]:16.32.7121)

(5) OE

- a. *hi* wyrcað **ealle** æfre an weorc;
they work all after a work
'they all work after a work'

(cocathom2,ÆCHom_II_3:23.128.541)

- b. Binnan fyrste *hi* gesawon **begen** swefn on anre nihte
Within first they saw both dream on one night
'within the first they both saw a dream on one night'

(cootest,Gen:40.5.1602)

(6) ME

- a. When Kyng Arthure hade þus saide, *þai* criden **al** wiþ an hye voice,
“God, fader almighty, Worsheppede be þine name Wiþouten ende, …
'When King Arthur had thus said, they all cried with an high voice:
“God, father almighty, Worshipped be their name without end, …’

(CMBRUT3,86.2609)

- b. *The moste parte of all the barownes of the Rounde Table* that were there at
that tyme assayde **all** be rew, …
'The most part of all the baronesses of the Round Table that were there at
that time all assayed in order, …’

(CMMALORY,46.1517)

(7) EModE

- a. And at the sayd Corfona *they* speke **all** Greke

(CHAPLAIN-E1-P2,11.167)

- b. but if *you* chance **both** to be there, I doe still persist in bespeakein a powerfull
intercession to excuse mee.

(COSIN,II,312.083.2052)

(8) LModE

- a. *They* accordingly took **each** his Censer

(PURVER-OLD-1764,16,1N.537)

- b. and *they* took **each** his own.

(PURVER-OLD-1764,17,1N.598)

Table 1 indicates that in OE and ME, more V-SFQ order examples were attested than those with SFQ-V order. While the former structure began to decline during the LME and E1 periods, it remained the majority option until E2. In the transition from E3 to L1, there were

only 7.7% of V-SFQ order examples, which were finally lost in the 18th century. The overall result of these changes was identical with that of the V-movement, except in the OE period, when the frequency of V-SFQ examples was much lower than expected. In the OE period, however, of the 13 SFQ-V order examples, four were probably head-final structures, two of which are shown in (9a) and (9b). As Pintzuk (1993) observed, head-final word order structures, in which the finite verb was placed in the clause final position and was preceded by at least two heavy constituents, were attested in main clauses during the OE period. Under Pintzuk's proposal, the landing site for the finite verb movement in these cases would be T. However, the other nine SFQ-V order examples were head-medial structures, as shown in (9c), which is identical to (11b) in Haeberli and Ihsane (2016). Following their proposal, it could be assumed that in such examples, the finite verb moved to T, and the SFQ occurred in a position between C and T. Given these facts, the results in Table 1 are consistent with the observations of V-movement in Haeberli and Ihsane (2016).

- (9) a. *Hi* ða **ealle** mid angsumum mode ænlipige cwædon Eom ic hit
theythenall with lang-time mode alone said am I him
Drihten;
the Lord
'then they all said alone with a long time: I am him, the Lord'
(cocathom2, *ÆCHom_II*, 14.1:138.40.3056)
- b. *Hie* ða **ealle** eaðmodlice swa heora æþela bisceop
they then all weekly, so their noble bishop
lærde, feower daga fæsten gedydon.
advised, four days fast do
'Then they all weekly performed their four days' fast, as the bishop
advised them'
(coblick,LS_25_[MichaelMor[BiHom_17]]:205.169.2631)
- c. *Hi* þa sona **begen** begyrndon hi cafllice.
They then soon both begirt themselves vigorously
'They then soon both begirt themselves vigorously.'
(coaelive, *ÆLS*_[Sebastian]:247.1357/Haeberli and Ihsane (2016: 506))

The results of SFQ word order patterns with unaccusative verbs are summarized in Table 2. The relevant V-SFQ order examples in each period are shown from (10) to (13).

Table 2. Tokens of SFQs with Unaccusative Verbs in Main Clauses

| | EOE | LOE | EME | LME | E1 | E2 | E3 | L1 | L2 | L3 |
|-----------|-----|------|-----|------|----|----|------|----|----|----|
| SFQ-V | 0 | 1 | 0 | 1 | 6 | 6 | 7 | 3 | 3 | 6 |
| V-SFQ | 3 | 28 | 9 | 29 | 24 | 18 | 5 | 1 | 0 | 0 |
| V-SFQ (%) | 100 | 96.6 | 100 | 96.7 | 80 | 75 | 41.7 | 25 | 0 | 0 |

(10) OE

- a. *Hi eodan þa ealle ut ætforan þam cyninge*
they went then all out in front of the king
‘they then all went out before the king’
(coaelhom, *ÆHom_22:400.3515*)
- b. *Pa common þa sacerdas to þam cynincge ealle,*
then came the priests to the king all
‘then all the priests came to the king’
(coaelive, *ÆLS_[Book_of_Kings]:374.3935*)

(11) ME

- a. *the foxe, hys wyf and hys children wente alle* to slepe.
‘the foxes, their wives and their children all went to sleep’
(CMREYNAR,57.526)
- b. *& talde lazhess presteflocc comm all* off þa twa prestess;
‘and the two priests all come from the old law priest flock’
(CMORM,I,14.236)

(12) EModE

- a. and *they went* down **both** into the water, both Philip, and the Eunuch
(AUTHNEW-E2-P2,8,20A.314)
- b. *Hops and Turkies, Carps and Beer came* into England **all** in a year.
(WALTON-E3-H,292.228)

(13) LModE

- and *their Day Cloaths lay all* about their Rooms. (OFFICER-1744,248.760)

Compared to Table 1, Table 2 presents a more straightforward scenario, which is similar to the development of V-movement. The V-SFQ order with unaccusative verbs was strongly preferred in OE. However, the differences between the transitive/unergative and

unaccusative verbs distributions may have been due to because of the fact that, in early English, the subject of the unaccusative verb frequently remained postverbal as an internal argument, as shown in (10b) (Kemenade (1997), Kemenade and Westergaard (2012)). Similar to the result of transitive/unergative verbs results, the frequency of V-SFQ with unaccusative verbs declined gradually from LME onward, which leads to its loss from L2 onward.

Given the results of the two investigations in this subsection, it is concluded that the loss of the V-SFQ order was due to the loss of the V-movement in the history of English.

2.2. OFQ Data

This subsection investigates the historical changes in the distribution of OFQs in transitive constructions. Pronominal objects are excluded from this investigation because of their unique behavior as clitics or weak pronouns in OE and EME (cf. Kemenade (1987)). The results are listed in Table 3, where it can be seen that there were three main word order patterns attested in OE; OVQ, OQV, and VOQ, examples of which are respectively shown in (14a-c).

Table 3. Word Order of OFQs

| | EOE | LOE | EME | LME |
|-----|-----|-----|-----|-----|
| OVQ | 4 | 27 | 0 | 0 |
| OQV | 1 | 22 | 0 | 0 |
| VOQ | 1 | 11 | 0 | 0 |

- (14) a. & we þrær ure *geteld* bræddon **ealle** on æfen.
 and we there our tents broaden all on evening
 ‘and we broaden all our tents there in the evening’
 (coalex,Alex:30.1.363)

- b. & *helle geatu* & *hire þa ærenan scyttelas* he **ealle**
 and hell gate and their the brass bolts he all
tobræc
 broke
 ‘and completely broke the gate of hell and their brass bolts’
 (coblick,HomS_26_[BIHom_7]:85.30.1059)

- c. Ða scufon þa hæþenan *þa halgan* into þam mere,
 then shoved the heathens the saints into the mere,
 to middes þam ise **ealle** unscrydde

to middle the ice all unclothed

'Then the heathens shoved all the saints into the mere, into the middle of the ice, unclothed'

(coelive,ÆLS[Forty_Soldiers];145.2568)

Table 3 shows that the distribution of the word order of OFQs following full-DP objects was productive in OE, but it was completely lost in ME. Three word order patterns are mainly attested, i.e. OVQ, OQV and VOQ, with the first two orders exhibiting an OV word order, which has been lost (Pintzuk and Taylor (2006), Tanaka (2015, 2017) among others). Tanaka (2015, 2017) provided a satisfactory account of the loss of the OV word order in early English, by adopting the syntactic cartography (Rizzi (1997)) to the left periphery of the vP domain. Based on his investigation, the movement of positive objects (full-DP objects without a quantifier) started to decline from EME and was lost during LME. Therefore, the results in Table 3 are consistent with this observation. It could be concluded, therefore, that OVQ and OQV orders involving object movement and the loss of OFQs with full-DP objects were due to the loss of object movement.

3. The Licensing Condition on FQs

There are two main analyses for the distribution of FQs proposed in the literature. The stranding analysis claims that an FQ enters into the derivation adjoined to the host DP and is stranded in the base-generated position stranded by the host DP in its base-generated position (Sportiche (1988), Giusti (1990), Shlonsky (1991), and Merchant (1996)), whereas the adverbial analysis argues that the FQs are not stranded by DP-movement, but they are adverbial elements that are base-generated in positions adjoined to the verbal and functional projections (Baltin (1995), Bobaljik (1995), Torrego (1996) and Brisson (1998)). Based on Xia (2017), this paper adopts the adverbial analysis and proposes a licensing condition for the distribution of the FQs in PE, according to which the FQ serves as a matching goal in a Multiple Agree (MA) relationship (Hiraiwa (2001, 2005)), with the functional head being a probe and the host DP being another matching goal within the same phase domain, which is in line with the Phase-Impenetrability Condition (PIC) (Chomsky (2000: 108)). The licensing condition is presented in (17).

(15) MULTIPLE AGREE

MULTIPLE AGREE (multiple feature checking) with a single probe is a single simultaneous syntactic operation; AGREE applies to all the matched goals at the

same derivational point derivationally simultaneously.

(cf. Hiraiwa (2001: 69))

(16) Phase-Impenetrability Condition (PIC)

In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

(Chomsky (2000: 108))

(17) Licensing Condition on FQs

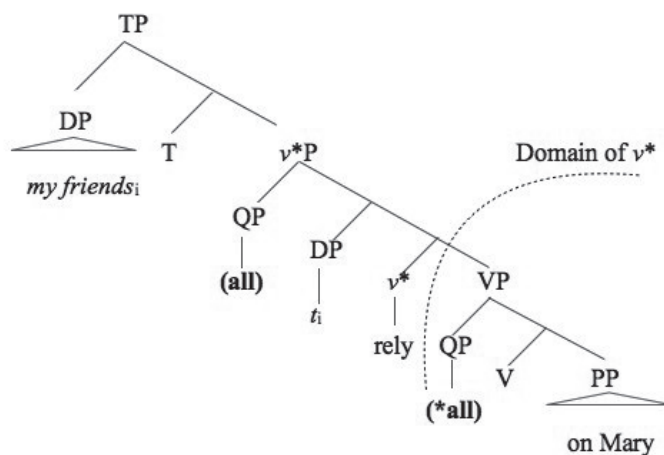
An FQ serving as a matching goal enters into an MA relation with a functional head as a probe and its host DP as another matching goal within the same phase domain.

(Xia (2017: 36))

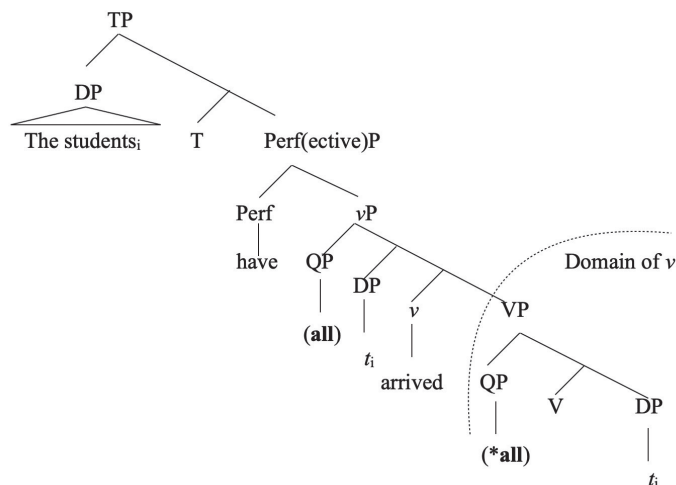
Based on this condition, the grammaticality of the sentences with SFQs in (1), repeated here as (18), can be accounted for, as follows.

- (18) a. *My friends* (**all**) rely (***all**) on Mary
 b. *The students* have (**all**) arrived (***all**)

(19) a.



b.



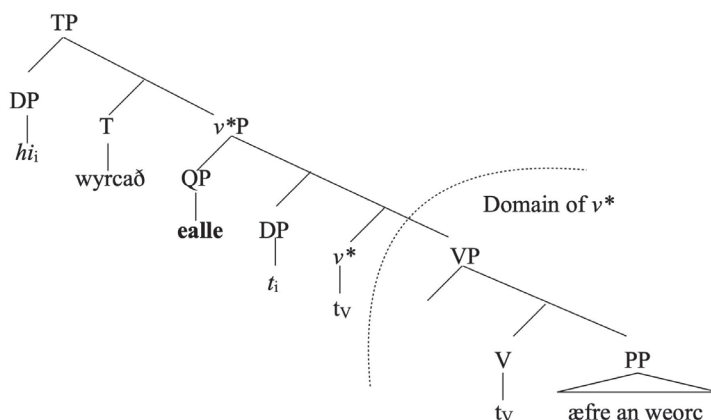
As the SFQ in (19a) is adjoined to v^*P , it enters into an MA relation with the probe T and the host DP in Spec- v^*P at the CP phase, thereby satisfying the condition in (17), as it is allowed to appear in the position between the subject and the main verb. However, the position following the main verb is ungrammatical for the SFQ due to a violation of (17), because the FQ is in the domain of v^* and therefore cannot establish an MA relation with T and the host DP without violating the PIC. As a result, $[u\phi]$ and $[uCase]$ of the FQ remain unvalued, causing the derivation to crash.

For unaccusative verbs, as in (19b), the surface subject moves to Spec-TP to satisfy [EPP] of T, and the FQ is adjoined to the VP following the verb, which has been raised to v^3 . As the FQ adjoined to vP enters into an MA relation with the probe T and the host DP in Spec- vP at the CP phase, the condition in (17) is satisfied as it is allowed to appear in the position between the subject and the unaccusative verb. In contrast, the FQ that follows the unaccusative verb cannot enter into an MA relation with T and the host DP, because it is in the domain of v and is not accessible to operations at the CP phase due to the PIC, thereby violating the condition in (17).

Next, consider the following examples involving OFQs in PE, which were shown in (2). The structure of (2a) is represented in (20b).

3 It should be noted that regarding the status of the unaccusative/passive vP in (19b), Legate (2003) claims that based on facts concerning reconstruction, in contrast to Chomsky (2000, 2001), it constitutes a phase and provides an escape hatch for movement out of it. Therefore, the unaccusative constructions are not different from transitive constructions on the phasehood of vP , that is, v is a phase head, and none of the elements within the complement of v can be the target of an agreement with T.

b.

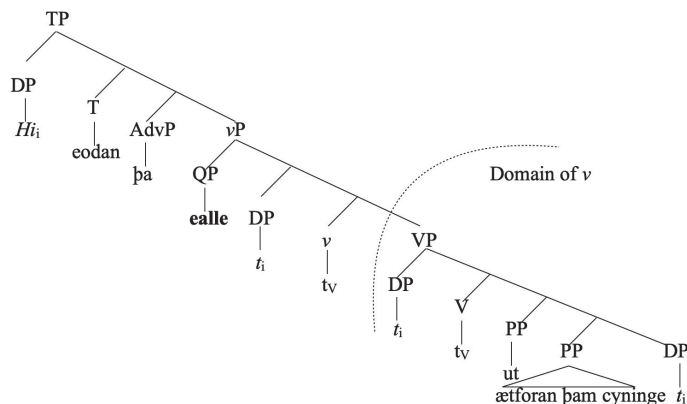


In (21b), the SFQ successfully enters into an MA relation with the probe T and the host DP in [Spec- v^*P], just as it does in PE. As early English had V-movement to T, unlike PE, the main verb moved to T past the FQ, thereby deriving the V-SFQ order. Similarly, the structure of the unaccusative sentence in (22a) is presented in (22b).

- (22) a. *Hi eodan þa ealle ut ætforan þam cyninge*
 they went then all out in front of the king
 ‘they then all went out before the king’

(coaelhom, *ÆHom*_22:400.3515)

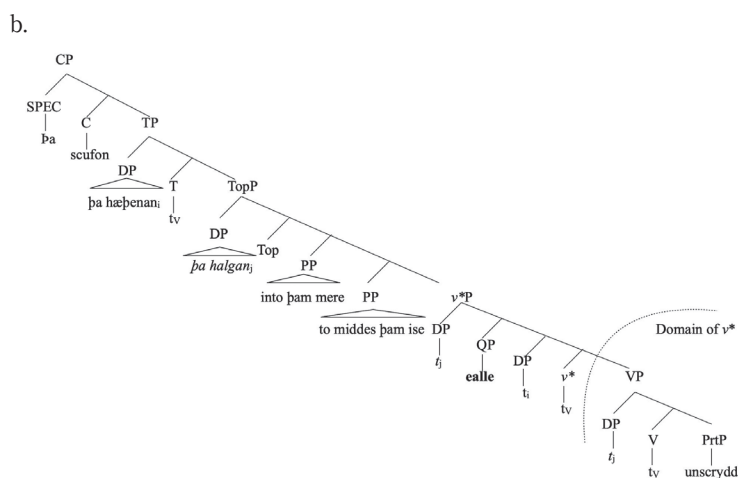
b.



According to Haeberli and Ihsane (2016), the loss of V-movement started at the end of the 15th century and was completed during the 18th century. Therefore, the demise of the V-SFQ order in the 18th century was a direct consequence of the loss of V-movement.

Second, the possibility of OFQs moving from OE to EME seems to be related to the fact that object movement, as observed in other modern Germanic languages, was available in these periods. Tanaka (2017) claims that object movement, which was allowed until the 14th century, targeted the specifier of Top in the left periphery of the v^*P . The structure for (23a) involving an OFQ is shown in (23b).

- (23) a. Ða scufon þa hæþenan þa halgan into þam mere,
 then shoved the heathens the saints into the mere
 to middes þam ise **ealle** unscrydde
 to middle the ice all unclothed



In (23b), the FQ successfully enters into an MA relation with the probe Top and the host DP moves to [Spec- v^*P]. As object movement was lost in the 14th century, this led to the loss of OFQs in LME, because the V became the only probe capable of entering into an AGREE relation with the objects.

5. Conclusions

This paper has accounted for the historical development of FQs in English by adopting the licensing condition proposed in Xia (2017). The results of the corpora investigations

revealed that the distribution of V-SFQ order declined beginning in the 1500s and was lost from the 1700s onward, whereas the distribution of OFQs declined from the beginning of ME and was lost from 1350 onward. Based on these observations, the loss of the V-SFQ order and all OFQs patterns could be attributed to the loss of V-movement and object movement.

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