Spring 2023

# Qualifying Quantifiers: A Usage-Based, Diachronic Analysis of Quantifier Constructions

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# QUALIFYING QUANTIFIERS:
# A USAGE-BASED, DIACHRONIC ANALYSIS OF QUANTIFIER CONSTRUCTIONS

A Thesis

Presented to

The Faculty of the Department of Linguistics and Language Development

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Danielle Miles Angier

May 2023

The Designated Thesis Committee Approves the Thesis Titled

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APPROVED FOR THE DEPARTMENT OF LINGUISTICS AND LANGUAGE DEVELOPMENT

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May 2023

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**ABSTRACT**

QUALIFYING QUANTIFIERS:
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by Danielle Miles Angier

Adnominal quantifiers have been a source of contention in existing research, owing to their unique distributional patterns that do not match those of adjectives or determiners. Traditional accounts have typically focused on one aspect of quantifier behavior without looking at the group as a whole, and existing theories are disparate and inconsistent. This study tackles the problem of quantifier variation from a diachronic, usage-based, constructionist perspective. The goal of this paper is to identify patterns of change that can explain the variation exhibited by quantifiers today, focused on whether they are best classified as adjectives, determiners, or both; why *every* cannot be a pronoun; and what separates quantifiers that occur in atypical positions—predeterminer, postnominal, and postposed—from those that do not. Data have been collected from the Paston Letters for the Middle English (ME) period and the British National Corpus for Present-Day English (PDE) and analyzed for frequency patterns either alone or with other nominal dependents. This paper concludes that relative quantifiers function as determiners prenominally while absolute quantifiers function as grounding adjectives. The inability for *every* to occur pronominally follows from its development of a collective meaning to distinguish it from *each*. The predeterminer use of *all* and *both* has been reanalyzed as a subtype of the partitive, allowing them to retain this position. Finally, the postnominal and postposed positions are functional slots for focus marking, where *all* and *both* project contrastive focus as a result of their being maximal and *each* as a result of its being distributive.

## ACKNOWLEDGMENTS

My most heartfelt gratitude goes out to each of my advisors, Drs. Julia Swan, Chris Donlay, and Hahn Koo, for their commitment to this project and for the time they spent providing me with invaluable guidance, encouragement, and administrative support throughout this process. I would like to give additional thanks to Dr. Chris Donlay, in particular, without whose pointed, carefully thought-out, and challenging feedback this paper would not have made it past its very rough first draft.

I am also indebted to my family and friends, who have provided me with immeasurable support and understanding throughout this process and who have not forgotten me in the year I spent fusing with my desk chair.

“I recomaunde me to yowe, and thanke yow off yowre labore” (Davis, 1971).

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## LIST OF ABBREVIATIONS

# – Clause-Final
ACQ – Absolute Continuous Quantifier
ADJ – Adjective
adn – Adnominal
adv – Adverbial
ADV – Adverb
AQ – Absolute Quantifier
ART – Article
AUX – Auxiliary Verb
BNC – British National Corpus
coll – Collective
COP – Copula
CxG – Construction Grammar
def – Definite
DEM – Demonstrative
DET – Determiner
dist – Distributive
DO – Direct Object
ER – Emphatic Reflexive
FOC – Focus Marker
grnd – Grounding
HPSG – Head-Driven Phrase Structure Grammar
INT – Intensifier
IO – Indirect Object
max – Maximal
ME – Middle English
mod – Modifying
N – Noun
NP – Noun Phrase
obj – Object
OE – Old English
OPP – Object of a Preposition
P – Preposition
p/m – Plural or Mass
part – Partitive
PDE – Present-Day English
PN – Pronoun
PP – Prepositional Phrase
PQ – Postposed and Postnominal Quantifiers
pro – Pronominal
Q – Quantifier
quant – Quantifying

RIQ – Representative Instance Quantifier
RQ – Relative Quantifier
s – Singular
subj – Subject
sup – Superlative
unb – Unbounded
V – Verb
VC – Verb Complement
VP – Verb Phrase
X – Any Element

## Introduction

Despite being one of the most prevalent parts of speech in both written and spoken English and having been the subject of numerous linguistic analyses over the last century, quantifiers remain a source of debate and contention even among the most established linguistic communities. This dispute is owed almost entirely to the syntactic variation exhibited by different sets of quantifiers, which is often incompatible with traditional expectations for English nominal dependents. As a general rule, most quantifiers can occur as pronouns and in the prenominal and partitive positions exemplified respectively in (1) through (3)—though *all* is rather restricted in its pronominal use and *every* is only found prenominally. Like adjectives, the quantifiers *many, much, few*, and *little* are gradable and can occur with intensifying adverbs as in (4), but of those only *many, few*, and *little* can follow a determiner as in (5). Another set, *all, both*, and *each*, can occur in the postnominal (6) and postposed positions (7), though only *all* and *both* can occur in the predeterminer position exemplified in (8).

| | | |
|---|---|---|
| (1) | I've met a lot of dogs, and **most** like kibble. | Pronominal |
| (2) | **All dogs** like kibble. | Prenominal |
| (3) | **Some of the dogs** already ate. | Partitive |
| (4) | **Very few dogs** dislike kibble. | Prenominal—Intensified |
| (5) | **The little kibble** we had was devoured. | Postdeterminer |
| (6) | **The dogs each** had kibble. | Postnominal |
| (7) | **The dogs** were **both** eating kibble. | Postposed |
| (8) | **All the dogs** like kibble. | Predeterminer |

This variety of possible syntactic positions can in some cases cause quantifiers to be construed as either adjectives or determiners, but in others there is no clear counterpart among adnominals to which quantifiers might be compared. *Many, much, few,* and *little*, for example, emulate adjectives in their gradability, and the inability for all other quantifiers to follow determiners suggests a grammatical distinction between the two sets. Similarly, their use in the postnominal and postposed positions causes *all, both,* and *each* to appear closer to adverbs than anything, though no other adverbs exhibit agreement with a nearby noun. It is not surprising, then, that research into quantifier behavior has largely centered around attempting to fit quantifiers into existing syntactic categories and accounting for the fact that they do not conform to the expected properties of any one category. However, these attempts often rely heavily on the postulation of null nouns, transformations, or derivational levels to justify their membership at the expense of analyzing quantifiers as they tangibly appear.

Research that does not take this route generally focuses on subcategorizing quantifiers and examining how they relate to and diverge from one another, either through syntactic or semantic analysis but very rarely incorporating both. Thus, findings from these analyses generally result in incongruent categorizations in which a syntactic delineation contains quantifiers that have no functional similarities and a semantic one contains quantifiers that exhibit varied distributional patterns. With that being said, both directions of research seem to place primary focus on how quantifiers relate to other adnominals or to one another without exploring why these relationships exist. It is evident that quantifiers share a number of syntactic properties with determiners and adjectives, and it is certainly fruitful to identify

how exactly they pattern alike, but without attempting to discern why they have these similarities there will always be a missing piece of the puzzle.

It is precisely because quantifiers behave atypically and exhibit such variation that it is necessary to take a holistic approach and consider explanations from all linguistic domains to truly understand their distributional patterns. Usage-based theories of construction grammar (CxG), with their emphasis on the significance of both form and function, are inherently well-suited to this task and have the potential to find the "why" of quantifier behavior where other theories have fallen short. Research into quantifiers from CxG backgrounds has made significant progress toward understanding why quantifiers exhibit similarities with both adjectives and determiners. Langacker (2016), for example, divides a core set of quantifiers into two main subcategories based on their syntactic distributions and functional contributions to their nominal head: relative quantifiers that have a primarily grounding function (shared with determiners) and absolute quantifiers that have a primarily adjectival function. Significant attention has been given to variations of the partitive construction in a number of CxG-based studies, primarily focused on phrasal quantifiers such as *a lot of* or *a bunch of*, which are not included in this study.

Most of these studies, however, have limited their focus to certain quantifiers or certain constructions in which they appear. Up to this point, there has yet to be a constructional account of quantifier behavior that seeks to explain the variation between all adnominal quantifiers in all of the positions indicated in (1) through (8). This variation can likely be explained by functional similarities between quantifiers that share distributional patterns, as well as with other adnominals found in the same positions. Because existing research has

identified the late Middle English period (ME) as a significant turning point in the development of quantifiers' current syntactic distributions, an analysis of changes to quantifier constructions since the 15th century can likely offer insight into what these functional properties may be. Data for the 15th century have been collected from the Paston Letters (Davis, 1971), a collection of letters sent from and received by members of the Paston Family between 1425 and 1504. For Present-Day English (PDE), data have been collected from the spoken section of the British National Corpus ([BNC]; Davies, 2004).

Using the constructionalization framework developed by Traugott and Trousdale (2013), this paper intends to identify constructional changes that can (a) account for the variation in PDE quantifier constructions and (b) justify the functional properties of the various PDE constructions. Following the major themes of previous research into quantifiers, I will be primarily focusing on identifying changes that have led to the distinction between determiner-like and adjective-like quantifiers, as well as changes that can explain the development of atypical quantifiers such as *every*, which only occurs prenominally, and *all, both,* and *each,* which are found in several constructions that diverge from typical adnominals—all three occur postnominally and postposed, while only *all* and *both* occur in the predeterminer position. The quantifiers that this study will be focusing on are printed in Table 1, along with the syntactic positions in which they're known to occur in PDE.

**Table 1**
*The Syntactic Distribution of Quantifiers in Present-Day English*

| | *all both* | *each* | *many few little* | *some any much* | *no every* |
|---|---|---|---|---|---|
| PRENOMINAL | ✓ | ✓ | ✓ | ✓ | ✓ |
| PARTITIVE | ✓ | ✓ | ✓ | ✓ | |
| PRONOMINAL | ✓ | ✓ | ✓ | ✓ | |
| POSTDETERMINER | | | ✓ | | |
| POSTPOSED | ✓ | ✓ | | | |
| POSTNOMINAL | ✓ | ✓ | | | |
| PREDETERMINER | ✓ | | | | |

In completing this analysis, this paper seeks to answer four main questions regarding the distribution of quantifiers in ME and PDE:

1. How have quantifier constructions changed between the 15$^{th}$ century and now?
2. What can these changes indicate regarding how quantifiers relate to—and diverge from—typical adjectives and determiners?
3. Can any sources or paths of change be identified in the data that might explain the variation in the syntactic distributions of atypical quantifiers?
4. If not, what other factors can be identified in the data that may have contributed to the distributional patterns of atypical quantifiers in PDE?

A successful analysis bearing these four questions in mind will not only advance our current understanding of quantifier constructions and nominal constructions as a whole but will provide evidence for the value of diachronic research in explaining synchronic phenomena and for the significant role that function plays in motivating syntactic structures.

As will be shown throughout this paper, the variation in the distributional patterns of quantifiers in PDE follows from the ME development of a class of determiners separate from other nominal modifiers and the standardization of a fixed adjective position, which caused relative quantifiers to be reanalyzed as grounding elements and absolute quantifiers as modifying elements. Around this same time, nominal modifiers were gaining restrictions regarding their ability to be used as pronouns, and only those which were capable of identifying a subset of a type maintained productivity as such. This new restriction was incompatible with the newly developed collective function of *every*, and directly led to the loss of *every* as a pronoun. The partitive construction similarly became restricted to only quantifiers as well as certain determiners and grounding adjectives with quantificational force. Finally, the data strongly points to *all, both*, and *each* providing a contrastive focus when postnominal and postposed.

The remainder of this paper is organized as follows: In the Background section, I examine the body of literature surrounding quantifiers beginning with research that has focused on classifying quantifiers according to traditional word class categories, functional properties, or diachronic changes. This is followed by an overview of research into the two main atypical patterns being explored in this study, first with research into *every* followed by research into *all, both,* and *each*. To close out the Background section, I review the various theories of CxG and their methods for analyzing diachronic change. The Methodology section outlines the methods of data collection, analysis, and representation being used in the present study. In the Data and Discussion sections, I address the four main questions that motivate this study. The Data section performs a quantitative overview of the syntactic

variation of quantifiers in the ME and PDE data, addressing how quantifiers have changed between the ME period and now (Question 1).

The implications of this data and of the particular uses of quantifiers, as well as other nominal modifiers, are addressed in the Discussion section, where I identify the constructional changes undergone by quantifiers that are motivated by the quantitative data and have directly led to the variation they exhibit in PDE. This section begins with the prenominal distributions of quantifiers and their similarities and/or differences with adjectives and determiners, with the aim of answering the second research question and identifying whether they are primarily grounding or modifying. The remaining three sections address atypical quantifier patterns, answering the third and fourth research questions. This begins with a discussion of pronominal quantifiers, with a particular focus on *every* and why it cannot be used pronominally. After, partitive and predeterminer quantifiers are discussed together in terms of changes that led to predeterminer *all* and *both* being reanalyzed as reduced partitives. Finally, I discuss *all, both*, and *each* in their postnominal and postposed distributions, comparing the Paston Letters and BNC data against the distributional patterns of another group of nominal dependents, emphatic reflexives (ERs), and their known pragmatic properties.

## Background

As is shown in the following pages, existing research into quantifier behavior has often led to disparate and incompatible analyses. Most of the research tends to focus on small subsets of quantifiers or is substantiated by either syntactic, semantic, or diachronic evidence but rarely incorporating more than one domain. A number of the theories and analyses discussed here offer compelling explanations for various facets of quantifier behavior, but these analyses have not yet been discussed together in terms of how they can be built on to develop a full picture of the syntactic and functional properties of quantifiers.

In returning to the two main areas of focus in this study—explaining the determiner-like and adjective-like qualities of quantifiers and explaining atypical quantifier patterns—this section is organized as follows: I begin by discussing research that has attempted to classify quantifiers into traditional word-class categories first and then into functional categories, followed by research that has taken a diachronic approach to quantifier classification. In the second section, on atypical patterns, I first discuss research into the lack of pronominal *every*, which is often intertwined with research into *no* and *none*, followed by research into the postnominal and postposed uses of *all, both,* and *each*. Finally, I conclude this section by overviewing the various theories of Construction Grammar (CxG) and constructionalization, by which theories the present analysis is performed.

### Categorizing Quantifiers

In the following three sections, I review existing research related to delineating quantifiers in terms of traditional word-class categories, functional properties, and changes to category membership over time.

### *Categorizing Quantifiers According to Word-Class Categories*

From the perspective that there are a limited number of grammatical categories that subsume all of the words in a language, and that membership in one of these categories is reliant on matching syntactic and morphological properties, the ambiguous nature of quantifiers is inherently problematic. Thus, the majority of theoretical concerns regarding quantifiers predictably stem from trying to fit them into a particular word class category and, consequently, trying to make sense of atypical patterns within the constraints of these categories. Depending on the quantifier, they can behave quite similarly to adjectives or determiners but typically do not conform to the expected properties of either category. Most authoritative descriptions of English grammar prefer a uniform analysis along the lines of Matthewson (2001), which presumes that all quantifiers must belong to the same word class, rather than a dual-function analysis that labels some quantifiers as determiners and others as adjectives. Regardless of whether one chooses a uniform or dual-function analysis, both options come with their own difficulties and cannot be defended without having to account for a number of inconsistencies.

In general, proponents of the uniform analysis tend to label quantifiers as determiners or a subtype of determiners. The view that all quantifiers are adjectives is much less common; it seems to be preferred in dictionaries but is almost completely unattested elsewhere. Conversely, the view that all quantifiers are determiners is found in most English grammars (c.f. Aarts, 2011; Crystal, 1995; Kim & Michaelis, 2020; McArthur, 1998) and in a wide variety of academic research from both formal and functional perspectives (c.f. Barwise &

Cooper, 1981; Brems, 2012; Hoeksema, 1996; Moltmann, 2003; Yeager, 1993; Yoo, 2002; Yoon-Kyoung, 2011).

Most research from the various formal frameworks has postulated the existence of null nouns or arguments to account for the syntactic positions of quantifiers that are not typically possible for determiners. For example, the partitive construction—as in the phrase *many of the dogs*—is traditionally annotated as [Det1 *of* Det2 NP], marking the quantifier (Det1) as an "upstairs determiner" (Shin, 2016); however, this is inconsistent with the generally accepted rule that a determiner must take a noun phrase as its head. Various theories have been posited to account for this violation, though it does not appear that formal accounts have come to a consensus. Barker (1998) suggests that the component parts [*of* Det2 NP] form a noun phrase themselves, while Ionin et al. (2005) posit instead that a null noun follows the quantifier and acts as its head to make up for this violation. In a more recent account, Shin (2016) proposes an exception to the rule that a quantifier in its partitive use can take a prepositional phrase as its head rather than a noun phrase. All three theories succinctly highlight why quantifiers have been so problematic for formal frameworks; instead of analyzing any properties of quantifiers themselves, studies must instead focus on how the environment can be manipulated to make quantifiers abide by rules that they do not naturally follow.

The ability for certain quantifiers, such as *many* and *few* to appear in typically adjectival positions seems to be the primary motivation for a dual-function analysis in which some quantifiers are determiners and others are adjectives. Like in the uniform analysis, formal research from this perspective must still account for the differences between adjective-quantifiers and typical adjectives in order for them to adhere to traditional rules. Kayne

(2007), for example, argues that the comparative forms of quantifiers *few, many*, and *much* are evidence that they should be classified as adjectives. However, the appearance of *few* with both singular and plural nouns as well as its cooccurrence with *a* when modifying plural nouns requires that *few* take an unpronounced noun "X0 NUMBER" as its head where NUMBER is neither plural nor singular. Similarly, expected properties of adjective lowering would suggest that the phrases "many men read few books" and "few books are read by many men" should be synonymous like "many men left" and "the men who left were many," but most native speaker judgements reveal that this is not the case (Lakoff, 1969). Lakoff proposed two derivational constraints regarding sentences with multiple quantifiers to account for this irregularity; in sum, they state that if two quantifiers appear in one sentence, the quantifier with the higher derivational status in underlying structure must precede the other quantifier in surface structure and must retain their higher derivational status in surface structure.

***Categorizing Quantifiers According to Functional Properties***

Many of the problems that arise from trying to fit quantifiers into one particular category are extraneous when approached via the lens that the words in a language are best delineated by functional categories rather than grammatical ones. While functional categories often use the same labels as grammatical ones (i.e., the set of words identified as grammatical determiners also tend to be identified as functional determiners), the conditions necessary for category membership are centered around the word's functional properties rather than the syntactic positions in which it occurs. Thus, the fact that quantifiers do not directly modify a noun in the partitive, for example, is inconsequential to their classification as determiners so

long as they still provide a determinative function. This is not to say that syntactic or morphological properties are not considered in functional categorization; members of functional categories do typically share formal properties, but these properties are considered symptomatic of a functional distinction. So, when a member of any particular class differs from the others in their formal properties, there is typically a functional explanation for this difference. Additionally, categories from this perspective often have gradient boundaries and peripheral members that may exhibit the functional or syntactic properties of other categories but retain membership in the category with which their primary function aligns the closest (Denison, 2006). This is the perspective utilized by most usage-based or functional linguistic theories, including those subsumed under construction grammar (CxG).

There are two main systems of classification that are found throughout functional research into quantifiers, and though they differ in significant ways they are largely alike in the manner by which quantifiers are divided. In Radden and Dirven (2007), quantifiers form their own functional category and are one of three main types of nominal modifiers alongside grounding elements (determiners) and modifying elements (adjectives). Two types of quantifiers are identified in this system, set quantifiers (*all, every, each, any, most, half, some, no*) and scalar quantifiers (*many, much, few, little, several,* numerals), and both types are primarily associated with a quantifying function. However, while set quantifiers additionally provide a grounding function to their nominal referent like determiners, scalar quantifiers are "purely quantifying" elements (Radden & Dirven, 2007). Set quantifiers can be further identified by whether or not they designate a referent that entails all possible entities identified by the noun; *all, every, each,* and *any* are full-set quantifiers while *most,*

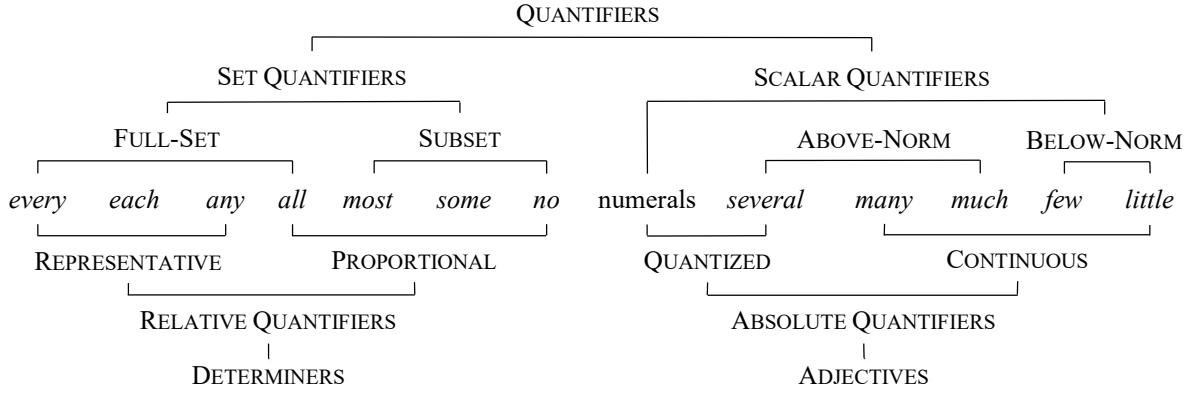
*half, some,* and *no* are subset quantifiers. Similarly, scalar quantifiers are separated based on their relationship to the implicit norm identified by the noun. The scalar quantifiers *several, much* and *many* are above-norm, meaning that they designate more of the noun than would be expected in the particular context of the reference, while *few* and *little* are below-norm, meaning predictably that they designate less than would be expected. Numerals are not given a distinction in this regard, likely because they identify specific amounts and thus cannot be relative to any implicit norm.

Langacker (2008, 2016) splits quantifiers along the same lines as Radden and Dirven (2007), though uses the designation "relative quantifiers" for their set quantifiers and "absolute quantifiers" for their scalar quantifiers. Relative quantifiers are grounding elements, as set quantifiers are in the previous designation; however, under this analysis, grounding is their primary function and they are thus considered determiners. Rather than being purely quantificational, absolute quantifiers instead have a primarily adjectival function and belong accordingly to the class of adjectives. Langacker (2016), however, notes that absolute quantifiers take on a grounding function and act as determiners when they modify a noun prenominally but are otherwise adjectival. Within this system, relative quantifiers "pertain to degree of universality" and exist on a scale from universal exclusion (*no*) to universal (*all, every, each*). They are further subtyped as proportional quantifiers, which occur with mass nouns and plural nouns, or representative instance quantifiers, which occur only with singular count nouns. Absolute quantifiers are instead "characterized by a scale of measurement" and can be quantized (numerals and *several*) or continuous (*many, much, few, little*).

Figure 1 summarizes the main distinctions given to quantifiers by Radden and Dirven (2007) descending from the top and those given by Langacker (2008, 2016) ascending from the bottom. The similarities between the two systems suggest a natural distinction between those quantifiers identified as set or relative quantifiers and those identified as scalar or absolute quantifiers. This is further supported by the formal dual-function analyses discussed previously, which typically split the two types along these same lines. Apart from this distinction, however, the two systems differ significantly in the way they further delineate each type. It is likely that both systems identify functional properties of the different quantifiers—for example, *all* designates a referent that is the full proportion of its set and could thus be considered both proportional and full-set—but neither system identifies functional similarities between the quantifiers that share atypical syntactic patterns such as *no* and *every* or *all, both,* and *each*. *Both* is, surprisingly, not discussed in either analysis, though its functional and formal similarities with *all* would suggest that it falls under the same delineation in either system.

**Figure 1**

*Functional Categories of Quantifiers from Radden and Dirven (2007; top) and Langacker (2016; bottom).*



Additionally, Radden and Dirven (2007) indicate no distinction between scalar quantifiers that are gradable and those that are not, and they make no mention of the relationship between these quantifiers and adjectives. Langacker's (2008, 2016) categories align quite well with this distinction, with continuous quantifiers being those that are gradable, and the entire category of absolute quantifiers being considered adjectival. Further, while full-set and subset quantifiers do not have any formal properties that are shared exclusively among their members, the alternative groupings of representative instance and proportional quantifiers indicate a distinction between relative quantifiers that are used with singular nouns and those that are used with plural or mass nouns. Because this study seeks to find functional explanations for the formal properties of quantifiers, Langacker's (2008, 2016) system provides a more effective starting point to do so. I will thus be provisionally adopting Langacker's system and identifying quantifiers using his delineations, though I will consider both sets of properties when seeking functional explanations for the changes undergone by quantifier constructions and the variation they exhibit today.

### *Diachronic Changes to Category Membership*

While the debate regarding quantifiers' membership in either grammatical or functional categories has been given significant attention, as has been shown previously, very few diachronic analyses have been performed to this effect. The few that have been performed, however, have identified similar paths of change and similar triggers for change but have drawn divergent conclusions. Particularly, the loss of case endings and subsequent loss of word-order fluidity following the Old English (OE) period seems to be the primary motivation for a number of changes that resulted in the varied distributional patterns of

quantifiers. Almost every diachronic account of quantifiers' category membership points to a reanalysis that took place in the late Middle English (ME) period, with the 15th and 16th centuries being a significant turning point in their development. Various accounts have posited that quantifiers prior to this time should be considered adjectives, with Lightfoot (1979) and Spamer (1979) suggesting that they were reanalyzed as determiners—alongside other determiners who were at this point considered adjectives as well—and Carlson (1977) instead suggesting that they became a category of their own. Conversely, Denison (2006) proposes that both quantifiers and determiners are better analyzed as pronouns in the OE period but were reanalyzed as determiners in late ME.[1]

Evidence for the assumption that determiners did not have a syntactically or functionally distinct class of their own in OE typically revolves around word order and inflectional patterns that they shared with adjectives and pronouns. Specifically, the contrastive relationship between determiners and strong adjectives and the ability for both pronouns and determiners to head a genitive partitive provide evidence for a relationship with adjectives and pronouns, respectively. Regarding the first point, it is worth noting as a preliminary that adjectives in OE could be used with either strong or weak inflectional paradigms and were restricted in their occurrence based on which inflection they were given. Strong adjectives could never cooccur with determiners, had an inflectional pattern that was closer to that of determiners than nouns, and are often considered as essentially indefinite markers. When a

[1] It is worth noting that, of these studies, only Carlson (1977) focuses exclusively on quantifiers—the others focus on the emergence of the determiner class (Lightfoot, 1979; Spamer, 1979) or the diachronic relationship between determiners and adjectives (Denison, 2006). The latter three studies discuss quantifiers as members of the determiner class, and the changes they describe are certainly relevant toward a diachronic analysis of quantifiers, though they do not discuss changes to quantifiers, specifically.

determiner was present, all adjectives were weak and typically occurred postnominally; this follows from another observation that OE noun phrases typically could not have multiple prenominal adjectives. Additionally, strong adjectives in OE were gradable while weak adjectives were not, contributing to the alignment of strong adjectives with absolute quantifiers, specifically. Spamer (1979) draws the conclusion from this that determiners and strong adjectives were one in the same and they both fell under the general category of modifiers until their reanalysis in the 16th century.

Carlson (1977) additionally cites similarities between adjectives and quantifiers in OE as evidence that they were once members of the same category, though this analysis does not mention any particular relationship with determiners. He further argues that the primary trigger for the reanalysis of quantifiers was adjectives becoming restricted (in most cases) to the prenominal position while quantifiers retained their positional fluidity. He identifies the predeterminer position (*all the dogs*), the postnominal position (*the dogs all*), the partitive use (*all of the dogs*), and the postposed position (*the dogs were all*) as "exception features," meaning features that distinguished them from adjectives and contributed to their emergence as a separate grammatical category.

Following their separation from adjectives, quantifiers began to lose productivity or, in some cases, disappear completely in syntactic contexts where adjectives were still productive. Interestingly, though Carlson does not suggest that quantifiers are related to determiners, they also began to lose productivity in contexts where determiners were unattested. For example, some quantifiers lost the ability to modify subject pronouns prenominally (*all they*) as well as the ability to occur between a determiner and the modified

noun (*the bothe ends*; Carlson, 1977). While the changes described by Carlson (1977) are certainly sufficient in explaining how quantifiers became distinct from adjectives, they do not explore any particular reason why quantifiers maintained their positional fluidity when adjectives lost it or why different quantifiers developed different distributional patterns.

Denison (2006) instead considers the ability for determiners and pronouns to be used in the genitive partitive as evidence for a distinction between them and adjectives in OE. At this point, all pronouns and determiners were found in this position, while adjectives were restricted in this regard to only their superlative and comparative forms. In this analysis, the similarities between determiners and adjectives are attributed to functions shared by both groups and gradient boundaries between the two rather than a categorical alignment. He further proposes a subcategorization of determiners in PDE, in which *all, both,* and *half* are predeterminers, absolute quantifiers and words similar to *other* are postdeterminers, and the rest are central determiners.

While the analyses discussed here differ in their conclusions and the evidence that they consider significant, each of them provide invaluable information regarding the changes to quantifiers, determiners, and adjectives since the OE period. Temporarily disregarding the theoretical proposals regarding category membership, the objective changes that will prove useful in the present analysis can be summarized as follows:

1. Determiners (including quantifiers) and strong adjectives had a contrastive relationship in OE, and only strong adjectives could be graded (Spamer, 1979).
2. Quantifiers lost positional similarities with adjectives in the 15$^{th}$ and 16$^{th}$ centuries, and gained positional similarities with determiners (Carlson, 1977).

3. All pronouns and determiners (including quantifiers)—but only superlative and comparative adjectives—could be used in the partitive genitive in OE (Denison, 2006).

## Explaining Atypical Quantifiers

The following two sections review research into a number of distributional patterns that are considered atypical for quantifiers and for nominal dependents in general. First, I explore research regarding the inability for *every* to occur as a pronoun, which is understudied and often accompanies a larger analysis of the contrast between *no* and *none*. Following this review, I outline existing research into the use of *all, both,* and *each* in the postnominal and postposed positions. This research tends to fall into one of two camps, a floating analysis or an adverbial analysis, with little deviation.

### *Explanations for the Restriction of* Every *and* No

There is very little existing research that attempts to justify the exclusion of *every* from being used in the partitive or as a pronoun, though *no* and its counterpart *none* have been given significant attention. I have found only one study that focuses on explaining why *every* cannot occur as a pronoun; this variation is thus largely unexplained, though passing comments regarding *every* are found occasionally in functional accounts of quantifier behavior. Because it is likely that a functional explanation exists for this deviation, following the CxG notion that function motivates form, existing research into the functions of pronominal reference and the partitive construction may provide some context for the present analysis.

Shin (2016) conflates the diachronic development of *every* with *no* to support the notion that partitive quantifiers and determiner quantifiers have separate functions. He draws on the fact that, in earlier forms of English, *no* and *none* were allomorphs akin to *a* and *an* and argues that they diverged in the 17th century and were reanalyzed as separate elements. *No* was reanalyzed as a determiner quantifier, and *none* as a partitive quantifier. *Every* follows a different path that lends itself to the same result; it is widely known that *every* was originally formed as a compound of [*ever* + *each*], and Shin (2016) argues that when it became an independent lexeme and the meanings of its two component parts were lost, it went through a stage of being synonymous with *each* and appearing in all of the same syntactic distributions. Thereafter, *every* developed strictly into a determiner quantifier in order to avoid synonymity with *each* while *each* maintained productivity as both a determiner and partitive quantifier. Under this analysis, when a quantifier acts as pronoun it is actually a partitive quantifier that has undergone argument suppression during its derivation, thus extending this explanation to their inability to occur as pronouns as well.

The relationship between *no* and *none* is widely attested, and it is entirely possible that their historical alternation patterns are the primary cause for the distributions they exhibit today. Denison (2006) also discusses this change, though he does so only briefly while comparing it to the distinction between the possessive determiner *my* and its pronominal counterpart *mine*. In this account, rather than the phonological alternation leading to two separate lexemes it instead led to a grammatical alternation where the forms *my* and *no* became used when syntactically linked to a noun (as in prenominal modification) and the forms *mine* and *none* became used when standing alone as pronouns. This also contrasts with

Shin's (2016) analysis that the pronominal forms are suppressed partitives, and instead claims that the pronominal form is used in the partitive. If this analysis is correct, and *no* and *none* exhibit this grammatical alternation, then it would be inaccurate to claim that *no* has no pronominal or partitive use. *Every*, though, is still essentially unexplained; while Shin (2016) may have correctly identified synonymity as a reason *every* gained functions distinct from *each*, the analysis still does not consider why this distinction led to *every* only occurring prenominally and *each* maintaining productivity prenominally as well as in the partitive and as a pronoun—it only truly justifies the fact that they diverged at all.

An interesting consideration is found in a passing statement from Langacker (2016); in describing the partitive construction, he identifies *one* following the quantifier as an optional element of the construction. He then goes on to list the quantifiers available for use in the partitive, and includes *none, every one, each (one),* and *any (one),* with parenthesis indicating that the *one* is optional for *any* and *each*. There is no explanation given for this statement, and though it is included as though it is an accepted fact, there is no indication of why it might be required for *no* and *every* but not *each* or *any*. Carlson (1977), in describing how adjectives changed in ME and became distinct from quantifiers, notes that *one* began being used as a propword for adjectives in the 14th century when they lost their ability to occur substantively, though this was not completely established until the 16th century. This use is still found today with both adjectives (*the red one[s]*) and demonstratives (*those ones, that one*), and might suggest a similarity between *every* and *no* and other nominal modifiers that are incapable of being used pronominally.

If there is a functional explanation for the absence of *every* from the partitive and pronominal constructions, it can likely be found in the functional properties of either construction. Langacker (2016) and Radden and Dirven (2007) both offer similar analyses of the partitive function; it profiles a relationship between a part and a whole, where the part is identified as a subset and the whole is always restricted and definite. Pronouns similarly require definite or accessible referents and are often used to identify a referent from a set of possible referents (as in *this* instead of *that* or *him* instead of *her*). These similarities may very likely point to a functional explanation for the inability of *every* to be used in the partitive or as pronouns and will be considered in the present analysis.

### *Explanations for Atypical Placements of* All, Both, *and* Each

Regarding the relationship between *all, both*, and *each*, the postnominal and postposed positions have been studied extensively while the predeterminer position—which excludes *each*—is often attributed to *all* and *both* being predeterminers and left at that. For this reason, this section will primarily focus on existing explanations for the postposed and postnominal quantifiers, as little else exists for predeterminer quantifiers. As a preliminary, I will note here that the postposed and postnominal quantifiers are frequently referred to as floating or stranded quantifiers following the formal theory that a quantifier is either floated into position or stranded after NP movement (this theory to be discussed in the present section). While this designation is the most common, I will be referring to *all* and *both* as postnominal and postposed quantifiers (PQs) to avoid the transformational implications of the floating or stranded denominations.

PQs are primarily problematic as a result of them occupying typically adverbial positions yet maintaining agreement with the noun they modify. Two competing theories underlie the majority of research on them, the first being that this position arises as a result of movement and the second that these quantifiers are actually base-generated adverbials and not part of the noun phrase at all. While the earliest of the movement theories postulate that it is the quantifier itself that moves away from its noun phrase (c.f. Kayne, 1975; Maling, 1976; Postal, 1974), most current research assumes an analysis along the lines of Sportiche (1988) that the noun phrase moves away from the quantifier and leaves it stranded in its position (c.f. Kim, 2019; Tiskin, 2016). In this analysis, the quantifier is generally taken to be the head of a higher-level quantifier phrase and takes a noun phrase as its complement. The noun phrase is then topicalized and moved to the sentence-initial position, which Yeager (1993) suggests is "motivated by pragmatic factors such as focus."

While the movement theory does provide an appealing explanation for PQs when analyzing them from a transformational framework, there are a number of criticisms that call its validity into question. Even assuming a transformational grammar, Yoon-kyoung (2011) notes that the distributivity of *each* compared to the universality of *all* and *both* suggests that they have distinct underlying structures that allow *each* to occur even further removed from its noun phrase in ditransitive constructions. Because a movement theory would require that they all share the same underlying structure, this simply could not be the case. Additionally, within a transformational framework, the passive is formed via subject movement into the object position. Without any additional constraints, the combination of these two

transformational rules would incorrectly license quantifier-float to occur in the object position when in a passive construction (Shin, 2014).

Non-transformational approaches to the PQ phenomenon typically follow the adverbial approach postulated by Brodie (1985). This view claims that the quantifier is actually an adverb that is only semantically related to the subject noun phrase. This view is frequently found in research from Generalized or Head-Driven Phrase Structure Grammar (HPSG) frameworks (Sag & Fodor, 1995), but is occasionally favored by research within transformational or generative frameworks that reject the movement analysis (Hoeksema, 1996; Yoon-kyoung, 2011). Like the movement analysis, however, the adverbial analysis has given rise to a number of criticisms that primarily revolve around the discrepancies between PQs and typical adverbs. Sportiche (1988) points to the fact that no one class of adverbs shares the same distributional patterns as PQs. Subject-oriented and frequency adverbs come the closest, but still differ in the fact that subject-oriented adverbs (and some frequency adverbs, though not all of them) can freely occur at the end of a sentence and both types maintain predicate scope when occurring before the noun. PQs do occur before their noun, as we've seen throughout this paper, but they are unquestioningly nominal modifiers when occurring in this position. Subject-oriented and frequency adverbs, like *probably* or *often*, are still adverbs even when prenominal as in "Probably, John left" (Sportiche, 1988).

The second major issue with the adverbial theory is that PQs, unlike adverbs, must agree with the subject NP regardless of where they occur in the sentence. This issue is easily resolved within the framework of HPSG, which is built around the idea that individual words are stored in a speaker's lexicon with features and properties that determine how they can be

used. Various accounts of PQ behavior from an HPSG framework propose feature matrices for *all, both*, and *each* which specify that the quantifiers are verb-phrase modifiers with constraints on the subject of the verb's plurality and index (Park, 1995; Yoo, 2002). While these lexical constraints easily account for the agreement between a PQ and its subject noun phrase, the inconsistencies between the possible distributions of adverbs and those of quantifiers have yet to receive a sufficient explanation in existing research.

Subsequent to Abeille and Godard's (2001) system of categorizing French adverbs into "light," "normal," or "heavy" based on where they can and cannot occur in a verb phrase, Yoo (2002) proposes that PQs be analyzed as "light" adverbs which must precede their verb. A similar approach is found in Kim and Kim (2009) using the POST-MOD [-] feature value from Kim (2019), which is applied to adverbs that can only occur before the phrase they modify. Technically, these distinctions work to separate which adverbs can occur in which positions, but they do not explain why certain adverbs and quantifiers carry this feature while others do not. There are no explanations in these theories as to whether any similarities exist between the adverbs labeled as "light" or "POST-MOD [-]" apart from the fact that they appear in the same syntactic positions.

Very few analyses of PQs deviate from the traditional movement and adverbial theories, despite neither theory being fully justifiable either syntactically or functionally. Based on syntactic, pragmatic, and prosodic factors, Shin (2014) proposes that PQs are derived from partitive quantifier expressions and that they should be classified as adnominal intensifiers akin to emphatic reflexives (ERs), noting that they share distributional patterns and are both pragmatically contrast-inducive. For PQs, this contrast is triggered by the maximality effect

(Brisson, 1998, as cited in Shin, 2014) that is inherent in *all, both*, and *each* because they identify whole sets. Without the quantifier, a sentence like "the boys jumped in the river" might mean all the boys who are present jumped in the river, but it could also refer to any number of the boys greater than one. "The boys all/both/each jumped in the river," however, excludes any alternative interpretations but the maximal one from satisfying the truth conditions of the sentence. Similarly, "John himself repaired the car" excludes the possibility of anyone else repairing John's car while the same sentence without the ER might mean he took his car to a shop or had someone else repair it. It is worth noting here that, under Shin's analysis, the partitive construction itself induces a contrastive effect. Because *all, both*, and *each* induce contrast on their own via the maximality effect, they are able to appear without the prepositional phrase when floating.

ERs, like PQs, must agree with the noun that they modify and can occur directly after the noun or between an auxiliary and head verb. They also occur clause-finally, which PQs cannot do, but Shin suggests this difference should not prevent them from being categorized together because both groups are subject to the same prosodic constraint. Emphatic reflexives obligatorily carry a low-high pitch accent (Ahn, 2010) which is traditionally used as a marker of contrastive focus (Pierrehumbert & Hirschberg, 1990, as cited in Shin, 2014). PQs, according to Rochman (2005, as cited in Shin, 2014), are only able to appear sentence finally when preceded by a pronoun that is unstressed so that the resulting phrase becomes interpreted as a single prosodic unit with a low–high pitch accent. If this analysis is correct and PQs are contrastive like ERs, then the explanation that they cannot appear sentence

finally unless incorporated into a preceding weak element justifies the distributional differences between ERs and PQs.

To my knowledge, no other studies suggest that PQs and ERs should be considered members of the same category. There are several that note the similarities between the two groups and suggest that ERs are subject to the same movement rules as PQs (Ahn, 2010; Gast, 2006, as cited in Storoshenko, 2011), and others similarly address the relationship between PQs and the partitive. Sportiche (1988) notes that, in French, a different lexical form is used for *each* in the determiner position than in both the partitive and floating constructions. The theory that PQs are focus markers has not been extensively discussed in prior literature and has not been given the scrutiny or empirical analysis to truly stand on its own; however, the pragmatic and syntactic commonalities between the two warrant further exploration of the relationship between PQs and ERs.

## Construction Grammar

With the breadth of research into quantifier variation reviewed, I introduce here the theories of construction grammar and constructional approaches used to study language change. Considering the difficulties posed by quantifiers under traditional analyses, the tenants discussed henceforth offer a framework that is well-suited for their analysis.

### *Theories of Construction Grammar*

The family of theories that represent construction grammar, commonly notated as CxG, have been gaining traction since the 1980's for their ability to provide an alternative to the traditional formal study of language. Within CxG frameworks, transformations, null elements, and underlying structures are rejected in favor of explanations that are observable

in actual language use (Fillmore, 1988; Goldberg, 1995, 2005). Under the assumption that linguistic patterns are not shaped by syntax alone, these explanations typically involve aspects from other subfields of linguistics including—but not limited to—semantics, pragmatics, and discourse (Fillmore, 1988; Goldberg, 1995). Particular attention is paid to "non-central" aspects of language, or structures that do not fit traditional grammatical rules, which are neglected in much of the formal literature (Fillmore, 1988). CxG does share one key belief with formal theories: the belief that language is generative and that a successful linguistic theory must be able to account for the formation of an infinite number of structures based on a finite set of combinatory rules or constraints (Goldberg, 1995, 2005). While formal theories account for the generative nature of language using transformations and derivations, CxG instead considers constructions—which have specific requirements for what they can and cannot combine with to create a grammatical structure—to be the building blocks of language.

Many of the core tenets of CxG are shared with other functional linguistic theories, namely those from cognitive or usage-based backgrounds (Goldberg, 1995). HPSG was the first to suggest that lexical items carry their own feature matrices that determine the roles and positions they can take in a sentence. CxG theories that emphasize the need for a formal system of representation also utilize these feature matrices but differ from HPSG in that they do not subscribe to the notions of underlying structure and derivational levels. Usage-based theories of language, outlined by Bybee (2010), underscore the majority of theories within CxG, such as Cognitive CxG (Goldberg, 1995, 2005; Lakoff, 1987), Radical CxG (Croft, 2001), and the Parallel Architecture Approach (Jackendoff, 1997, 2002). These theories are,

generally speaking, based on the idea that linguistic structures should be studied as they relate to domain-general processes, or non-linguistic properties of human cognition, such as categorization, chunking, rich memory storage, analogy, and cross-modal association (Bybee, 2010).

While a large number of theories fall under the label of CxG, they often differ in their assumptions regarding how features are inherited between constructions and regarding the nature of cross-linguistic generalization (Goldberg, 2005). There are, however, four main tenets that are generally shared by all CxG frameworks and are identified and discussed by Goldberg (2013): (a) phrasal patterns are "learned pairings of form and function," (b) there are no underlying structures or transformations, (c) constructions are related and stored cognitively in a hierarchal network, and (d) cross-linguistic generalizations must have a basis in domain-general cognitive processes or shared functional purposes. Regarding the first tenet, (a), a staple of CxG is that the primary component of language is a construction, or a form-meaning pairing which is conventionalized in speech and stored cognitively as a single unit (Goldberg, 1995; Hoffmann & Trousdale, 2013). This includes individual words, with or without morphological inflections, as well as larger constructions that may be fully productive or idiomatic. For example, an individual word such as *dog* might be motivated by the construction which subsumes all singular count nouns, but its plural form *dogs* would instead be motivated by a plural count noun construction that calls for a noun plus the plural inflectional marker. The main unifying point is that an expression's meaning incorporates that of the construction and that of the individual items in the construction. The second tenet, (b), is essential to CxG; any analysis or explanation of a linguistic phenomena must consider

the observable facts of language as it is actually used rather than rely on the postulation of null elements, transformations, or derivational levels.

The third tenet, (c), tends to be where the majority of CxG frameworks diverge; while all constructionist approaches agree that there is a hierarchal network of constructions, opinions vary as to how the hierarchy should be organized and what elements are inherited between different levels of schematicity. Fillmore (1988) coined the term "constructicon" for the mental space where constructions are stored, which comprises both schematic (higher-level) and substantive (compositional and unproductive) constructions (Hoffmann & Trousdale, 2013). The more substantive constructions are often referred to in the literature as micro-constructions or exceptional patterns, followed by the slightly more abstract but not totally schematic meso-constructions or subregularities, while the most schematic constructions are macro-constructions or broad generalizations (Goldberg, 2005; Traugott & Trousdale, 2013). Within usage-based CxG theories, the general consensus tends to be that micro-constructions and meso-constructions inherit all features from their higher-level constructions except for those that are incompatible with features specific to the lower-level construction (Goldberg, 1995; Hoffmann, 2017).

In this system of inheritance, known as the default inheritance model, any construction that is frequently attested in language is cognitively stored as a separate micro or meso-construction with all of the inherited features of its parent construction as well as all of its own unique features. Alternatively, the complete inheritance model suggests that, while micro-constructions inherit all of their features from macro-constructions, only those that are fully idiosyncratic are stored separately from their parent constructions. This model tends to

be utilized by CxG approaches that emphasize more descriptive formalism, such as Berkeley CxG and Sign-Based CxG (Hoffmann, 2017).

Similarly, the fourth tenet, (d), is subject to debate around how to represent cross-linguistic generalizations in the constructicon, which is heavily influenced by whether the particular CxG theory supports or eschews a system of formalization. As mentioned, proponents of CxG generally agree that these generalizations must have cognitive or functional similarities to have any viability. In following Croft's Radical CxG, introduced in Croft (2001), many CxG theories today reject the notion of strict syntactic categories such as noun, verb, or adjective based primarily on formal features (Goldberg, 2005, 2013; Traugott & Trousdale, 2013). Instead, these categories are meaningful in that they describe the functional roles characterized in individual constructions. Theories with a stricter system of formalism often retain these syntactic categories but emphasize the semantic function that a specific word is contributing to the construction in which it occurs (cf. Fillmore, 1988; Fried, 2013; Kim & Michaelis, 2020). This debate is rather superficial, however; both sides generally agree that the semantic contribution of a word is more important than its syntactic category, and only differ in how they represent these features descriptively.

All of the core tenets described above contribute to the growing sentiment that CxG provides the most effective framework for studying patterns of language change. Likely due to the fact that CxG is still relatively new, much of the existing research is focused on justifying it in synchronic studies to the effect that only a small number of diachronic studies have been done. Even still, Goldberg (2005) notes that a key difference between CxG and formal theories of language lies in the type of evidence that is generally accepted to account

for linguistic phenomena; while formal theories prefer synchronic explanations that incorporate the particular phenomena into larger syntactic patterns, CxG and other usage-based theories tend to consider functional or historical explanations to be far more meaningful. Generally speaking, the majority of usage-based theories are united in two beliefs regarding historical explanations: (a) diachronic change is reflected in synchronic variation (Bybee, 2010; Goldberg, 2005; Hoffmann & Trousdale, 2011), and (b) pragmatic and semantic influences can explain why diachronic change occurs (Fried, 2013; Traugott, 2003, 2008).

### *Constructional Change and Constructionalization*

The limited amount of diachronic research that has been done from CxG frameworks has by and large revealed that the innate properties of constructions and constructional schemas are incredibly useful in studying patterns of language change. The combinatory nature of constructions, for example, can offer insight into the conventional belief that grammaticalization is a gradual process. Fried (2013), Traugott (2003, 2008), and Hoffmann and Trousdale (2011), among others, suggest that grammaticalization is indeed gradual when viewed from start to finish but involves a series of small-scale changes at the constructional level that are abrupt on their own and culminate in gradual change. Because any construction is, at its core, an interaction between all of its linguistic features and those of its component parts, CxG provides the tools necessary to both individualize these changes and reflect on how they contribute to large-scale changes.

Similarly, both the combinatory nature of constructions and the hierarchal system they are assumed to be a part of are strongly supported by instances of analogy-based change.

Analogy occurs when existing words or phrases take on properties of similar structures and is often considered one of the main sources of language change by both formal and functional linguists. Because formal research tends to focus on the syntactic similarities that trigger analogy, these descriptions lack adequate support when changes involve only semantic reanalysis or influences from discourse, pragmatics, or morphology. From a CxG perspective, however, analogy can occur where any similar constructional features are found and often results in a structure that inherits features from both constructions (Fried, 2013; Traugott, 2014). The very fact that analogy occurs is compelling evidence that (a) any given structure is influenced by much more than syntax alone, and (b) idiosyncratic patterns inherit features from more conventional patterns.

The bulk of diachronic research from a CxG perspective has focused on identifying patterns of constructionalization and constructional change. The difference between the two terms here is significant; constructionalization refers to the development of new constructions out of existing ones, while constructional change refers to changes within a construction that do not immediately result in the creation of a new construction (Traugott, 2014). It is often the case that constructional changes precede constructionalization, but not necessarily so. Within usage-based theories, both token and type frequency play a large role in language variation and change, which, alongside ease of processing, form two of the main factors that prompt a new construction to become conventionalized in a language (Hoffmann & Trousdale, 2011).

**Summary**

As evidenced by the literature discussed throughout this section, the vast majority of research into quantifiers is concerned almost exclusively with solving problems that quantifiers pose for theories of generative or universal grammars. Attempting to fit quantifiers into any particular word class tends to create more problems than it solves, and generally requires the postulation of contrived null elements or derivational steps to avoid destabilizing the entire system of expected word class properties. Additionally, very little attention has been given to investigating why quantifiers behave the way they do in favor of describing how they behave and how they relate to other linguistic units. In order to fully understand the various syntactic and semantic properties of English quantifiers, it is necessary to study their behavior as they are rather than how they should be and question why they have changed on top of how they have changed. Given the nuanced variation among quantifiers, a constructionist approach offers the most effective tools for studying their distributional patterns. This is especially true when approached via a diachronic lens with the assumption that language change can explain why particular structures exist.

## Methodology

As has been outlined in the Background section, existing research into English quantifiers has provided a number of theoretical proposals for their various functions and distributions; however, this research has been mostly fragmented, with each study focusing on only one aspect of quantificational behavior while ignoring the group of quantifiers as a whole. The following analysis intends to fill that gap in the literature by pulling together extant theories and comparing them against diachronic data in an effort to determine how quantifier constructions have changed, what these changes can reveal about the functional properties of different quantifiers, and how these changes can explain the variation exhibited by atypical quantifiers in PDE.

While there is still plenty of debate regarding what should be considered a quantifier, the focus of this research is on nominal quantifiers, specifically those that appear as individual lexemes. This excludes phrases akin to *a lot of* and *a bunch of* as well as any adverbial quantifiers. I have limited my analysis to the quantifiers which are considered "core" quantifiers in Langacker's (2016) analysis and have provisionally assumed the semantic divisions introduced in the same work, which distinguishes between relative quantifiers that have a primarily grounding function and absolute quantifiers that are primarily adjectival. These distinctions provide a useful foundation for analyzing the shared distributional patterns of quantifiers that belong to the same semantic category. In addition to Langacker's core quantifiers, I have also included *both* in my analysis as a proportional relative quantifier due to its similarities—in both function and form—with *all*. The delineation of core quantifiers

adopted from Langacker (2016) is listed in Table 2, with the addition of *both* marked with an asterisk.

**Table 2**
*Categorization of Core Quantifiers According to Langacker (2016)*

| RELATIVE QUANTIFIERS | |
|---|---|
| PROPORTIONAL | *all, most, some, no, both** |
| REPRESENTATIVE INSTANCE | *every, each, any* |
| ABSOLUTE QUANTIFIERS | |
| QUANTIZED | numerals, *several* |
| CONTINUOUS | *many, much, few, little* |

*quantifier not included in Langacker's delineation but has been added for this study.

In order to correctly identify the constructional changes that may have led to the quantifier constructions in English today, quantifiers have been analyzed as they existed at the end of the Middle English period from the early 15th century to the turn of the 16th century. This follows existing research which places this time period as a significant turning point in the formation of modern quantifier structures. According to Carlson (1977), quantifiers prior to the 15th century were indistinguishable from adjectives. Throughout the 15th and 16th centuries, however, adjectives became locked in their position just prior to the modified noun while certain quantifiers maintained productivity in the predeterminer position (i.e., *all the dogs*), the postnominal position (i.e., *the dogs all*), the partitive use (i.e., *all of the dogs*), and the postposed position (i.e., *the dogs were all*). Following their separation from adjectives, quantifiers began to lose productivity or, in some cases, disappear completely in syntactic contexts where determiners were unattested or where adjectives were still productive. For example, some quantifiers lost the ability to modify pronouns prenominally

(i.e., *all they* in early Middle English) as well as the ability to occur between a determiner and the modified noun (i.e., *the bothe ends* in early Middle English; Carlson, 1977).

For the late Middle English period, data were taken from the Paston Letters¸ a collection of letters sent from and received by members of the Paston family between 1425 and 1504. This data set was chosen due to the likelihood that private correspondence between family members has for containing language that is as close as possible to spoken language at the time. As the lack of spoken records is inherently problematic when attempting to conduct historical linguistic analyses, it has been widely accepted that records such as letters, diaries, dramas, and trials provide the written data closest to speech (Traugott & Trousdale, 2013). The writers of the Paston Letters all lived in Norfolk and likely spoke an East Midland dialect, which is generally accepted to be the dialect from which standard Modern English evolved (Bergs, 2005). Though the small number of writers may limit the potential for proposing any overarching generalizations regarding Middle English quantifier behavior, it is sufficient for the purposes of identifying potential sources of change.

Several online databases contain versions of these letters. For this project, I have used the Paston Letters as they appear in the Corpus of Middle English Prose and Verse (Davis, 1971) as they are directly transcribed in their Middle English form from Norman Davis' *Paston Letters and Papers of the Fifteenth Century*. I downloaded the collection in its entirety and imported it into the concordance program AntConc (version 4.2.0).

For each quantifier, I consulted the Middle English Dictionary (Lewis, 2019) for all of its possible spelling variations, conducted a KWIC (Key Word in Context) search for each variation through AntConc, and collected all instances of its use into a spreadsheet where I

annotated each instance for the syntactic role of its overall noun phrase, its position relative to the noun it modified, and whether the noun was a singular, plural, or mass noun. Where I was unsure of a word's meaning or numeral status, I again consulted the Middle English Compendium for clarification. In total, 3,251 quantified noun phrases were collected and annotated. An example annotation can be seen in Table 3, where OPP refers to the overall noun phrase's role as the object of a preposition; the Position column indicates that the quantifier is followed by a determiner, an adjective, and then the noun; and the Num column indicates that the noun is a plural count noun.

**Table 3**
*Example Annotation of Data from the Paston Letters*

| NOUN PHRASE | ROLE | POSITION | NUM |
|---|---|---|---|
| alle þe same matiers | OPP | Q D Adj N | C Pl |

*Note*. NUM—numeral status; OPP—object of a preposition; Q—quantifier; D—determiner; Adj—adjective; N—noun; C Pl—count plural.

After annotating each instance of a particular quantifier, I performed a Unix-based search on the data in the Position column to combine identical patterns, count their total occurrences, and sort them based on number of occurrences. From there, I was able to ascertain each quantifier's frequency in the determiner position, the predeterminer position, the partitive, and so forth. A similar search was performed to determine each quantifier's frequencies in each syntactic role and with each type of noun. To note, *several* and *most* have been excluded from the data due to low token counts in the ME data (only one example for *several* and eight for *most*). Numerals have been additionally excluded as they are the only

group included in the same denomination as *several*—quantized absolute quantifiers—so their removal allows for a narrower focus on proportional, representative instance, and absolute continuous quantifiers.

In order to maintain as much unity as possible with the ME data in terms of dialect and genre, the PDE data were collected from the British National Corpus ([BNC]; Davies, 2004) and limited to transcriptions of spoken English. All data in the BNC come from British English in the latter half of the 20th century. The corpus is pre-annotated for part of speech, so for each quantifier I performed a number of searches for any of its possible distributions and collected the token counts for each search. For example, searching "some .|?|!" would collect only *some* followed by punctuation rather than a noun or a verb, so these results would all be counted as pronominal. The BNC is annotated using an automatic tagger, meaning that the annotations in the corpus are generated via artificial intelligence. As such, not all annotations are accurate, and for quantifiers that share a form with a non-quantifier, such as *little*, I manually went through the results and excluded any non-quantificational uses. Due to the size of the data set—31,743 quantifiers were collected in total—I was unable to manually check the results for every quantifier and only went through *little, all,* and *much* manually. For each quantifier in the BNC, examples were counted separately depending on where they occurred relative to their modified noun and depending on whether they cooccurred with other grounding, modifying, or intensifying elements.

For both the Paston Letters and the BNC, an instance was categorized as either prenominal, predeterminer, partitive, or pronominal. An instance was counted as prenominal if it occurred in the determiner slot or anywhere between the determiner slot and the noun.

Quantifiers occurring prior to the determiner slot were instead counted as predeterminer quantifiers, on the basis that predeterminers are typically considered external to the noun phrase, as well as any quantifier occurring before a pronoun. Partitive quantifiers were any quantifier occurring before *of,* and pronominal quantifiers were any quantifier not attached to a nominal and not acting adverbially. Any instances of *both* were considered conjunctions when occurring before two or more nouns (as in, "both the dog and the cat") and were not counted toward the total. Similarly, *some* occurring before a singular noun was not counted, as this use is typically considered an indefinite article rather than a quantifier.

Additionally, instances of quantifiers following a determiner or an intensifier were counted as being postdeterminers or being intensified, respectively. These instances were not counted as separate positions and were included in the total counts for the prenominal, partitive, and pronominal positions as well. To note, quantifiers following *a* were not considered postdeterminers for several reasons; *a few* and *a little* are often considered phrasal quantifiers, separate from *few* and *little* with differing semantic interpretations, and are not part of the core group being focused on in this study. Additionally, the only other quantifier that occurs after *a* is *many* in the highly restricted and unproductive construction *a great many*. Because this study focuses on identifying links between quantifiers and explaining patterns that certain atypical quantifiers have in common, a construction which involves only one quantifier and is unproductive does not fit the bill.

In both the Paston Letters and the BNC, data were collected for the possible positions and roles of determiners, adjectives, and emphatic reflexives, though frequency counts for these

were not collected. This was done in order to compare the use of quantifiers against what was possible for other nominal modifiers at the same time.

Following the traditions of Croft (2001), Goldberg (1995, 2005), and various others, the present research will assume a usage-based, Cognitive CxG approach that emphasizes the variability of linguistic forms by forgoing formal systems of analysis and traditional word class categories. While word-class distinction has long been problematic for research into quantifiers, this issue has been reframed in terms of functional categories and whether or not the functions of quantifiers align with grounding, modifying, quantifying, or any combination of the three. Thus, where terms such as determiner, adjective, and quantifier are used, these refer to functional categories rather than syntactic ones. Assuming a multiple inheritance model described in Goldberg (1995, 2005), instances of quantifier use in the data have been analyzed as they relate to and diverge from existing structures—namely, how they became distinct from adjectives and began to take on certain properties of determiners while continuing to appear in positions exclusive to quantifiers.

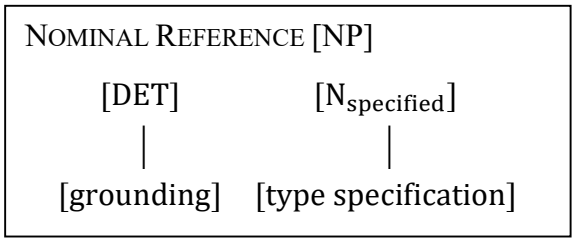
The bulk of the qualitative analysis for this study has been performed using the framework for language change developed in Traugott (2014) and Traugott and Trousdale (2013). This framework distinguishes between constructional changes—modifications to an existing construction that either change the form or the meaning but not both—and constructionalization, or changes to both form and meaning that lead to the creation of a new construction. The framework additionally divides constructions along three axes: they are either compositional (they contain analyzable elements) or atomic (monomorphemic); substantive (fully specified) or schematic (an abstraction); and contentful (they contain

semantic meaning) or procedural (they specify grammatical relationships. Significant in identifying constructionalization are three parameters of change: context, or the environmental and/or functional associations between separate constructions that can lead to change; motivation, or the processes of change that occur in the mind of the speaker (e.g., analogy); and mechanism, or the grammatical processes that occur during the change (e.g., elision, analogization). Regarding motivation, specifically, cognitive factors are often the primary motivation for most instances of language change and will be considered heavily in this analysis; these factors are token and type frequency, ease of processing, and the principal of non-synonymity (Traugott & Trousdale, 2013).

The system of constructional representation used in this paper is originally from Croft (2001) but is used today in most research within CxG frameworks. It is a six-layered model which separates the construction's form (its syntactic, morphological, and phonological properties) from its function (its semantic, pragmatic, and discourse-functional properties) and connects the two via a line which represents the symbolic link between the construction's form and function. The syntactic properties of constructions are represented using brackets to separate the elements of a construction and subscripts for the features of each element; subscripts within an element's brackets denote features intrinsic to the element, while subscripts outside of the element's brackets denote features inherited from the construction. An example of this representational system is shown in Figure 2, which details the NOMINAL REFERENCE construction from Langacker (2016). In this figure, only the syntactic and semantic features are shown to be relevant to the overall construction. While not present in this example, it is necessary to note here that if the elements of a construction are separated

by a comma, then the construction does not specify any particular word order. Otherwise, when the elements occur side by side as in Figure 2, it is assumed that the order of the elements reflects the order of the realized construction. Regarding the semantic features of the construction, the terms *grounding* and *type specification* are adopted from Langacker (2016) as the main semantic features that determiners (and, in this case, quantifiers) and nouns contribute to the overall noun phrase.

**Figure 2**
*Example of Constructional Representation*

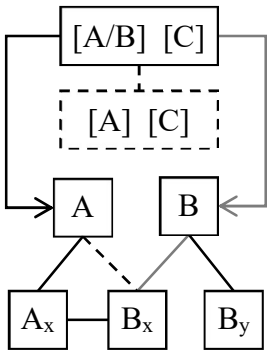



*Note.* DET—determiner; N—noun; NP—noun phrase. Subscripts within brackets indicate features of the element itself, and subscripts outside of brackets (not pictured) indicate features of the construction, or features of the element inherited from the construction.

For figures meant to visualize the network of constructions, a model adapted from Traugott and Trousdale (2013) is employed. In this model, dashed lines represent links that are forming between constructions, and grey lines represent links that are disappearing between constructions; solid lines represent existing links between constructions—lines connecting vertically (from the top or bottom of a construction) represent inheritance links between macro and micro constructions; lines connecting horizontally (from the left or right sides of a construction) represent functional or syntactic links between independent constructions; arrows represent subpart links pointing from one construction to another

independent construction that forms its subpart. To note, Traugott and Trousdale only employ dashed lines to represent change; I have added grey lines to create a more evident distinction between the changes identified in this study. An example of this system of representation is given in Figure 3, where two constructions—[A] and [B]—both form a subpart of the construction [[A/B] [C]], which comprises either [A] or [B] followed by an element, [C]. The construction [[A/B] [C]] is in the process of reanalysis as [[A] [C]], as indicated by the construction below it enclosed with dashed lines, and is losing its association with [B], indicated by the grey arrow. A subtype of [B], [$B_x$] is linked to a subtype of [A], [$A_x$], on the basis of both having an *x* function, and is simultaneously being reanalyzed as a subtype of [A] while losing its association with [B].

**Figure 3**
*Example of Network Representation*




In the present section, I have reviewed the theoretical framework from which this analysis is performed as well as the methods of data collection and analysis that are used. Following this section, I will describe the quantitative results of my data collection in the Data section before moving on to a qualitative analysis of these patterns.

## Data

In this section, I outline the main distributional changes undergone by quantifiers between the 15-16th century Paston Letters and the 20th century British National Corpus (BNC). This section addresses the first question motivating this study:

1. How have quantifier constructions changed between the 15th century and now?

The distributional patterns of quantifiers are discussed in each position separately, beginning with quantifiers occurring prenominally and continuing with pronominal quantifiers, partitive quantifiers, predeterminer quantifiers, and postnominal and postposed quantifiers together. An example of each of these positions has been reprinted from the Introduction in (9) through (14). Each section will identify major trends in the changes to their frequencies in the particular position as well as changes to their relative frequencies, or the percentage of their total occurrences that are found in the particular position. Changes to their cooccurrence patterns with intensifiers and determiners in each position will be discussed as well.

| | | |
|---|---|---|
| (9) | **All dogs** like kibble. | Prenominal |
| (10) | I've met a lot of dogs, and **most** like kibble. | Pronominal |
| (11) | **Some of the dogs** already ate. | Partitive |
| (12) | **All the dogs** like kibble. | Predeterminer |
| (13) | **The dogs each** had kibble. | Postnominal |
| (14) | **The dogs** were **both** eating kibble. | Postposed |

**Overview**

A total of 77,623 quantifiers were found in the BNC, while in the Paston Letters only 3,073. This drastic difference in the sizes of the corpora may result in quantifiers with low frequencies in the Paston Letters being mistakenly counted as unacceptable in certain positions, and quantifiers with high frequencies being mistakenly counted as acceptable in certain positions; however, with this in mind as a potential issue throughout the analysis, the corpora are sufficient for illustrating changes to the frequency patterns of quantifiers. The number of each quantifier found in both the Paston Letters and the BNC is listed in Table 4, including the number of each quantifier that follows an intensifier or a determiner as well as the total number of quantifiers in each dataset.

**Table 4**
*Token Counts for Each Quantifier in the Paston Letters and the British National Corpus*

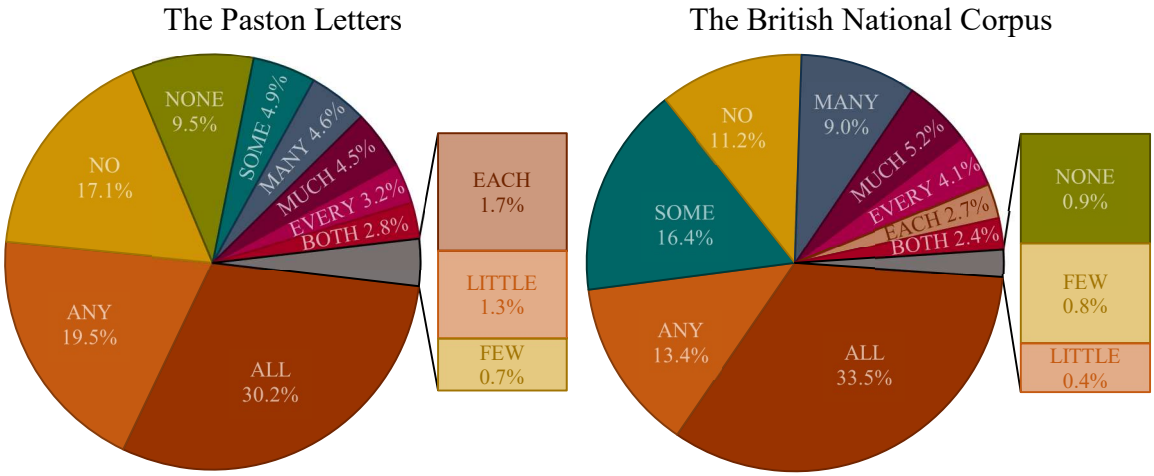
| | **The Paston Letters** | | | | **The British National Corpus** | | | |
|---|---|---|---|---|---|---|---|---|
| | **Q** | **INT Q** | **DET Q** | **TOT** | **Q** | **INT Q** | **DET Q** | **TOT** |
| **All** | 929 | - | - | **929** | 26005 | - | - | **26005** |
| **Both** | 82 | - | 4 | **86** | 1855 | - | 27 | **1882** |
| **Each** | 52 | - | - | **52** | 2115 | - | - | **2115** |
| **Every** | 97 | - | - | **97** | 3159 | - | 1 | **3160** |
| **Any** | 598 | - | - | **598** | 10386 | - | - | **10386** |
| **No** | 526 | - | - | **526** | 8673 | - | - | **8673** |
| **None** | 292 | - | - | **292** | 700 | - | - | **700** |
| **Some** | 151 | - | - | **151** | 12724 | - | - | **12724** |
| **Many** | 99 | 42 | - | **141** | 2794 | 4090 | 74 | **6958** |
| **Much** | 49 | 90 | - | **139** | 932 | 3138 | - | **4070** |
| **Few** | 19 | 2 | 2 | **23** | 131 | 178 | 331 | **640** |
| **Little** | 23 | 15 | 1 | **39** | 61 | 241 | 8 | **310** |
| **TOTAL** | **2917** | **149** | **7** | **3073** | **69535** | **7647** | **441** | **77623** |

*Note*. Q—occurring alone; INT Q—occurring after an intensifier; DET Q—occurring after a determiner; TOT—total.

In both corpora, *all* is the most frequent quantifier by a significant amount; it makes up 30% and 33% of the total data in the Paston Letters and the BNC, respectively, compared to the next closest, *any*, at 19% and 13%. *None, few,* and *little* are the least commonly found in the BNC, each occurring less than 1% of the time. *None* was more common in the Paston Letters, at 10% of the data, but *few* and *little* already had the two lowest frequencies at the time and have not exhibited any substantial changes in this regard. *Some* exhibited the largest change in frequency, from 5% to 16%, while the others only show differences of less than 5% each. These data can be seen in Figure 4, which shows the percentage of each quantifier out of the total dataset.

**Figure 4**

*Frequency Distribution of Quantifiers in the Paston Letters and the British National Corpus*




Quantifiers have also been analyzed in terms of their cooccurrence with intensifiers (*very, so, too*, etc.) and determiners (*the*, demonstratives, and possessive pronouns). As was mentioned in the Methodology section, quantifiers preceded by *a* have not been counted as

postdeterminers for the purposes of this analysis due to their restricted contexts and differences in the semantic interpretations of the referent compared to its bare form. The positional distributions of these cooccurring quantifiers will be discussed in each of the following sections, but I will briefly review the overall patterns here.

As is expected, only absolute continuous quantifiers (ACQ)—*many, much, few*, and *little*—are intensified in either corpora. In the Paston Letters, *much* was intensified more than half of the time at 65% of its occurrences. *Little* and *many* were intensified in 39% and 30% of their occurrences, respectively, but *few* was modified only 9% of the time, totaling two tokens. In the four hundred years since then, ACQs have overall become modified more often than not, with *few* being the only one modified in less than half of its occurrences (28%). Still, this is an increase of almost 20%. The remaining ACQs have all exhibited a substantial increase in their frequencies being intensified; *many* is now intensified in 59% of its occurrences and *much* and *little* in 77% and 78%, respectively.

Of the ACQs , *few, little,* and *many* can follow a determiner in the BNC. *Few* and *little* were already able to follow determiners at the time of the Paston Letters, though this occurred rarely (two tokens of *few*, or ~9% of its occurrences, and one of *little*, or ~3%), while *many* was not. It is entirely possible that *many* was acceptable in this position, given the low rates of frequency for the other ACQs, but it is worth noting that *many* was far more common than *few* or *little* in the Paston Letters. If *little* and *few*, which have only 39 and 23 tokens in the Paston Letters, respectively, are found with determiners, it is unlikely that *many*—at 141 tokens in the same corpora—would not be found as such if it were possible. Since the time of the Paston Letters, *little* has exhibited no change at all to its postdeterminer

frequency (2.6% of its occurrences in each corpora) and *many* has gained the ability to follow a determiner, or at the least has increased its frequency doing so, in 1.1% of its occurrences. *Few,* on the other hand, follows a determiner in 52% of its occurrences in the BNC, more than five times its relative frequency in the Paston Letters. Each of the postdeterminer ACQs can follow either a determiner alone ("your little help"), or a determiner plus either a secondary determiner ("those previous few verses") or an intensifier ("her so many public engagements"). *Many* is additionally found following a determiner, a secondary determiner, and either *how* or *however* as in, "the last however many."

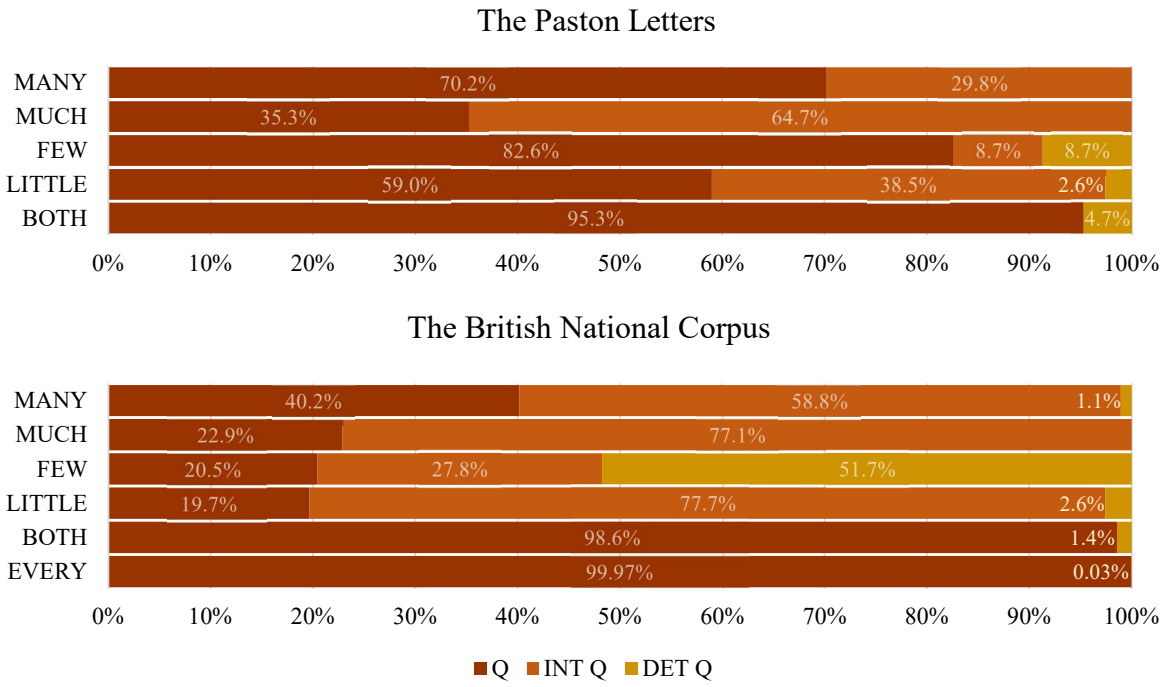
Like the ability to be intensified, the ability for a quantifier to be preceded by a determiner is mostly restricted to ACQs. Because determiners typically do not cooccur with other determiners, this ability contributes to the notion that ACQs are more adjective-like than other quantifiers. However, two relative quantifiers—*both* and *every*—are known to occur in the postdeterminer position in PDE, though the data suggests that they do so rarely and, in the case of *every*, in limited environments. In the Paston Letters, *every* was not found following a determiner and *both* did so in 4.7% of its occurrences, or in four instances following *these, their,* and *your*. It has since become slightly less frequent, occurring only 1.4% of the time in the BNC, or in 26 utterances. Unlike ACQs, *both* is never found in the BNC occurring with both a determiner and a secondary determiner. *Every* did not occur following a determiner in the Paston Letters and was found in this position only once in the BNC after a possessive pronoun, accounting for only .03% of its utterances.[2] In contrast, the

[2] While only occurring once out of nearly 3,000 tokens is far too low to draw any conclusions regarding its use in this position, as a native speaker I have heard and seen its use following possessive pronouns but no other determiners. The one example in the data supports this native-speaker intuition, as it follows a possessive pronoun in the example.

postdeterminer ACQs and *both* are found with *the*, possessive pronouns, and demonstratives. For each quantifier that can be intensified or follow a determiner, the percentage of their total occurrences that do so are shown in Figure 5.

**Figure 5**

*Relative Frequencies of Intensified or Postdeterminer Quantifiers in the Paston Letters and the British National Corpus*



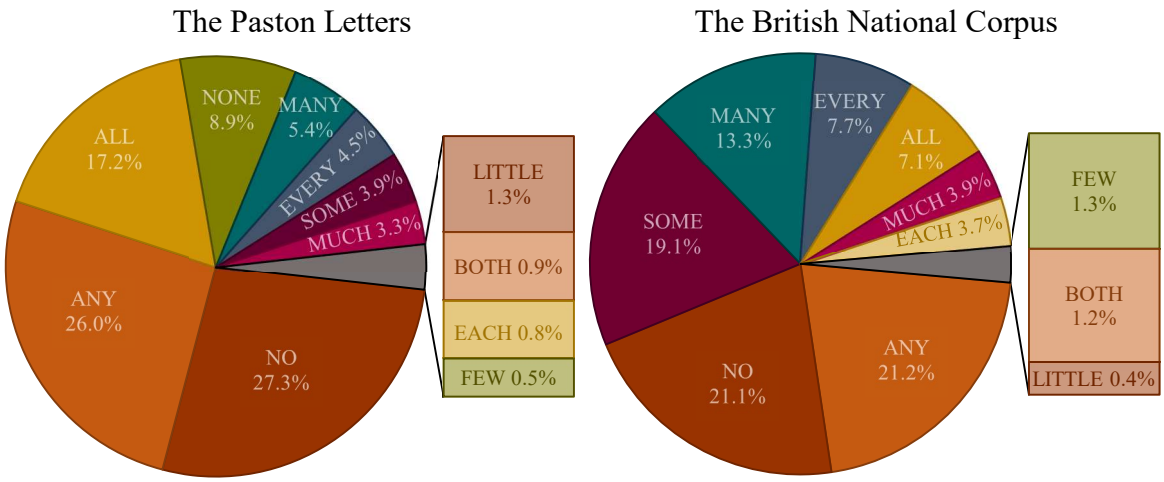

*Note*. Q—occurring alone; INT Q—occurring after an intensifier; DET Q—occurring after a determiner.

## Prenominal Quantifiers

Overall, the distribution of quantifiers in the prenominal position has not changed substantially between the 15th century and now. The most frequent prenominal quantifiers in both corpora are *no* and *any*, each making up around 21% of prenominal quantifiers in PDE and 26-27% in ME. *Little, both,* and *few* are the least common at less than 2% of prenominal

quantifiers in both corpora. Absolute quantifiers tend to have low frequencies in this position; *much, few,* and *little* are among the least frequent prenominal quantifiers in the Paston Letters and the BNC, only joined by *both* and *each*. *None* was able to be used prenominally in the Paston Letters, making up nearly 9% of all prenominal quantifiers. A few other substantial changes include *some* becoming 15% more frequent (now the third most frequent behind *no* and *any*), while *all* and *many* both became about half as frequent. All other quantifiers exhibit minimal changes, with differences in frequencies less than 3%. *All* is the only quantifier whose relative frequency prenominally differs from its overall frequency; while it has the highest token count by a substantial number in both corpora, it is the third most frequent prenominal quantifier in the Paston Letters (18%) and only the fifth most frequent in the BNC (8.6%). A visualization of the frequency distribution of prenominal quantifiers is shown in Figure 6.

**Figure 6**
*Frequency Distribution of Prenominal Quantifiers in the Paston Letters and the British National Corpus*



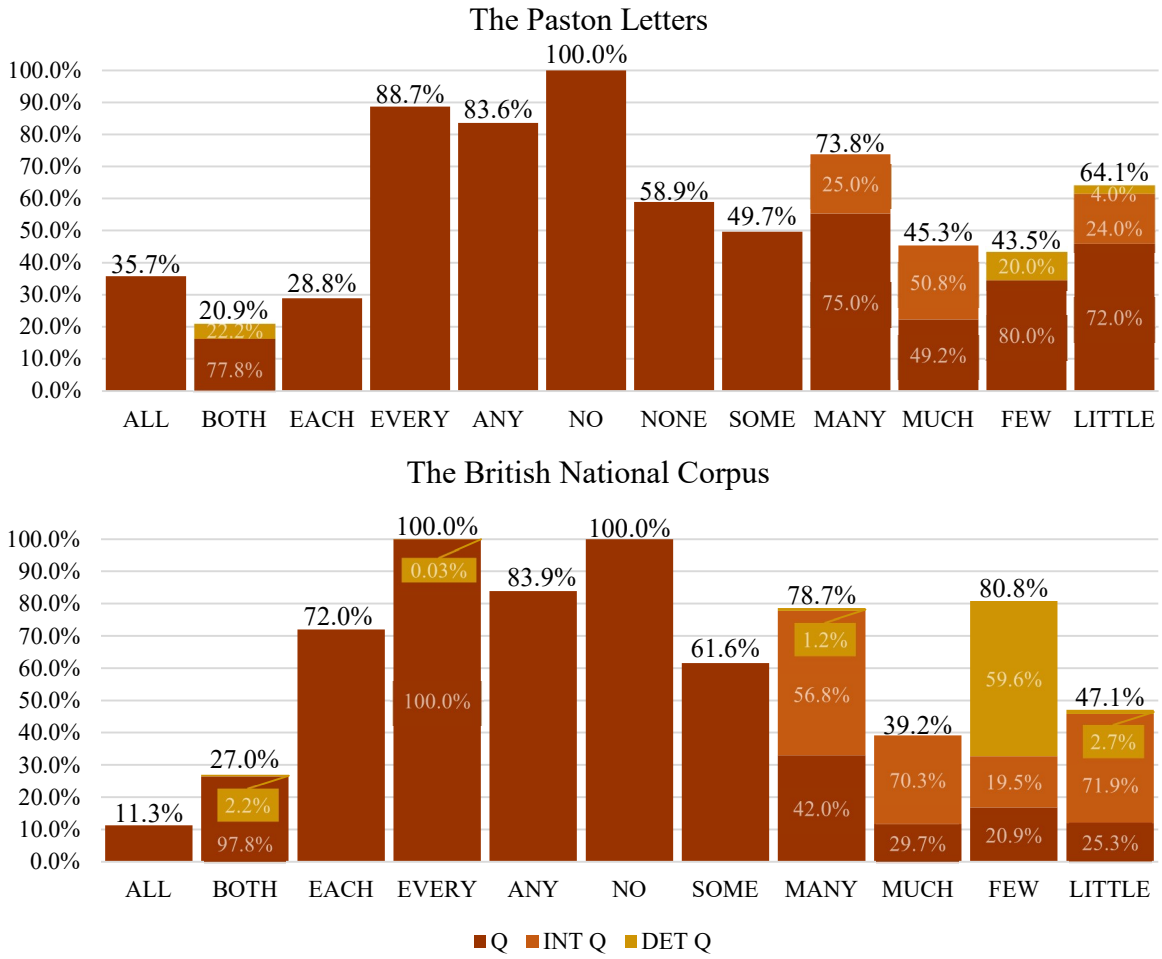
In terms of the quantifiers' relative frequencies, the majority of quantifiers are prenominal in more than 60% of their occurrences, with the exceptions being *all, both, much,* and *little* at 14%, 27%, 40%, and 47%, respectively. *Few* and *each* occur prenominally at a substantially higher rate in the BNC than they do in the Paston Letters, from 44% to 81% of *few* and 29% to 72% of *each*. *All* and *little* exhibit an inverse set of changes; occurrences of *all* in the prenominal position decreased from 38% to 14%, and *little* from 64% to 47%. These inverse changes to the relative frequencies of *few* and *little* have led to there being an apparent distinction between count and mass ACQs prenominally; in the BNC, *much* and *little* are prenominal in 40% and 47% of their occurrences, respectively, while *many* and *few* in 79% and 81%.

In the Paston Letters, *few* was not intensified prenominally. Because the total number of prenominal *few* is low (only 10 tokens), it is possible that it was able to be intensified and is only absent from this position as a result of its low frequency. *Much*, on the other hand, is intensified in 50% of its prenominal occurrences in the Paston Letters (incidentally, this is the position in which it is intensified least often), and *many* and *little* both around 25%. These percentages have increased substantially since then, with all ACQs but *few* being intensified in more than half of their prenominal occurrences in the BNC. In contrast, *few* is intensified in 20% of its prenominal occurrences in the BNC. It does, however, follow a determiner in 60% of its prenominal occurrences. This is the only position where it follows a determiner more often than it follows an intensifier. It is also the only position in which postdeterminer quantifiers were found in the Paston Letters; *few* followed a determiner in 20% of its

prenominal occurrences (two tokens), *little* in 4% (one token), and *both* in 22% (four tokens).

The relative frequencies of quantifiers in the prenominal position are visualized in Figure 7.

**Figure 7**
*Relative Frequencies of Each Quantifier in the Prenominal Position in the Paston Letters and the British National Corpus*



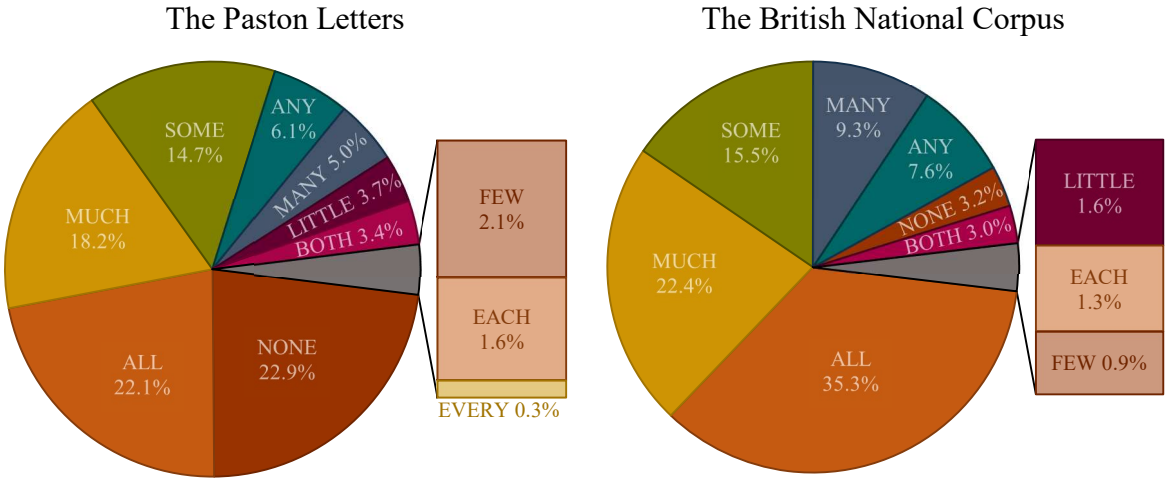

*Note*. Q—occurring alone; INT Q—occurring after an intensifier; DET Q—occurring after a determiner.

**Pronominal Quantifiers**

In PDE, *all* is the most frequent pronominal quantifier at 35% of the total pronominal quantifiers in the data, though this is possibly a result of it being the most frequent quantifier overall. *Much* and *some* are the most frequent otherwise, at 22% and 16%, respectively. In ME, *none* was instead the most frequent, at 23% of pronominal quantifiers; its frequency has dropped substantially since then, as it now occurs only 3% of the time. This suggests that its drop in overall frequency since the ME period is not entirely due to it losing the prenominal position. *Every* was found occurring pronominally in the Paston Letters, though only once, but now can only occur prenominally. The frequency distribution of pronominal quantifiers is shown in Figure 8.

**Figure 8**

*Frequency Distribution of Pronominal Quantifiers in the Paston Letters and the British National Corpus*




Most quantifiers in PDE are pronominal in 10-15% of their total occurrences, with the exceptions being *none, much,* and *little*. Since *none* can only occur pronominally and in the

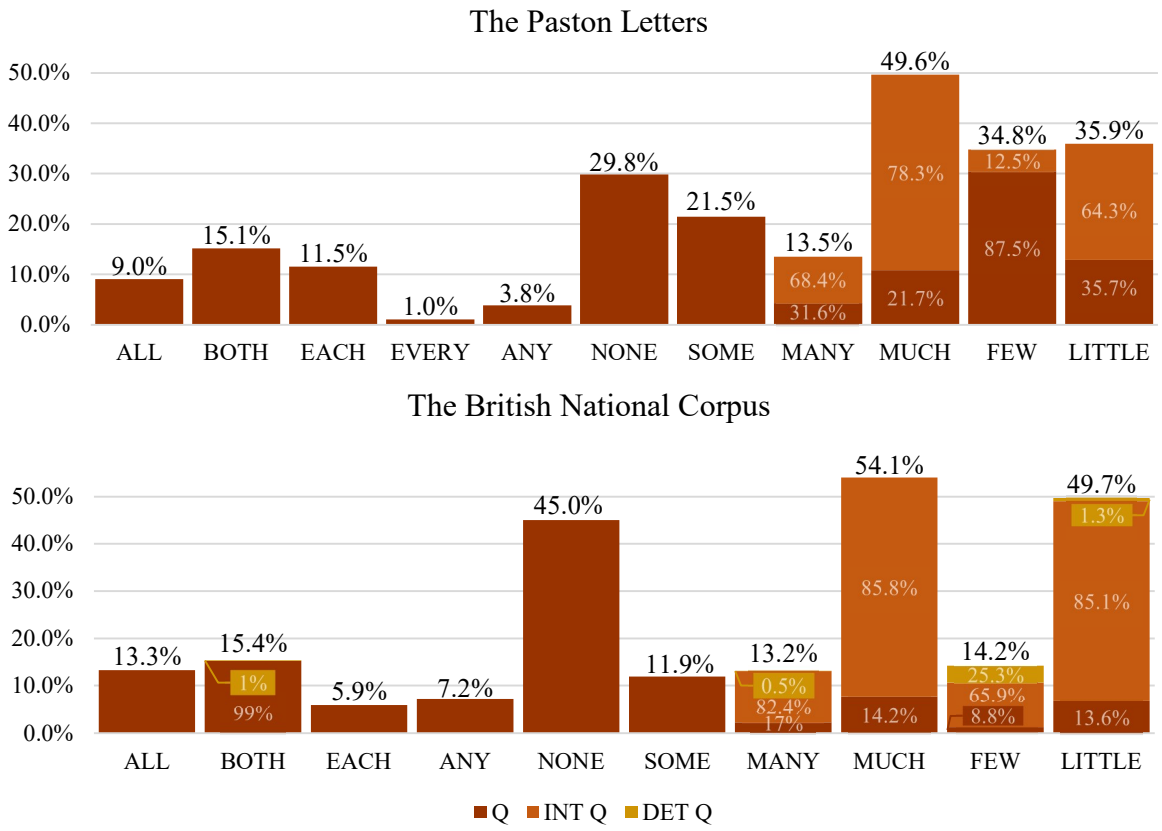
partitive, it having nearly 50% of its occurrences as pronouns is expected. *Much* and *little*, however, are pronouns in 54% and 50% of their occurrences, respectively, despite them being acceptable in all other typical quantifier positions. In the Paston Letters, ACQs generally had higher relative frequencies as pronouns than the others, with *much, few,* and *little* having the highest at 50%, 35%, and 36%, respectively. Since then, *little* has become more frequent and *few* less. These distributional patterns point to a divide between count and mass ACQs where count ACQs are preferred prenominally and mass ACQs pronominally. Apart from *none, few,* and *little*, the majority of quantifiers have exhibited only small changes to their relative frequencies as pronouns. *Some* is 10% less likely to occur pronominally today and *each* 6% less likely, but all other quantifiers are within 5% of their ME frequencies. *Any* and *each* have the lowest rates of occurrence as pronouns, at 6% and 7% of their total occurrences, respectively.

As pronouns, ACQs are intensified in more of their occurrences than in any other position in both the Paston Letters and the BNC. Today, *many, much,* and *little* are all intensified in 82-85% of their pronominal occurrences, while *few* is intensified in 66%. These numbers are lower in the Paston Letters, but *many, much,* and *little* are still found intensified in more than 50% of their pronominal occurrences. *Few* is only intensified in 12% of its pronominal occurrences in the Paston Letters; thus, though it has the lowest rate of being intensified pronominally in the BNC, it still exhibits an increase of nearly 50%. No pronominal quantifiers are found following a determiner in the Paston Letters; today, however, *both, many, few,* and *little* are found as postdeterminers in 1%, .5%, 25%, and 1% of their pronominal occurrences, respectively. *Both, many,* and *little* are less likely to follow

determiners as pronouns than prenominally or in the partitive. The relative frequencies of each quantifier occurring pronominally with or without an intensifier or additional determiner in the Paston Letters and the BNC is shown in Figure 9.

**Figure 9**

*Relative Frequencies of Each Quantifier as a Pronoun in the Paston Letters and the British National Corpus*




*Note*. Q—occurring alone; INT Q—occurring after an intensifier; DET Q—occurring after a determiner.

While data on the distribution of quantified nominals regarding their syntactic roles (ex. subject, object, oblique, etc.) were collected for each position, only pronominal quantifiers

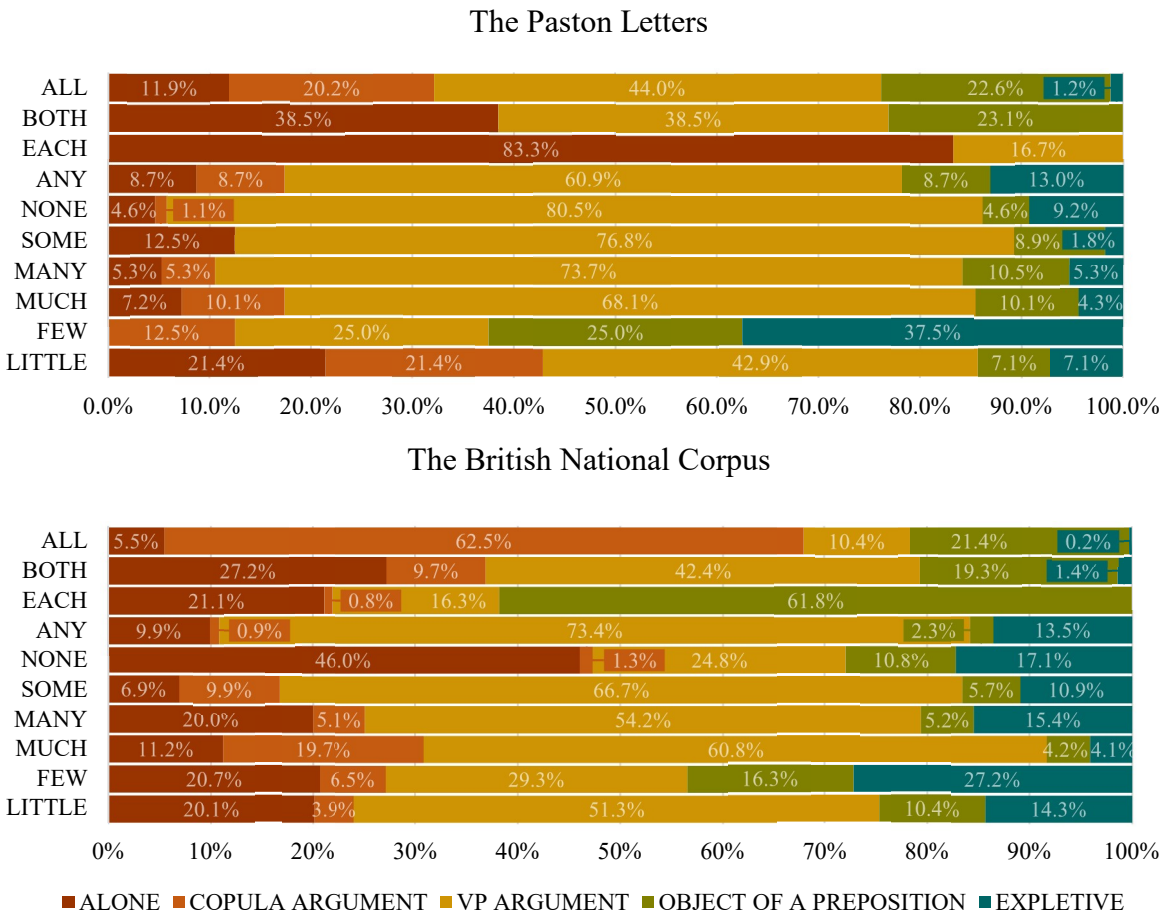
exhibited any substantial variation. This data will thus be discussed here, though it has been omitted from the analysis for the other positions. The roles that they are found in can be condensed into five categories: alone, as in outside of any greater clause or phrase; verbal arguments, or subjects and objects of a verb; copular arguments, or subjects and objects of a copular verb; objects of a preposition; and objects of an expletive verb (there or it). By and large, most pronominal quantifiers follow a similar pattern in both the Paston Letters and the BNC. In both corpora, the majority are most frequent as verbal arguments, particularly as objects, and least frequent as copular arguments. In the Paston Letters, *few* is unique in occurring most often in the expletive construction. Its frequency in this construction has gone down and it is most common today as a verbal argument, like the others, but it still has a higher rate of occurrence in expletives than any other quantifier.

*None* and *all*, on the other hand, both have relatively typical pronominal distributions in the Paston Letters but are distinct today. Today, *all* occurs as a copular argument at a substantially higher rate than any other quantifier, at 63% of its pronominal occurrences compared to the next closest, *much*, at 19%. These uses are almost entirely either variations of *that's all* or subjective statements such as *all is well*. *None* is most common on its own, at 46% of its pronominal occurrences, and is generally a response to a question along the lines of *how many* or *how much*. *Each* differs the most from the others in both the Paston Letters and the BNC, albeit in different ways. In the Paston Letters, it only ever occurred alone (83% of its pronominal occurrences) or as the subject of a verb (17%). While it can occur as the object of a verb today, it has the lowest relative frequency in this position (4%), and it occurs as an object of a preposition 62% of the time. This is substantially higher than any other

quantifier, with the next closest being *all* at 21% of its pronominal occurrences. The data for pronominal quantifiers' role distribution in both corpora is visualized in Figure 10.

**Figure 10**

*Role Distribution of Pronominal Quantifiers in the Paston Letters and the British National Corpus*

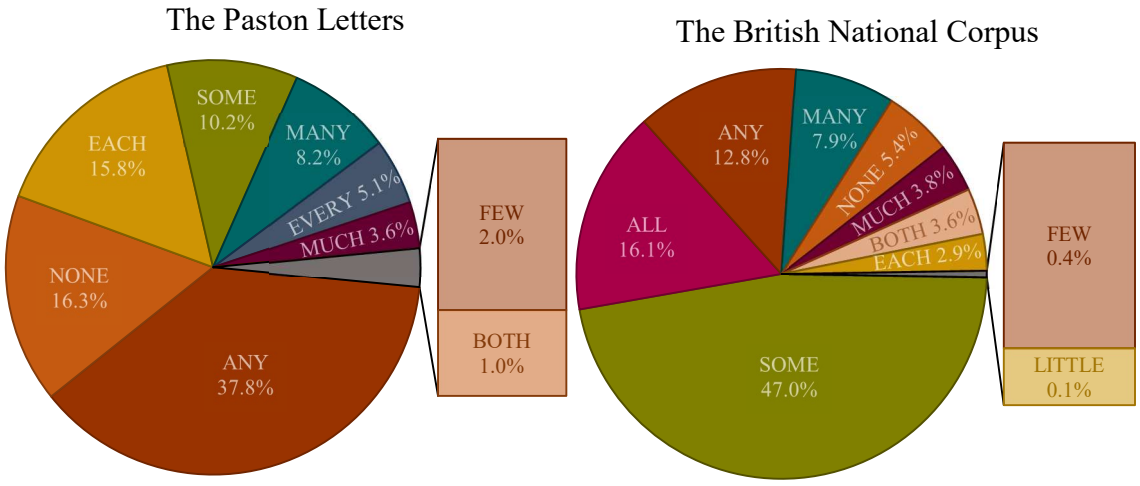



## Partitive Quantifiers

There have been a number of changes between the time of Paston Letters and the BNC regarding the distribution of quantifiers in the partitive. Most noticeably, *all* and *little* are not found in the partitive in the Paston Letters but today occur in 16% and .1% of the total

partitive constructions in the data, respectively, making *all* the second most frequent and *little* the least frequent quantifiers in this construction. While *little* has an incredibly low frequency in this construction, only eight total tokens, this at least indicates that it has gained an acceptability in this position, even if only occurring rarely. Today, *some* is by far the most frequent quantifier found in the partitive—partitives formed with *some* make up nearly half of all partitives with quantifiers in the BNC (47%), despite it only occurring in 10% of partitive constructs in the Paston Letters. Two other changes to note are sharp drops in the frequencies of *any* and *none* in this construction; *any* went from occurring in 38% of the total partitive constructions, being the most frequent in the Paston Letters, to only 13% or the third most frequent. Similarly, *none* is the second most frequent in the Paston Letters (16%) and is only found in 5% of the total partitive constructions in the BNC. Data regarding the frequencies of quantifiers in this construction are shown in Figure 11.

**Figure 11**
*Frequency Distribution of Partitive Quantifiers in the Paston Letters and the British National Corpus*



While the majority of quantifiers occur least often in the partitive than in any other position, most of these in 4-10% of their total occurrences, there are a few notable exceptions. As would be expected based its overall frequency in the partitive, *some* has a much higher relative frequency than all other quantifiers—apart from *none*—in the BNC, at 26% of its total occurrences. In the Paston Letters, however, it has a relative frequency of around 8% in the partitive, which aligns much closer to that of other quantifiers and is in fact the third lowest relative frequency in this position. *None* occurs in the partitive at a much higher rate than other quantifiers in the BNC (55% of its occurrences), but, like with its pronominal frequency, this is merely indicative of the fact that it only occurs in the partitive and as a pronoun. Like *some,* it has a very typical rate of occurrence in the partitive in the Paston Letters at 11% of its total occurrences. The quantifiers with the lowest relative frequencies in the partitive today are *all* and *little*, the two quantifiers that did not occur as such in the Paston Letters, at 4% and 3% of their total occurrences, respectively.

Some substantial changes to note include a steep decline in the partitive uses of *each* and *few* and an incline in uses of *both*. In the Paston Letters, the relative frequency of *each* in the partitive is incredibly high relative to the other quantifiers—at 60% of its occurrences—with the second closest being *few* at 17%. The typical relative frequency of quantifiers in the partitive was higher at the time than it is today, but only slightly, with most occurring as such in 10-13% of their total occurrences. *Each* and *few* have both become far less frequent and are now found in the partitive 10% and 5% of the time, respectively, with *few* now having the third lowest relative frequency. *Both,* on the other hand, is the least likely to occur in the partitive in the Paston Letters at only 2% of its total occurrences. Today, it occurs in the

partitive 14% of the time and has the third highest relative frequency. *Every*, which was able to occur in the partitive in the Paston Letters, as mentioned previously, did so in 10% of its occurrences or 10 tokens. It is worth noting that, in three of these partitive uses, *every* occurs in its original compound form *everych* or *everich*, a relic of its derivational relationship with *each*, and is not found in this form in any other position.

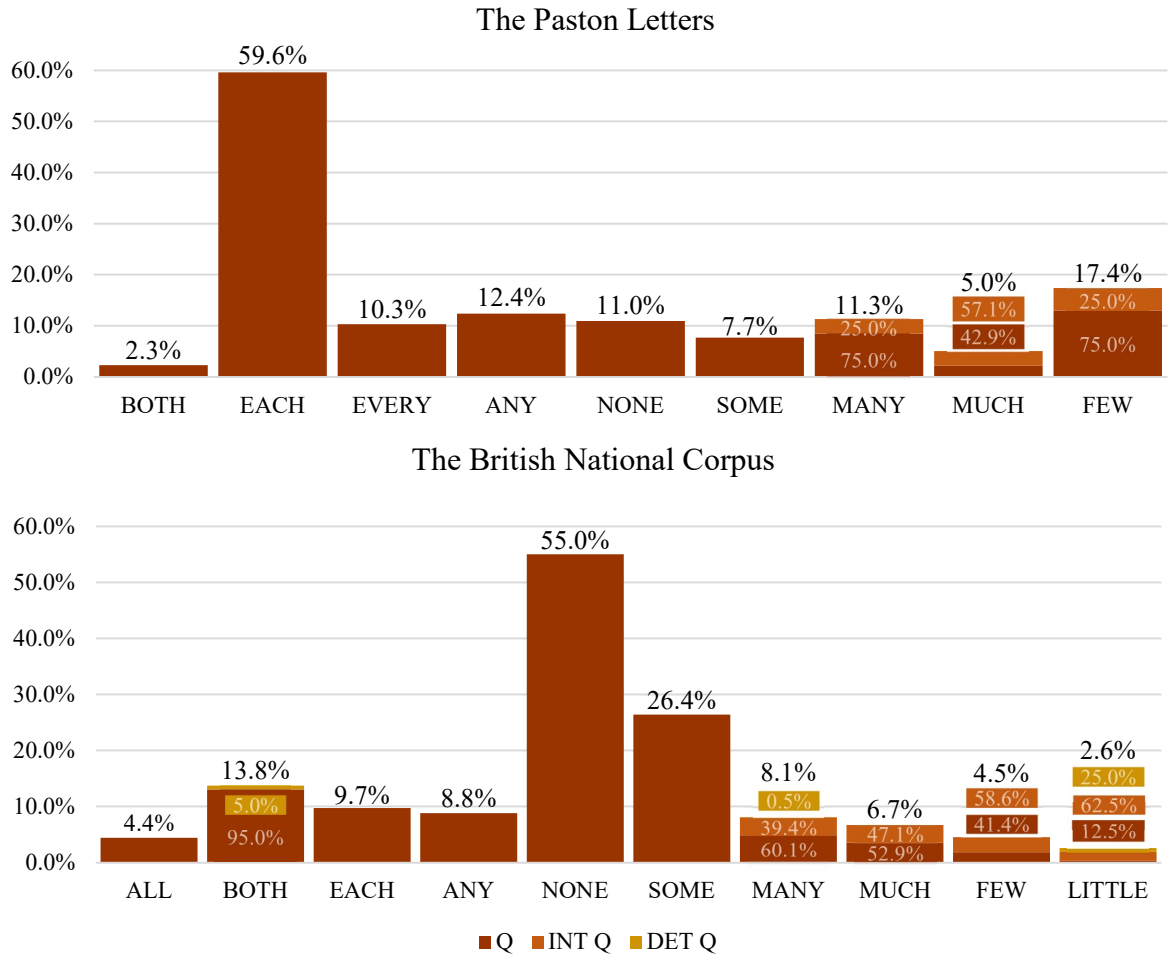
Overall, ACQs today are less likely to be intensified in the partitive than they are in any other position. This is the only position in which *many* and *much* are intensified in less than half of their occurrences and the only position in which *much* has a lower rate of being intensified today than in the Paston Letters (at 47% of its occurrences vs. 51%). Additionally, though *little* is intensified in 63% of its partitive occurrences, this is still its lowest rate of being intensified in the data. *Few*, on the other hand, is intensified in 58% of its partitive uses (17 tokens) and is more frequently intensified here than prenominally. It was also more likely to occur with an intensifier in this position than any other position in the Paston Letters, at 25% of its occurrences compared to 13% pronominally and none prenominally.

Incidentally, this is the only position in which *few* does not occur following a determiner in the BNC, while *little* most frequently follows a determiner in the partitive at 25% of its occurrences (2 tokens). It is necessary to note here that *few* and *little* both have very low token counts in the partitive in the BNC, with *few* at 29 tokens and *little* at 8, which may be impacting the accuracy of these percentages. Like *little*, *both* follows a determiner more frequently in the partitive than in any other position at 5% of its partitive occurrences or 13 tokens (this makes up about 62% of its total postdeterminer tokens). As has been mentioned, there are no postdeterminer quantifiers outside of the prenominal position in the Paston

Letters. Figure 12 shows the relative frequencies of each quantifier in the partitive position in both corpora as well as their frequencies in this position following intensifiers or determiners.

**Figure 12**

*Relative Frequencies of Each Quantifier in the Partitive in the Paston Letters and the British National Corpus*




*Note*. Q—occurring alone; INT Q—occurring after an intensifier; DET Q—occurring after a determiner.

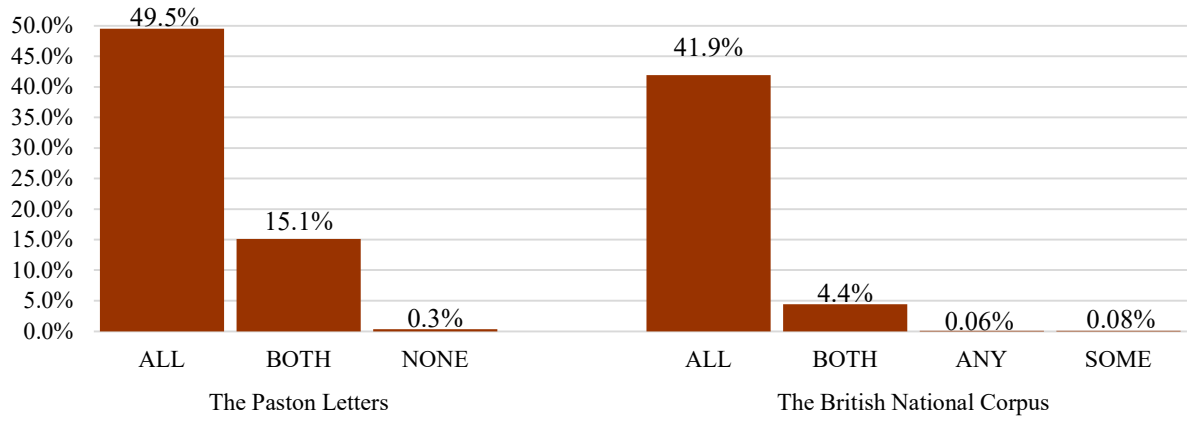
**Predeterminer Quantifiers**

Generally speaking, *all* and *both* are the only two quantifiers of focus in this study that can typically act as predeterminers. *All* does so in 42% of its occurrences and is more frequently found here than in any other position, at a total of 10,902 tokens—this is the highest token count for any quantifier in any position in the BNC and makes up 14% of the total dataset. *Both* has a substantially lower relative frequency as a predeterminer and only occurs in this position 4% of the time, or in 83 tokens. Both *all* and *both* have higher relative frequencies in the Paston Letters, with *all* at 50% of its occurrences and *both* at 15%, a loss of 8% and 11%, respectively. In the Paston Letters, *none* is additionally found as a predeterminer in one instance, making up less than 1% of its occurrences, but is not found as such today.

One interesting observation from the BNC data is the presence of a small number of utterances containing *some* and *any* in the predeterminer position. These make up a very small portion of the data, only .06% of *any* (six tokens) and .08% of *some* (ten tokens), which could indicate that these are simply speech errors or mistranscribed examples of the partitive construction. However, the fact that more than one of these can be found for each of them while no other quantifier exhibits a similar mistranscription or speech error even once is significant. Additionally, three examples of *some* and one of *any* have accompanying recordings in the BNC catalogue, and there does not appear to be any pause or shortened *of* between the quantifier and determiner in these recordings. Figure 13 shows the relative frequency distribution of predeterminer quantifiers in the Paston Letters and the BNC.

**Figure 13**

*Relative Frequencies of Each Quantifier in the Predeterminer Position in the Paston Letters and the British National Corpus*

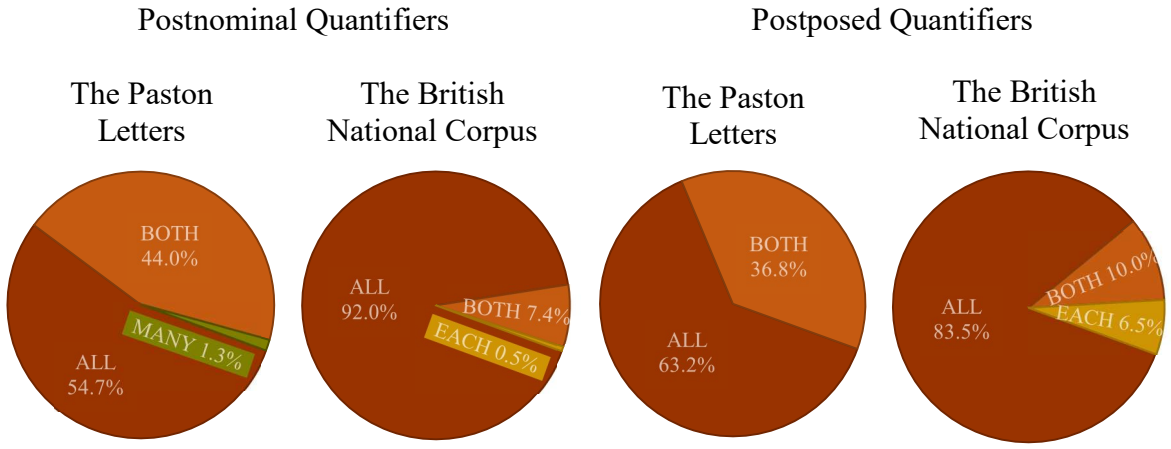



## Postnominal and Postposed Quantifiers

In PDE, the relative quantifiers *all, both,* and *each* are distinct from the others in their ability to occur in the postnominal and postposed positions. In both positions and both corpora, *all* is more frequently found than the other two by a substantial amount; it makes up 56% of postnominal quantifiers in the Paston Letters and 92% today, and it makes up 63% of postposed quantifiers in the Paston Letters and 84% today. In both positions, it has become more frequent overall. *Both,* on the other hand, is much more frequent in both positions in the Paston Letters than it is today, from 44% of the postnominal position in the Paston Letters to 7% in the BNC, and 37% of the postposed position in the Paston Letters and 10% today. *Each* does not occur in either position in the Paston Letters and is still rare in the postnominal position today, making up a marginal .5% of postnominal quantifiers in the BNC, but it occurs in 7% of postposed constructs today. One instance of postnominal *many* was found in the Paston Letters, making up just over 1% of postnominal quantifiers. This may be

accounted for as an error, considering the fact that it only occurs once, or it could be a relic of the time when a number of other quantifiers could occur postnominally. The distribution of quantifiers among the postnominal and postposed positions can be seen in Figure 14.

**Figure 14**
*Frequency Distribution of Postnominal and Postposed Quantifiers in the Paston Letters and the British National Corpus*

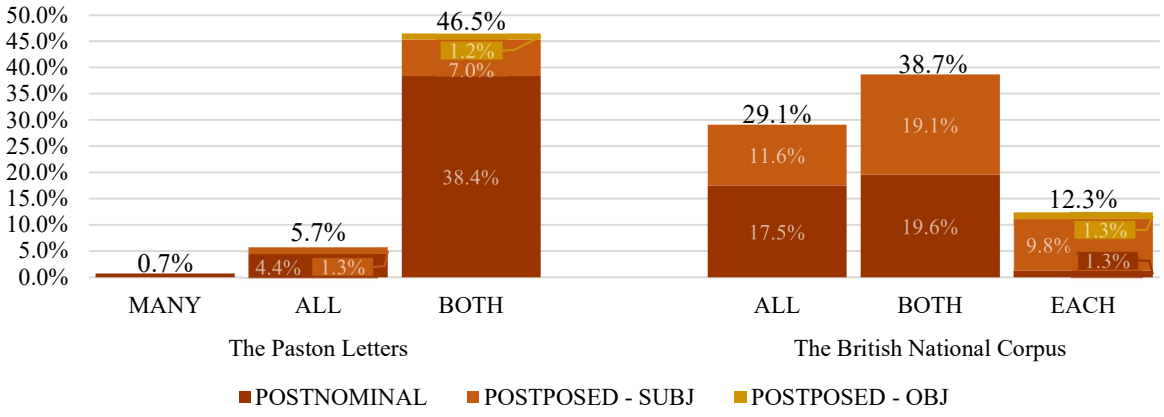



Despite *all* having a much higher overall frequency in both positions, *both* is actually more likely to occur in each of them relative to its total occurrences in both corpora. Its uses in both positions together make up nearly half of its occurrences in the Paston Letters, compared to only 6% of *all;* this divide is weaker today, with 39% of *both* occurring in one of the two positions today and 29% of *all*. *Each* has a lower relative frequency than either of them, with 12% of its total occurrences being found either postnominal or postposed. In the Paston Letters, *all* and *both* were more frequently postnominal than postposed by a substantial amount. While it is still true that they are more frequently postnominal, this difference is less pronounced for *all,* with 18% of its total occurrences being postnominal and

12% postposed, and almost equal for *both*, with 19.6% of its occurrences being postnominal and 19.1% postposed. *Each* occurs in the postposed position far more frequently than it occurs postnominally, however, with 1.3% of its total occurrences being postnominal and 11.1% postposed.

*Each* is unique today in that it is the only one of the three that can be postposed from an object as well as a subject, as in "she's buying everybody a cake each." These are rare, though, with only 1.3% of the total occurrences of *each* (27 tokens) being postposed from an object and 9.8% from a subject. It can also occur sentence-finally, where the other two cannot unless preceded by a pronoun. In the Paston Letters, *both* is found once postposed from an object (as in "I fynd hem rythe will disposyd bothe," or "I find them both right well disposed" in PDE), and *all* and *both* are able to occur sentence-finally when postposed with transitive verbs (as in "we lyve all," or "we all live" in PDE) or postnominally modifying whole nouns as well as pronouns. These patterns are visualized in Figure 15.

**Figure 15**
*Relative Frequencies of Each Quantifier in the Postnominal and Postposed Positions in the Paston Letters and the British National Corpus*



**Summary of Data**

In the present section, I have outlined the syntactic distributions of the core quantifiers in the Paston Letters and the BNC relative to their modified noun and their cooccurrence with intensifiers and determiners, as well as the major changes they have undergone between the two time periods. The most immediately evident changes are those regarding quantifiers that have lost or gained a position since the ME period; *all* and *little* have gained the ability to occur in the partitive and *each* has gained the postposed and postnominal positions, while *every* lost its partitive and pronominal uses and *none* lost its prenominal use and became contrastive with *no*. There are a few other potential losses or gains in terms of positional acceptability, though these have quite low token counts which must be considered. *Many* is found once postnominally and *none* once as a predeterminer in the Paston Letters, neither of which are possible today, and *some* and *any* occur a small number of times in the predeterminer position today but not in the Paston Letters.

Overall, most quantifiers exhibit a similar distributional pattern in terms of how frequently they occur in each position relative to their total occurrences. The majority are most commonly prenominal and least commonly in the partitive, both in the Paston Letters and the BNC, with most occurring prenominally in more than 60% of their occurrences today and in the partitive in 4-10% of their occurrences. They are slightly more common as pronouns, with most occurring as such in 10-15% of their occurrences. Pronominally, typical quantifiers are most likely to occur as verbal objects and least likely as copular arguments. Distributional patterns are less typical for the positions only a few quantifiers are found in; only *all* and *both* occur regularly in the predeterminer position, where *all* is more frequent

than *both* by a substantial amount in both the Paston Letters and the BNC. *All, both,* and *each* can occur as postposed and postnominal modifiers in the BNC, in both of which *all* is most commonly found while *both* has the highest relative frequency. *Each* is less frequent than the others, both overall and relatively, but is the only of the three that can be postposed from an object or occur VP-finally today. *Both* is able to be postposed from an object in the Paston Letters, where *both* and *all* also occur VP-finally, though neither of these positions are possible today.

A few connections can be identified between the different positions, particularly between the distributions of *all* and *both* and among those of absolute continuous quantifiers (ACQ). *All* and *both*, the only two quantifiers that regularly occur in the predeterminer position, also have the two lowest relative frequencies in the prenominal position today. Additionally, *all* has a higher relative frequency in the predeterminer position than *both* and a lower relative frequency in the prenominal position. In the Paston Letters, *both* has a lower relative frequency in the prenominal position and a higher relative frequency as a predeterminer compared to its PDE distribution. Its loss of around 11% in frequency as a predeterminer is accompanied by an increase of around 8% prenominally.

Regarding ACQs, there is a distinct pattern between count and mass ACQs occurring either in the prenominal position or as a pronoun in PDE. Mass ACQs, *little* and *much,* have the highest relative frequencies pronominally (apart from *none*, which can be explained by it only occurring pronominally or in the partitive) and the lowest relative frequencies prenominally (apart from *all* and *both*, which may be a result of their predeterminer use, as mentioned previously). At the same time, count ACQs, *many* and *few*, have normal relative

frequencies in both positions, making them much more frequent than their mass counterparts prenominally and much less frequent pronominally. This distinction between the two sets is not found in the data from the Paston Letters.

Some quantifiers that have a number of atypical patterns and stand out from the rest are *some, each, none,* and *all*. *Some* has exhibited the largest increase in its overall frequency since the Paston Letters, going from 5% of the total data to 16%, which is accompanied by a 15% rise in frequency prenominally and a 37% rise in frequency in the partitive. Today, it makes up nearly half of all partitive quantifiers. In the Paston Letters, *each* has a relative frequency much lower than the norm in the prenominal position and much higher in the partitive, while today its relative frequencies in both positions are in line with those of most other quantifiers. Additionally, as a pronoun it only occurs alone or as the subject of a verb in the Paston Letters (with the majority being alone). It now is found in all roles that other pronominal quantifiers are found in but has a much higher than normal relative frequency as the object of a preposition. *None* and *all* are primarily unique in their pronominal role distributions, where *none* occurs mostly alone and *all* occurs mostly as a copular argument.

In both the Paston Letters and the British National Corpus, it is evident that the ability to be preceded by an additional nominal modifier is largely reserved for ACQs; *much* is the exception to this and does not occur following a determiner in either corpora, while *few* occurs following a determiner nearly 50% more frequently than *many* and *little*. However, the relative quantifier *both* appears as a postdeterminer sparingly in both corpora and *every* even less so in the BNC. In the Paston Letters, *few* and *little* are the only ACQs that follow a determiner, and they (as well as *both*) only ever do so in the prenominal position. Today, *few*

and *many* are still most likely to follow a determiner prenominally than in the other positions, but *little* and *both* are more frequent in the partitive position. Only ACQs can follow an intensifier in either corpora. Today, they are most likely to do so pronominally and least likely in the partitive—this is the only position in which *many* and *much* are intensified less than half the time. *Few* is the exception to this; it is least frequently intensified prenominally, which is likely due to its high rate of following a determiner in this position. Across all positions, all ACQs are intensified more often today than they were in ME.

## Discussion

With the distributional patterns of quantifiers in the Paston Letters and the BNC, as well as the changes to these patterns between the two periods, identified in the previous section, the potential functional properties of quantifiers and their relationships with other nominal dependents can be explored to determine if any explanations for the exhibited data can be identified. This chapter responds to the final three research questions of this study, reprinted below:

2. What can the changes to quantifier constructions indicate regarding how quantifiers relate to—and diverge from—typical adjectives and determiners?
3. Can any sources or paths of change be identified in the data that might explain the variation in the syntactic distributions of atypical quantifiers?
4. If not, what other factors can be identified in the data that may have contributed to the distributional patterns of atypical quantifiers in PDE?

Here, the changes discussed in the previous section are compared to the distributional patterns and functional properties of other nominal dependents that occur in the same environments as quantifiers. This section begins with a discussion regarding the distinction between quantifiers and other nominal modifiers, such as adjectives and determiners, and how their distributional patterns in both the Paston Letters and the BNC reflect a growing distinction between grounding and modifying elements and, subsequently, relative and absolute quantifiers. This discussion is split into four sections, first focusing on prenominal quantifiers and their cooccurrence with other grounding elements, and next focusing on their pronominal distributions. This second section is aimed toward identifying potential

explanations for the quantifier that does not occur pronominally, *every*. The third part of this discussion centers on the partitive and predeterminer constructions and how they may be related. In the fourth section, postposed and postnominal quantifiers are discussed as they relate to emphatic reflexives, which are shown to exhibit similar functional and distributional patterns. To conclude, I summarize the findings discussed here and outline the total changes and constructions proposed in each section.

Overall, a vast majority of the changes identified here can be attributed to the systemic, wide-scale changes happening throughout the English language during the ME period as a result of tightening word-order restrictions. These changes led to the distinction between determiners and adjectives—and subsequently, the distinction between relative and absolute quantifiers—as well as restrictions to the pronominal use of nominal modifiers (which led to *every* losing its pronominal function) and to the positional distribution of postposed quantifiers.

**Prenominal Quantifiers**

In this section, the distributional patterns and functional properties of prenominal quantifiers are discussed specifically in the context of identifying a solution to the second main question of this study: what can the changes to quantifier constructions indicate regarding how quantifiers relate to—and diverge from—typical adjectives and determiners? As will be shown in the following pages, when adjectives and determiners became distinct functional categories in Middle English, relative quantifiers were reanalyzed as grounding elements alongside the other determiner modifiers (i.e., articles, demonstratives, and

possessive pronouns); ACQs, on the other hand, retained their modifying function as a result of their shared gradeability with unbounded adjectives.

For this analysis, the prenominal position encompasses any location prior to the nominal head within a noun phrase; as such, predeterminer quantifiers will not be discussed here as they are often considered external to the noun phrase. This analysis will adopt the structure and functions of two macro-constructions, identified by Langacker (1991, 2016), that are often taken to motivate all noun phrases in PDE: the NOMINAL REFERENCE construction and the TYPE SPECIFICATION construction. Type specification can be fulfilled by a noun alone, with the function of identifying an entity type, or a noun and any adjectives that serve to modify the entity type. It cannot function as a noun phrase alone. Nominal reference, on the other hand, combines a determiner with the type specification construction, with the determiner serving to ground the referent within discourse, and results in a complete noun phrase. These constructions are widely adopted in research into nominal structures within construction grammar frameworks (Brems, 2012; Davidse & Breban, 2019; Sommerer & Hofmann, 2021).

However, while Langacker argues that all quantifiers are grounding when prenominal and that all prenominal quantifiers are motivated by the nominal reference construction, this analysis suggests an alternative proposal. While the conclusion presented here aligns with Langacker's assertion that ACQs provide a grounding function prenominally, it differs in that ACQs—like other grounding adjectives such as *other, same,* and *last*—cannot serve as the sole grounding element of a nominal and are substantiated by the type specification construction rather than nominal reference. To prevent unnecessary confusion between the

grounding performed by determiners versus grounding adjectives, the function provided by prenominal determiners will be henceforth referred to as "determining" rather than "grounding."

Prior to beginning the analysis, I briefly review here several findings from the Background section that help to identify the relationship between determiners, adjectives, and quantifiers prior to the Middle English period in order to place the changes being discussed here in relation to changes that had already taken place. In Old English (OE), there was no distinct class of determiners; instead, what are considered determiners today are often considered a subtype of nominal modifiers alongside adjectives, with whom they shared a number of syntactic and functional properties. Additionally, their modern positional restrictions had not yet been established, and they were distinguished from one another primarily by their inflectional endings. Because strong adjectives had a similar inflectional paradigm to the precursors of determiners, and because the two were never used together, some consider strong adjectives to be early indefinite markers. When the case system of English began to disappear, both determiners and adjectives became restricted to particular slots within the noun phrase and determiners began to emerge as a distinct category of their own.

Table 5 outlines the properties of nominal dependents in OE, ME, and PDE based on several features that distinguish determiners from adjectives in PDE—whether or not they can ground singular nominals alone, follow determiners, follow grounding adjectives, or are gradable. The properties of nominal dependents in OE are adopted from existing research,

while the properties of dependents in ME and PDE are based on the data collected for this study as well as existing research.

**Table 5**
*Features of Nominal Dependents from Old English (OE) to Present-Day English (PDE)*

| | ART, DEM | | | RQ | | | ACQ | | | $ADJ_{grnd}$ | | | $ADJ_{mod}$ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | OE | ME | PDE | OE | ME | PDE | OE | ME | PDE | OE | ME | PDE | OE | ME | PDE |
| Grounds $N_s$ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | * | * | * | ✓ | ✓ | | ✓ | | |
| Follows DET | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Follows $ADJ_{grnd}$ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Is Gradable | | | | | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ |

*Note.* ART—article; DEM—demonstrative; RQ—relative quantifier; ACQ—absolute continuous quantifier; ADJ—adjective; DET—determiner; N—noun; s—singular; grnd—grounding; mod—modifying. *Untestable because ACQs do not occur with singular nouns.

Generally speaking, the overall structure of the PDE noun phrase was emergent at the time of the Paston Letters. The determiner system in particular seems well established, with no examples in the data of cooccurring articles or demonstratives apart from the predeterminer uses of *all* and *both*. Possessive pronouns, however, had likely not been reanalyzed as distinct from modifiers. Their distribution aligns quite well with grounding adjectives such as *other, last,* or *same*, which in PDE always occur in the postdeterminer position prior to any other type of adjectives but can go before or after other grounding adjectives depending on their scope (Davidse & Breban, 2019). In the Paston Letters, however, they are able to modify singular nouns without any additional grounding element, suggesting that they could function as determiners at this time. The ME distribution of grounding adjectives is shown in Examples (15) through (18), using possessive pronouns as an example; they cooccur with other determiners as in (15), can be placed either before or

after other grounding adjectives as in (16) or (17), respectively, and can be used as the sole grounding element of a singular noun as in (18).

(15) by **thys my** writing I binde me to repay you

'By this my writing, I bind myself to repay you'

(16) I will that all **other my** godes not bequethid

'I will that all my other goods that are not bequeathed'

(17) Among **myn other** gear

'Among my other gear'

(18) Thankyn yow for **yowre** letter

'Thank you for your letter'

This flexibility between determiners and grounding adjectives suggests that, while the determiner system had been established (articles, demonstratives, and most quantifiers could not occur in the pre- or postdeterminer positions), the schema that motivates their prenominal distribution had not yet emerged as a separate construction from that of adjectives. Conversely, the positional limitations of non-grounding adjectives in the Paston Letters do not differ significantly from their PDE counterparts. Like today, postnominal adjectives in the Paston Letters are rare and comprise only a small number of verbal or adverbial adjectives. The use of multiple prenominal adjectives is also rare in the Paston Letters but is possible; out of 225 quantified noun phrases that contain adjectives, only 12 have more than one. With this being the case, the syntactic restrictions of PDE adjectives were largely established by the time the Paston Letters were written.

How, then, do quantifiers fit into this growing distinction between determiners and adjectives? Because of similarities between ACQs and adjectives, ACQs retained their functional status as grounding adjectives when the structure of the PDE noun phrase became established and relative quantifiers were reanalyzed as determiners. The similarities between ACQs and adjectives have since become stronger: as was shown in the Data section, they are intensified at a much higher frequency, they are postdeterminers more often, and they can now follow other grounding adjectives.

While only *few, little,* and *both* follow determiners in the Paston Letters and they do so only a handful of times, *many* is additionally found in this position in the BNC and *few* and *little* occur as such more frequently, while *both* does so slightly less frequently. An example of each postdeterminer quantifier in the Paston Letters is given in (19) through (22). *Both* is relatively distinct from the other two in this regard—because it is able to occur as a predeterminer as well, as seen in (22), its distribution is much more similar to grounding adjectives, which can also occur before or after other grounding adjectives.

(19) I spakke wyth frendys of myn wyth-yne **thys fewe days**
'I spoke with friends of mine within these few days'

(20) consederyng **the lytyll leyser** that he had
'considering the little leisure that he had'

(21) þe said reuerent fader and John Paston, knight, and **theire both heires**
'the said reverend father and John Paston, knight, and both of their heirs'

(22) ther schall be set a tenaunt by **bothe ther assenttys**
'there shall be set a tenant by both their assents'

This distribution—where grounding adjectives could be easily interpreted as determiners—could have led to the reanalysis of *both* and possessive pronouns as determiners when the determiner slot became exclusive and grounding adjectives became restricted to the postdeterminer position. *Both* no longer follows possessive pronouns, only demonstratives, and is slightly less frequent, though with a difference of only 4%. *Few* and *little*, however, not only retained productivity in the postdeterminer position but are more frequent today and were joined by the other ACQ *many* at some point prior to the recording of the BNC data. A likely reason that *few* and *little* were capable of occurring in this position prior to *many* is their relationship to the compound quantifiers *a few* and *a little*, which were already in use at the time of the Paston Letters.

Additionally, the prenominal distribution of ACQs today aligns much closer to that of grounding adjectives than it does in the Paston Letters. Today, grounding adjectives cannot function as determiners and thus cannot modify singular nouns without an additional grounding element. Because ACQs do not occur with singular nouns at all, this cannot be tested. Mass and plural nouns, without any additional grounding elements, are already accessible and assumed to denote a general reference that applies to all instances of the entity type. They can, however, be grounded if the speaker wants to specify a smaller group as the superset, and the fact that ACQs can occur with grounding elements suggests that they are not able to fulfil this function on their own. While only *few* follows a determiner in more than 2% of its uses in the BNC, this is not sufficient justification for considering them as determinative when prenominal. It is more likely that ACQs are better suited for use in

statements describing generalized entities rather than definite sets, and their rarity with determiners is a result of this.

Moreover, prenominal ACQs can follow other grounding adjectives in PDE while prenominal relative quantifiers will always be the first element of the noun phrase. If the two groups were to occur in the same construction, it would be expected that they would follow the same distributional restrictions. Instead, however, ACQs follow the distributional patterns of grounding adjectives. As discussed by Davidse and Breban (2019), grounding adjectives can occur before or after other grounding adjectives in PDE depending on their scope. *Few, little,* and *many* are all found following other grounding adjectives in the BNC, as shown in (23) through (25). Though *many* and *little* are only found following *last*, *few* is found in this position with a number of other grounding adjectives. In addition to ACQs being able to follow determiners, their participation in the order-of-adjectives schema indicates that they are likely adjectives, themselves.

(23) **the other few points** were

(24) for **the last however many days**

(25) be able to see **the last little of it**

Given that ACQs can follow both determiners and other grounding adjectives in PDE, and that their similarities with adjectives are strongest in the prenominal position, it is evident that they participate in a separate prenominal construction from relative quantifiers. This was not necessarily the case in ME, where only *few* and *little* shared any similarities with grounding adjectives and the others were virtually indistinguishable from relative quantifiers in their prenominal placements. It is likely that the gradable nature of ACQs,

which at the time was already shared with adjectives and distinguished them from the other quantifiers, allowed *few* and *little* to retain their association with grounding adjectives and further caused *many* to be reanalyzed accordingly.

As adjectives and determiners became more distinct, ACQs retained their adjective-like features and even exhibited an increase in their frequencies following determiners and being intensified, particularly in the prenominal position. As was discussed in the Data section, only *much* is intensified in more than half of its occurrences in the Paston Letters. Today, *much*, *many*, and *little* are intensified more than 59% of the time and *few* a quarter of the time, though *few* follows a determiner in half of its occurrences. Significantly, while they are most commonly intensified as pronouns, they exhibit the largest increase in their frequencies being intensified in the prenominal position, the only position they share with adjectives. Additionally, while postdeterminer quantifiers are only found prenominally in the Paston Letters, they are found as such prenominally, pronominally, and in the partitive today, indicating an increase in productivity, or syntactic expansion, regarding the environments in which they can follow a determiner. So, if the ability for a quantifier to follow a determiner or be intensified is one that is linked to the semantic features shared by ACQs, the increase in their frequency in both situations and the increase in distributional schematicity is indicative of their entrenchment as adjectives and may suggest post-constructionalization constructional changes.

In sum, the process by which core quantifiers developed their modern-day prenominal distributions can be characterized by a series of constructional changes that began with the restriction of the determiner slot to only members of the new determiner class. The functional

category of determiners had been partially established—articles, demonstratives, and most quantifiers (with the exception of *both, few,* and *little*) were already restricted to the determiner slot at the time of the Paston Letters. Grounding adjectives, however, were capable of functioning as both secondary determiners and as determiners on their own. ME determiners and grounding adjectives were thus likely motivated by one construction, exemplified as follows:

(26) $[NP] = [X_{grnd}\ (ADJ_{grnd})\ (ADJ_{mod})\ N\ (X_{mod})]$

where a nominal reference, [NP], is a fully specified and grounded noun phrase, containing at least one grounding element, $[X_{grnd}]$, which can be either a determiner or an adjective, and one noun, [N], with optional pre- and postnominal modifiers indicated in parenthesis.

The restriction of the determiner slot caused this construction to diverge into the two separate constructions identified by Langacker (1991, 2016):

(27) $[NP] = [[DET]\ [N_{specified}]]$

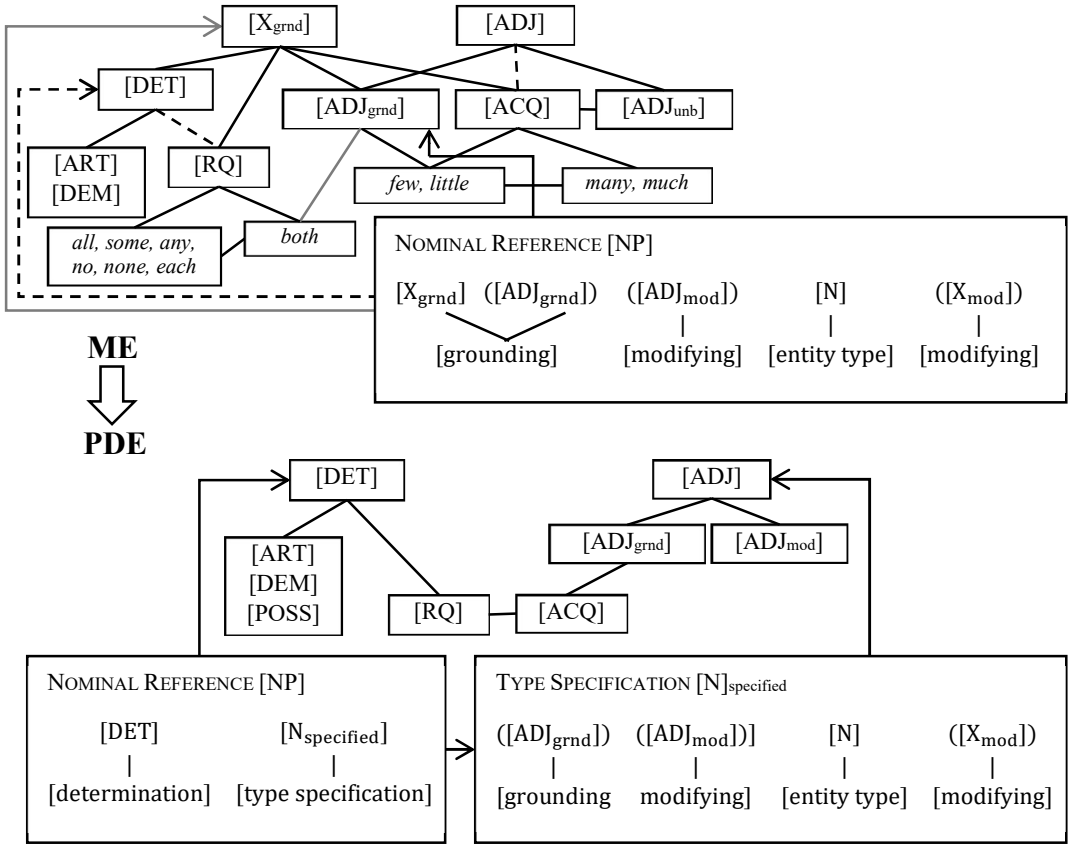
(28) $[N]_{specified} = [([ADJ])\ [N]\ ([X_{mod}])]$

where any non-determinative modification is subsumed under the type specification construction, $[N]_{specified}$, which cannot function as a nominal reference until attached to a determiner, [DET]. When the nominal reference construction became established and grounding adjectives were no longer able to act as the sole grounding element of a nominal, this would have prompted speakers to form new associations between lexical categories and assign ambiguous nominal dependents to one class or the other. *Few* and *little* retained their status as grounding adjectives and the remaining gradable quantifiers, *many* and *much*, were reanalyzed alongside *few* and *little* via analogization. *Both*, which exhibited more similarities

with the determiner quantifiers, retained its postdeterminer use but did not exhibit any increase in adjective-like features and was reanalyzed as a determiner quantifier. This process is visualized in Figure 16, which details the structural makeup and functional properties of the nominal reference construction of ME and the nominal reference and type specification constructions of PDE.

**Figure 16**

*Nominal Reference Constructions in the Paston Letters and the British National Corpus*




*Note.* NP—noun phrase; X—any element matching the features designated by the subscript; ADJ—adjective; N—noun; DET—determiner; ART—article; DEM—demonstrative; POSS—possessive; RQ—relative quantifier; ACQ—absolute continuous quantifier; grnd—grounding; mod—modifying; unb—unbounded.

**Pronominal Quantifiers**

With the relationship between quantifiers and other nominal dependents established, this and the following two sections address the third and fourth research questions of this study:

3. Can any sources or paths of change be identified in the data that might explain the variation in the syntactic distributions of atypical quantifiers?
4. If not, what other factors can be identified in the data that may have contributed to the distributional patterns of atypical quantifiers in PDE?

In particular, this section focuses on the inability for *every* to occur pronominally or in the partitive. It is the only quantifier unable to do so—apart from *no*, which has a pronominal counterpart in *none*—and little research has been performed to determine why this may be the case. Based on the functional and syntactic properties of adnominals used pronominally in the Paston Letters and the BNC, it is argued here that the collective nature of *every* is incompatible with pronominal reference, which requires that a nominal dependent be capable of identifying a subset out of a superset to function pronominally. Two separate changes are identified that have led to *every* being unable to function pronominally: first, in ME, the restriction of slots within the noun phrase led to stricter requirements for the nominal dependents that could function as a nominal head;[3] and second, the lack of a strong functional or syntactic distinction between *each* and *every* caused the two to develop the opposing functional properties of distributivity and collectivity, respectively, of which collectivity is incompatible with the subset-identification requirement of pronominalization.

[3] This particular change is well-established (Fischer & van der Wurff, 2006; Traugott & Trousdale, 2016); the present analysis identifies the point in the process of change in which the Paston Letters were written and explores how this change led to the loss of pronominal *every.*

As a preliminary, it is worth noting here that I will be assuming that pronominal quantifiers are used in forming the partitive following the bulk of CxG-based research into the partitive construction (Holme, 2015; Kim & Michaelis, 2020; Radden & Dirven, 2007). This explains why the only quantifier that does not appear in the partitive today (*every*) is also not used as a pronoun, as well as why *none*, rather than *no*, is used in both. The alternative explanation, that pronominal quantifiers are derived from partitive quantifiers, does not hold up against the historical data. If they were derived from the partitive, one would expect any pronominal quantifier to have previously been used in the partitive. Since the Middle English forms of *all* and *little* are used pronominally but never in the partitive, as was shown in the Data section, this cannot be the case.[4] Thus, the conclusions drawn in this discussion of pronominalization explain the inability for *every* to occur in the partitive, as well.

This analysis adopts two macro-constructions identified by Langacker (2008), the REFERENCE ANAPHORA and TYPE ANAPHORA constructions, which presuppose that a pronominal reference be capable of identifying a referent on the basis of contextual salience. These constructions are subtypes of the nominal reference and type specification constructions discussed in the previous section, respectively. These constructions can be represented by the following:

(29) $[NP]_{pro} = [DET]_{pro}$

(30) $[N]_{pro} = [[ADJ]\ \textit{one}]$

[4] Carlson's Diachronic Treatment of Quantifiers (1977) confirms that *all* did not occur in the partitive until the 16th century, though no mention of *little* is given in the text.

where $[NP]_{pro,}$ or reference anaphora, comprises a determiner [DET] functioning pronominally (indicated by the subscript *pro*), and $[N]_{pro}$, or type anaphora, comprises an adjective [ADJ] followed by the propword *one*. The functional properties of nominal dependents that license their use in these constructions have not been specified in the literature, nor has the discrepancy between *every* and pronominalization been explained.

Research into the pronominal use of nominal dependents prior to the ME period indicates that there were little to no restrictions between the two; all nominal dependents, including the articles *the* and *a,* could be pronouns in OE (Denison, 2006). Evidence from the Paston Letters suggests that the pronominal use of nominal modifiers had developed some restrictions since the Old English period, particularly with determiners. In both the Paston Letters and the BNC, all determiners—apart from the articles, *the* and *a*—are capable of functioning as pronouns. Grounding adjectives additionally exhibit stable distributional patterns between the two time periods, though non-grounding adjectives are found occurring pronominally in contexts that would not be possible today. These contexts are relatively limited, however, with the majority of pronominalized adjectives in the Paston Letters occurring in only three environments. The first, exemplified in (31), is the closest to the structure that today is referred to as a nominalized adjective; the adjectives *gentyll* and *comons* refer to the noble and common people, which bear a resemblance to conventionalized groups such as “the rich” or “the poor” in PDE. However, today, this construction is only possible with the definite article and is never inflected for number as *comons* is. *Comons* being inflected with a plural marker indicates that it has a stronger status as a nominal than

nominalized adjectives have today, and that adjectives were capable of functioning as a nominal head.

(31) with **many oþer gentyll and comons** to þe nombre of xx ml

'with many other gentle and common (people) to the number of 1,070'

Adjectives are also found as pronouns in the Paston Letters when they are accompanied by a nominal modifier that expresses relational modification (Denison, 2006), primarily possessive determiners (32), postnominal modifying clauses (33), or postnominal prepositional phrases (34).

(32) send me an other sugowr loff, for **my old** is do

'send me another sugar loaf, for my old (one) is done'

(33) such **a fyne as youre Highnes** hath

'such a fine (person) as your highness has'

(34) and enformed hym wyth **the trough of þe matere**

'and informed him with the [truth] of the matter'

Apart from these contexts, pronominal adjectives are rare in the Paston Letters; the examples I have found that occur elsewhere are relatively ambiguous, and it is difficult to determine whether or not they are truly pronominal adjectives. Each of the confirmed contexts, however, share in common that they provide ample means of identifying the referent without requiring that the adjective itself be able to do so. In (31), the adjectives represent conventionalized groupings and would only be acceptable in PDE if they were accompanied by a determiner, and in (32) through (34), the possessive pronoun and modifying phrases clarify the referents via relations. This suggests that, in ME, the overall

function of referent identification was fulfilled as long as at least one element of the construction provided a means of identification.

This coincides with the assertion in the previous section that both nominal determination and modification were motivated by the same construction in ME; if a determining element can contribute to the identifiability of a referent, then the construction that motivates the pronominal use of adjectives must specify for a determining element. Contrarily, there are no discernable differences between the ME and PDE constructions that motivate pronominal determiners. In both time periods, demonstrative, possessive, and quantifying determiners can be used pronominally, and each of these three groups identify a member of a set by means of opposition; *this* is identifiable as *not that*, *mine* is identifiable as *not yours/theirs/*etc., and *some* is identifiable as both *not all* and *not none*. Thus, the schema for determiner pronouns in ME had likely established a requirement for the determiner itself to be identifying before this became a requirement for adjective pronouns, which explains why articles were the first to lose this ability. This can be summarized via the following:

(35) $[NP_{DET}]_{pro} = [DET_{identifying}]$

(36) $[NP_{ADJ}]_{pro} = [[X_{grnd}] , ([X_{adn}]_{relation}]) , ([ADJ])]_{identifying}$

where both constructions form subtypes of reference anaphora ($[NP]_{pro}$), though $[NP_{DET}]_{pro}$ indicates a nominal with a determiner head and $[NP_{ADJ}]_{pro}$ an adjective head. $[X_{grnd}]$ represents any element with a grounding function, $[X_{adn}]_{relation}]$ represents any adnominal that functions as a relational modifier, [DET] represents any determiner, [ADJ] represents any adjective, and the subscript *identifying* indicates that the element to which it is attached must be able to perform an identifying function. In (35), the subscript is within the brackets

delineating the slot for a determiner, indicating that only determiners that are identifying can fulfil this function. In (35), the *identifying* subscript occurs outside of the brackets that delineate the construction as a whole, indicating that the construction as a whole must be identifying but it unspecified as to which element must perform this function. The parenthesis around $[X_{adn}]_{relation}$] indicate that this element is optional; because there is no requirement regarding which element must have an identifying function, this element is only necessary if neither the adjective nor the grounding element are identifying.

Today, however, the adjectives that can be used pronominally in PDE suggest that the identifying role in type anaphora is now necessarily fulfilled by the element in the noun slot; the [*the* + conventionalized group] construction is unproductive regarding the determiner that can be used and is likely not formed via the nominal reference construction, meaning that it is phrasal and the entire unit acts as the nominal; superlatives and ACQs—which were reanalyzed as grounding adjectives following the 15$^{th}$ century, as discussed in the previous section—provide an identifying function on their own; and non-identifying adjectives can only be paired with the propword *one*, which serves the identifying function in the noun slot by means of quantification. The reference anaphora and type anaphora constructions can thus be updated to reflect the proposed constructional changes as follows:

(37) $[NP_{DET}]_{pro} = [DET_{identifying}]$

(38) $[N_{ADJ}]_{pro} = [ADJ_{identifying}]$

(39) $[N_{\textit{one}}]_{pro} = [[ADJ]\ [\textit{one}_{identifying}]]$

where a full nominal, $[NP_{DET}]_{pro,}$ is only achievable with an identifying determiner, $[DET_{identifying}]$, and both identifying and non-identifying adjectives result in a specified entity

type, $[N_{ADJ}]_{pro.}$ A non-identifying adjective, [ADJ], must be followed by *one*, but identifying adjectives can subsist in this construction alone.

Despite this discussion focusing on the atypical distribution of *every,* it is worth noting that the pronominal distributions of ACQs can support the arguments presented here. First, the fact that ACQs are substantially more likely to be intensified pronominally than in any other position, as mentioned in the Data section, could indicate that being intensified contributes to their ability to identify a subset on the basis that intensifiers further specify the amount designated by the ACQ. Additionally, the tendency for mass ACQs (*much* and *little*) to have high relative frequencies pronominally and low prenominally, with the opposite distribution for count ACQs (*many* and *few*), supports the notion that certain pronominal modifiers identify their referent by means of opposition. It may be the case that the opposition signaled by *much* and *little* is more salient, contextually relevant, or simply preferred by speakers for the purposes of anaphoric reference. Regardless, there is a clear tendency for ACQs that represent oppositional pairs to exhibit similar rates of pronominal occurrence.

Given that the use of determiners pronominally has remained relatively stable and only the constructions regarding adjectives exhibit notable changes, the fact that *every* is used pronominally and in the partitive in the Paston Letters and has since lost this ability suggests that its functional properties have changed. There is evidence from both the Paston Letters and the BNC that suggest this loss follows from a reanalysis of the functional properties of *each* and *every*; in PDE, the collective manner with which *every* profiles its nominal referent can be shown to conflict with the requirements for a nominal dependent to function

pronominally on its own. In ME, however, *each* and *every* retained both formal and functional similarities as a result of their historical relationship (recall that *every* is historically derived from *every* + *each*) and must have developed the opposing properties of distributivity and collectivity, respectively, at a later point.

The divide between *each* and *every* can be attributed to differences in the manner with which they profile their referent and its relationship to the whole. They are both considered maximal representative instance quantifiers (RIQ), meaning that they refer to one individual referent that is taken to be representative of the full set of its entity type, and properties or actions assigned to the one singular referent can and do equally apply to the entire set. *Each*, however, is distributive and profiles all individuals out of a group separately while *every* is collective and profiles them together as a single unit. This can be seen in (40), where *each* implies that each team has a separate person holding the role of picturist, rather than there being a single picturist for all of the teams, and in (41), where *every* refers to a single list being kept by the speaker that incorporates all of their lectures.

(40) the word card is shown to the picturist of **each team**

(41) I've got a list of **every lecture** on my booklet

This distinction provides a probable explanation for *every* being unable to occur in the partitive today; if a modifier must be capable of identifying a subset of a superset, then it is reasonable to conclude that a modifier which profiles all members of a group as being separate, like *each*, would be compatible but not modifiers that profile all members together. When the members are conceptualized as being together, as is the case with *every*, they can no longer be identifiable as individuals because they are, essentially, the full set.

There is very little evidence that *each* and *every* carried the same—if any—distinction that they do today at the time of the Paston Letters. The two are found occurring together on a number of occasions, an example of this given in (42), suggesting at the least that the two did not have incompatible functions as they do today. *Each* is also found a number of times in a construction that today is only used by *every,* seen in (43), in which it cooccurs with *other* and indicates a time period in which something occurs every two years.

(42) thys to be fulfyllyd and kept by **euery ylke comonere** apon peyn of dethe
'this to be fulfilled and kept by **every each commoner** upon pain of death'

(43) the said John Paston shalle pay **iche othir yere** the said summe
'the said John Paston shall pay **each other year** the said sum'

Additionally, as noted in the Data section, *each* and *every* are the only two quantifiers that occur in the partitive more often than they occur as non-partitive pronominals in the Paston Letters—a feature that may indicate that both were losing pronominal acceptability at the time. As has been mentioned, in ME, non-identifying adjectives were often paired with modifying prepositional phrases to create an identifiable reference (for example, "the wele of his sowle"). In addition to the clear syntactic similarities between the partitive construction and modifying prepositional phrases, historical and functional similarities between the two are widely attested (Sommerer & Hofmann, 2021). Given this, it is possible that speakers found *each* and *every* more acceptable in the partitive because of the overt specification of the full set that shared a syntactic structure with intrinsic relational modification. This suggests that collectivity may have been originally applied to both *each* and *every*.

Similarly, one major change identified in the Data section is that *each* had a substantially lower relative frequency occurring prenominally than the majority of other quantifiers in the Paston Letters. It exhibits an increase of around 43%, from 29% to 72% and now has a very typical prenominal frequency. This could support the notion that *each* and *every* were nearly synonymous in the Paston Letters, and that speakers were developing preferences for one over the other in certain positions. Given the low frequency of *each* in the prenominal position and high frequency in the partitive, it is likely that *each* and *every* had already begun developing their modern-day distinctions by the start of the Paston Letters. The fact that there are few discernable differences apart from this distinction in the uses of *each* and *every* in the Paston Letters, and that both were preferred in the partitive to alone pronominally, provides sufficient motivation for the reanalysis of *each* and *every* with separate, opposing functions in order to avoid synonymity.

Finally, it is worth noting that *every* is, in fact, capable of occurring pronominally in PDE, but only in the same manner as non-identifying adjectives: when paired with *one.* The only other quantifiers able to do so are the other RIQ, *each* and *any*, though *one* is not required for them to function pronominally and is, thus, likely emphatic. As was mentioned in the Background section, *one* as a propword was still a fairly new development at the time of the Paston Letters; it is only found for the first time in the 14$^{th}$ century and was not fully productive until the 16$^{th}$ century (Carlson, 1977). In the Paston Letters, it is not found with any adjectives and is only found with *the, that,* and *such* in what appear to be very limited environments. All instances of *such* with *one* occur in a comparative construction as in "such one as,' and all instances of *the* and *that* are followed by *part*, as in "the one part."

The only nominal dependents that are found with the propword in the Paston Letters, besides these unproductive uses of *the, that,* and *such,* are the quantifiers that can be used with singular nouns, *none, any, each,* and *every*, and each of these occur only once in the data. Examples of *each* and *every* with the propword are shown in (44) and (45). *Every* in (45) is particularly interesting; in this construction, the original compound form *euerych (every + each)* is used with *on* 'one' attached to the end of the word. The Middle English Compendium (Lewis, 2019) lists this entry as an early form of the indefinite pronoun, *everyone*, which differs both structurally and functionally from the pronominal *every one* and is recorded as early as the 13th century, 100 years before *one* began being used as a propword.

(44) iij or iiij sonys chyldre, **iche on off hem** as
'two or three male children, each one of them as'

(45) and recomand hem to yow **euerychon**
'and recommend them to you, every one'

There are a few significant insights that can be gained from this usage; for one, because RIQ, *no*, and *some* are the only quantifiers used in the formation of indefinite pronouns, such as *everyone*, *anyone, no one,* and *someone*, the formal similarities between the two structures could have contributed to the acceptability of RIQ with *one* as a propword early on. This association explains why they appear with *one* in the Paston Letters and adjectives do not, though additional data would be required to confirm this. Additionally, the presence of *euerychon* supports the proposal that the distinction between *every* and *each* was not as

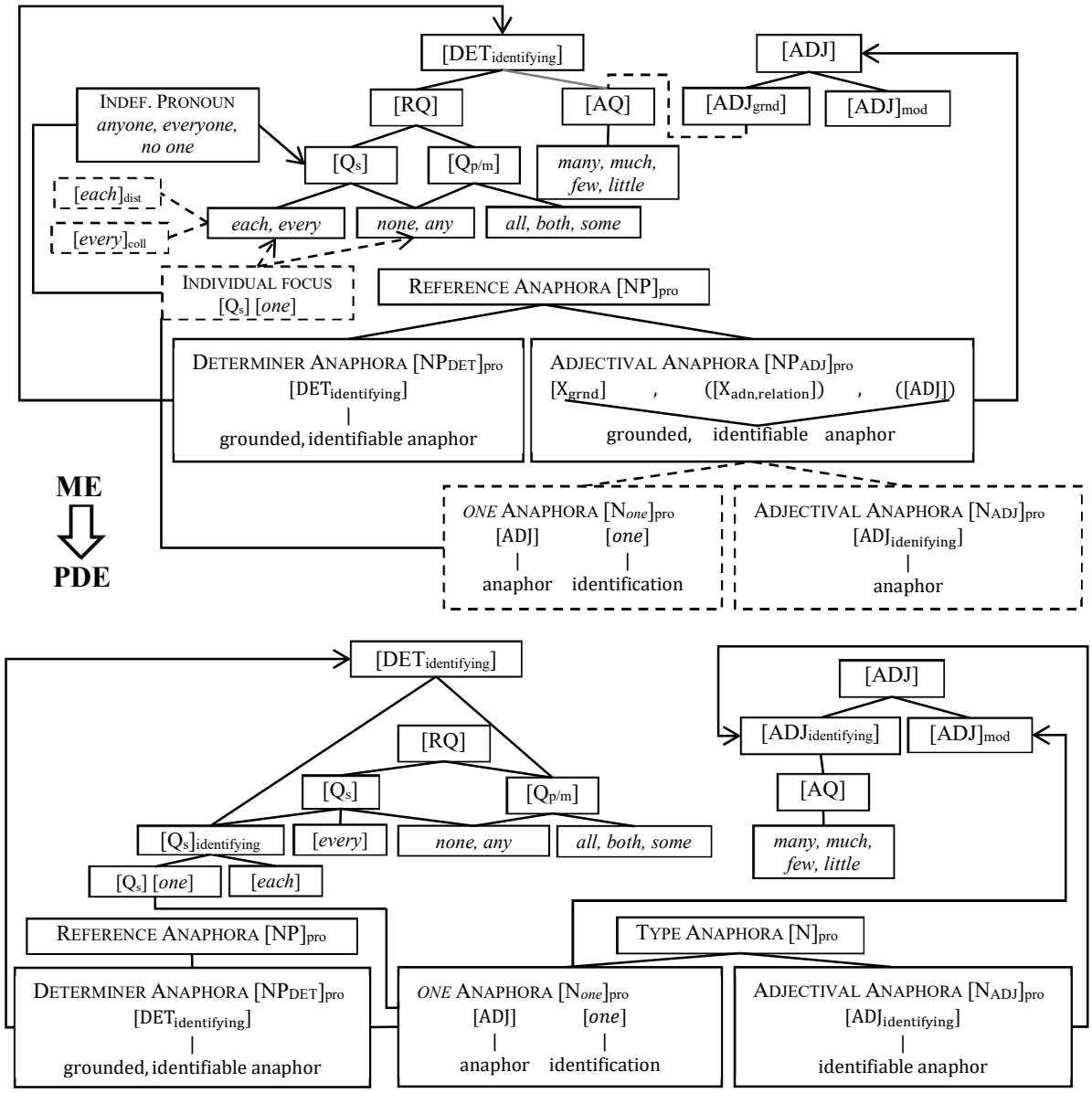
strong during the ME period as it is today if the indefinite pronoun still retained the compounded form.

Finally, the pronominal distribution of *every one* in PDE follows a similar pattern as pronominal *each*. As was discussed in the Data section, *each* does not pattern with the majority of other quantifiers when occurring pronominally; while most quantifiers occur as the objects of non-copular verbs the majority of the time, *each* is instead the object of a preposition in 62% of its pronominal tokens. No other quantifier has more than 21% of its pronominal uses in this role. *Each* being distributive in nature is likely in some part responsible for this unique behavior; many of the prepositional phrases it occurs in can be characterized by identifying a relationship to a target (*to, at*) or a source (*from, of*), both of which are inherently better suited for individual objects than whole sets. *Every one*, when occurring as a pronoun, is also found as the object of a preposition nearly 70% of the time. This may indicate that *each* and *every* have retained some of their early similarities when occurring pronominally and that *every one* performs a distributive function like *each*.

In this section, I have shown that the inability for *every* to occur pronominally can be traced to (a) the restriction of non-identifying nominal modifiers from occurring as nominal heads, and (b) the development of separate functions in *each* and *every*, which exhibit few functional or formal differences in the Paston Letters; *each* was reanalyzed as profiling a distributive relationship between the individual and the whole and *every* was reanalyzed as profiling a collective relationship incompatible with pronominal reference, as a referent cannot identify a subset of a superset if it simultaneously refers to the individual and the whole. The constructions and changes identified in this section are visualized in Figure 17.

**Figure 17**

*Reference Anaphora Constructions in the Paston Letters and the British National Corpus*




*Note.* X—any element matching the features designated by the subscript; NP—noun phrase; ADJ—adjective; N—noun; DET—determiner; adn—adnominal; RQ—relative quantifier; AQ—absolute quantifier; s—singular; p/m—plural or mass; dist—distributive; coll—collective; pro—pronominal; grnd—grounding; mod—modifying.

**Partitive and Predeterminer Quantifiers**

As with the previous section, this discussion centers on identifying sources or paths of change that may have led to the variation exhibited by quantifiers today, addressing the third and fourth main questions of this study. Here, I consider the predeterminer uses of *all* and *both* and explore why only they can occur in this atypical position. Existing accounts of quantifier behavior have typically labeled these as predeterminers without addressing why they can occur as such (Buchstaller & Traugott, 2006; Carlson, 1977; Davidse & Breban, 2019; Denison, 2006) or have regarded them as reduced partitives (Langacker, 2016). However, as mentioned in the Data section, *all* does not occur in the partitive in the Paston Letters, and its predeterminer use could not have developed out of a structure in which it did not occur. I propose that the predeterminer and partitive constructions were distinct from one another in ME, but following a reanalysis of the partitive construction that linked it with quantification, speakers began to interpret predeterminer *all* and *both* as reduced partitives. This analysis adopts Langacker's (2016) functional account of the partitive, in which the partitive used by quantifiers is a subtype of the genitive partitive where *of* profiles an intrinsic part–whole relationship.

Langacker additionally considers the predeterminer construction to be a reduced partitive, admissible based on *all* and *both* producing a whole–whole relationship on their own and thus rendering the *of* redundant. This analysis does not dispute the claim that they are related in PDE, though it is evident that the predeterminer use of *all* and *both* did not originally develop out of the partitive and only reached this classification as a result of speaker

associations between the two. The explanation that they are permissible as such due to their use with *of* being redundant thus needs refinement.

Existing research has pointed to the partitive developing from nominals formed with genitive case marking in OE, a construction which allowed the use of all grounding elements, including the early forms of the articles *the* and *a*, as well as superlative and comparative adjectives (Denison, 2006). Today, only quantifiers, the interrogative pronoun *which*, and superlative adjectives are used productively in the partitive. All of the nominal modifiers that can be productively used in the partitive in PDE are arguably quantificational, despite them not being quantifiers themselves. Superlatives, for example, identify a member of a group that is the most of something, which typically has only one possible referent. It is thus quantifying in the sense that it identifies a single referent out of a set. Comparatives can similarly be used in the partitive, but they are only found in partitive expressions where the head noun is a group of two, in which case it would identify a single referent as well. The interrogative pronoun *which* is the only interrogative found in the partitive and the only interrogative pronoun that denotes an amount; like the first two, it is always used to indicate a single referent. Examples of each of these are given in (46) through (48).

(46) He was **the eldest of their children**

(47) Ah, but this is **the better of the two**

(48) so, **which of those answers** is that one?

This pattern suggests that the partitive itself is associated with quantification and that pronouns must be able to designate an amount of their referent in order to be used in the construction. This pattern appears to be emergent at the time of the Paston Letters; articles

and demonstratives had already become obsolete in the partitive, and only two other grounding adjectives, *other* (49) and *such* (50), are found in the partitive that cannot be used there today. *Other* is still found in the partitive in the BNC, though only a small number of times and in each of them it is accompanied by a quantifier, such as in (51). It is also found in the form of the complex determiner *another,* which arguably has a quantifying function itself in that it is essentially synonymous with *one other*. Conversely, *such* is not found in the partitive in any context in PDE.

(49) wyth the avyse of **othere of here frendys**

'with the advice of other of her friends'

(50) I suppose ye haue **non such of it**

'I supposed you have none such of it'

(51) You won't get it in the mail or **any other of those businesses**

That articles and demonstratives had already lost the ability to be used in the partitive is significant because they were the only groups that were fully established members of the emergent determiner class, as mentioned in the Prenominal discussion. This suggests that the partitive construction was in the process of reanalysis, and that speakers had begun to reject the use of determiners in the partitive. When these classes became fully established and relative quantifiers were reanalyzed as determiners, this criteria could no longer sufficiently dictate what could and could not be used in the partitive. Because the functions of the partitive construction and of quantification are inherently linked, in that both specify the subset of a nominal that is included in the referent, and because the majority of pronouns used in the partitive exhibit quantifying properties, speakers would have naturally begun to

associate the construction with quantification. The schema for the partitive construction and the constructional changes it has undergone since the ME period can thus be summarized as follows:

(52) $[NP]_{part} = [Q/ADJ_{grnd}]_{pro}$ *of* $[NP_{def}]$ → $[X]_{part} = [X_{quant}]_{pro}$ *of* $[NP_{def}]$

where the ME partitive construction ($[NP]_{part}$) comprises either a pronominal quantifier or grounding adjective ($[Q/ADJ_{grnd}]_{pro}$) followed by an *of* prepositional phrase with a definite nominal reference ($[NP_{def}]$). This construction has undergone type reduction in the element preceding the nominal phrase, which can now only be a quantifying pronoun ($[X_{quant}]_{pro}$). The functional status of the construction has been adjusted to account for the reanalysis of pronominal adjectives as instantiations of an entity type rather than a nominal reference, as discussed in the previous section, so the resulting construction $[X]_{part}$ is not admissible as a full nominal.

This analysis provides sufficient context for *all* and *little* to become acceptable in the partitive, as they are the only quantifiers that do not appear in this position in the Paston Letters. With the partitive construction associated with quantification, speakers would have naturally begun to form new constructs with quantifiers that were previously unattested. This analysis may also shed some light on a few of the atypical frequency patterns discussed in the Data section; ACQs, for instance, are intensified and follow a determiner less often in the partitive than anywhere else, and *some* exhibits an unusually high relative frequency in the partitive at nearly half of its total occurrences. The quantifying function being integral to the partitive would certainly result in ACQs exhibiting properties more typical of quantifiers and less of adjectives. *Some*, incidentally, is the only quantifier that does not participate in any

additional quantifying constructions outside of the three in which all quantifiers are found (prenominal, pronominal, and partitive). In this way, it can be considered the most prototypical quantifier and inherently well-suited to a construction that specifies for a quantifying element.

Finally, a reanalysis of the partitive construction as inherently quantificational, and its subsequent expansion of acceptable elements to include *all,* creates a contextual environment where the predeterminer uses of *all* and *both* could have been interpreted as reduced forms of the partitive. This claim is supported by functional similarities between the predeterminer and partitive constructions—which were linked by structural similarities once *all* appeared in the partitive—as well as changes to the frequency patterns of *all* and *both* between the Paston Letters and the BNC. Functionally, both predeterminer and partitive constructions profile a relationship between a referent and a set of possible referents, of which the set of possible referents is necessarily definite. In the partitive, *of* profiles a part–whole relationship, while in the predeterminer position, *all* and *both* profile a whole–whole relationship by virtue of maximal extension. This link between the two constructions is often used to explain why *all* and *both* are able to occur without *of* in the partitive, as both elements profiling a relationship would make the *of* redundant (Langacker, 2016), However, because *all* was a predeterminer quantifier before it was a partitive quantifier, a more sufficient explanation is that this link established an additional context for the predeterminer construction to be reanalyzed as a subtype of the partitive.

While there are no identifiable changes to the structural makeup of the construction, this reanalysis can be characterized as network reconfiguration, where the existing predeterminer

construction became associated with the partitive when the two developed formal links (the use of *all* and *both* in both constructions) on top of the existing functional links (that both profile a relationship between a part and a definite whole). This is additionally supported by the fact that *both* exhibits a decrease of 10% in its relative frequency occurring in the predeterminer position between the Paston Letters and the BNC alongside an increase of 10% in the partitive. Similarly, *all* has one of the lowest frequencies in the partitive today but occurs as a predeterminer in nearly half of its total occurrences. If the two constructions are essentially synonymous, it would be expected for speakers to develop a preference for one or the other and for opposing changes such as these to occur.

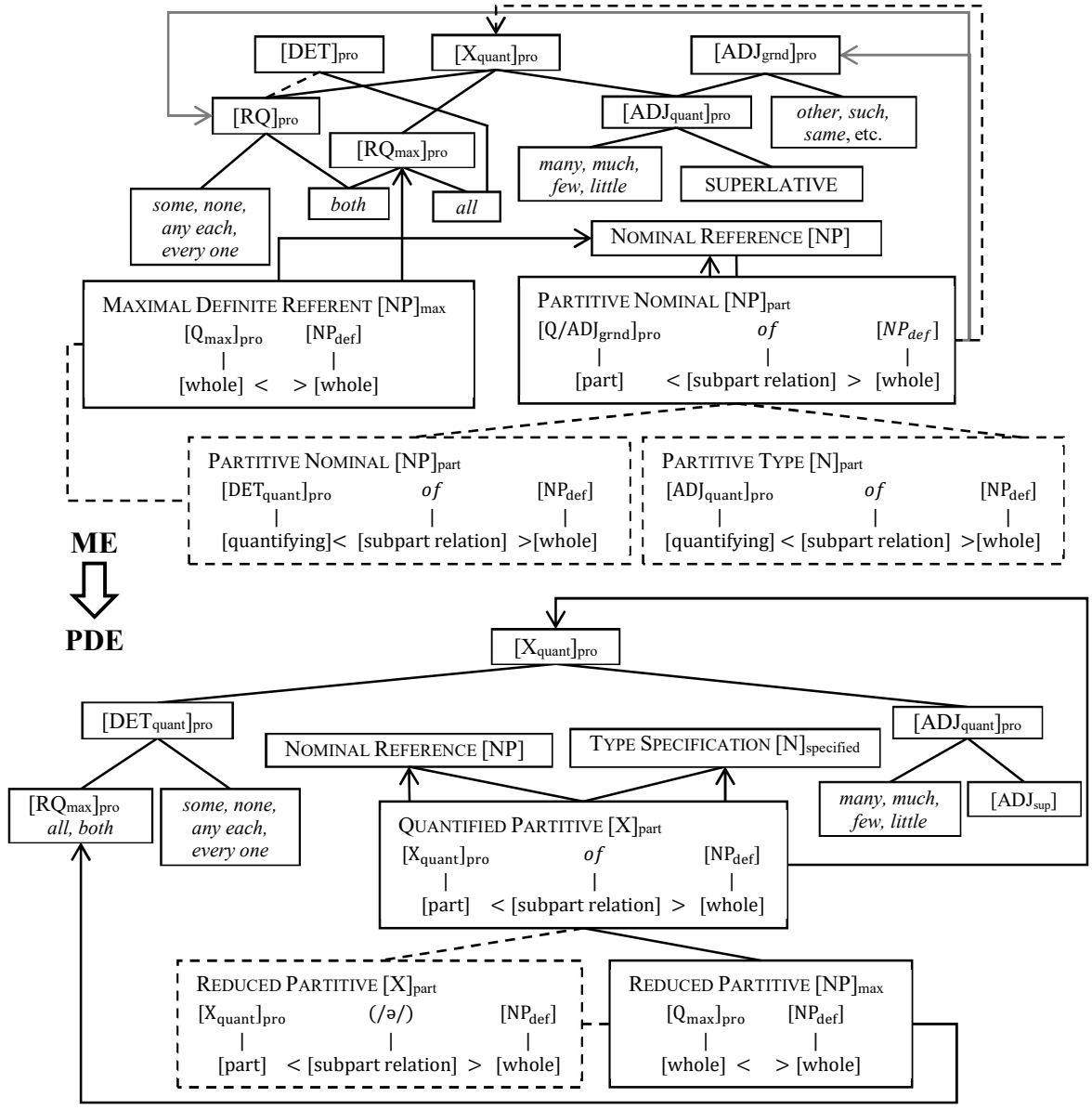
Moreover, a post-constructionalization loss of compositionality could explain the instances of *some* and *any* found in the predeterminer slot in the BNC. A loss of compositionality can often be identified by phonological reduction in a construction, which generally occurs in the more frequent variants of a construction. In the BNC, *any, some,* and *all* are the most frequently occurring partitive quantifiers in the data. While there are only a small number of predeterminer *some* and *any*, it is very likely that these structures are examples of phonological reduction where the *of* is either unpronounced or shortened to the single phoneme, [ə], though it would be difficult to determine this without all audio recordings. Per the transcription manual used for the BNC recordings, transcribers were explicitly instructed not to leave out a word-final consonant if it is unpronounced (Davies, 2004). Given this, it is likely that the majority of instances pronounced as [ə] would be transcribed as *of.* The examples of *some* and *any* without it, then, could indicate that in quick,

spoken language, even the vowel is being reduced following the most frequent partitive quantifiers.

In sum, the ability for *all* and *both* to occur in the predeterminer position today can be attributed to similarities between the predeterminer and partitive constructions that caused the predeterminer construction to be reanalyzed as a reduced partitive. At the time of the Paston Letters, articles and demonstratives no longer occurred in the partitive. The vast majority of remaining instances involved quantifiers or pronominal adjectives with a quantifying function, creating a context where pronominal adjectives that did not have a quantifying function lost acceptability—an example of type reduction, or pre-constructionalization constructional change. The partitive was then constructionalized with an inherently quantifying function and specified for only quantifying pronouns. Following this, the construction underwent type expansion, gaining the quantifiers that did not previously occur in the partitive, *all* and *little*. Two contexts have been identified for the reanalysis of predeterminer quantifiers as reduced partitives: both structures profiled relationships between a part and a whole, providing a functional link between the two constructions; and, with *all* gaining acceptability in the partitive, the two predeterminer quantifiers could occur in both constructions. Predeterminer quantifiers thus exhibit network reconfiguration, becoming interpreted by speakers as a subtype of the partitive. The changes described in this section are visualized in Figure 18.

**Figure 18**

*Partitive Constructions in the Paston Letters and the British National Corpus*




*Note*. X—any element matching the features designated by the subscript; RQ—relative quantifier; NP—noun phrase; DET—determiner; ADJ—adjective; max—maximal; pro—pronominal; def—definite; part—partitive; quant—quantifying; sup—superlative. Angled brackets represent a profiled relation between elements.

**Postnominal and Postposed Quantifiers**

In this final section, the distributional patterns and functional properties of postposed and postnominal quantifiers (PQs), *all, both,* and *each,* are discussed in response to the final two research questions posed in this study:

3. Can any sources or paths of change be identified in the data that might explain the variation in the syntactic distributions of atypical quantifiers?
4. If not, what other factors can be identified in the data that may have contributed to the distributional patterns of atypical quantifiers in PDE?

As is shown in the following pages, there are no significant constructional changes identified in the data that can point to the development of the postnominal and postposed structures for *all* and *both*; however, a number of similarities can be found between PQs and emphatic reflexives (ERs)—reflexive pronouns such as *himself* or *herself* when occupying a non-argument position—in both the Paston Letters and the BNC, which suggests that their postnominal and postposed occurrences are motivated by the same constructional schema. In demonstrating these claims, I first show that PQs and ERs exhibit similar distributional patterns in both corpora and that *each* is more closely aligned with ERs than PQs. *All, both,* and *each* are then shown to exhibit a contrastive exclusion effect on their head noun, and it is argued that the contrast profiled by *each* is adverbial in certain structures due to its distributive effects. Its reanalysis as a distributive quantifier, as proposed in the Pronominal discussion, might thus have been a context for *each* to develop properties of contrastive markers. Three pragmatic means of contrastive exclusion are identified that equate with the various syntactic contexts in which PQs and ERs are found, leading to the proposition of

three schematic constructions: REFERENT-ORIENTED EXCLUSION, ACTOR-ORIENTED EXCLUSION, and RELATION-ORIENTED EXCLUSION.

This analysis draws from a similar proposal argued in Shin (2014), which suggests that both groups induce a contrastive focus and exclude all possible referents except the nominal identified by the reflexive or quantifier. This contrastive focus is triggered by the maximality effect, which applies to quantifiers that identify the whole set and exclude any interpretations of the referent that are not maximal. I diverge from Shin (2014) in several key ways. First, I discuss the theory that PQs and ERs are related from the perspective of CxG in terms of schemas and links between constructions. Second, the proposal given in Shin (2014) is largely theoretical, whereas this discussion focuses on analyzing the distributional and historic properties of the two sets. Third, the original proposal does not consider any factors that may influence the distinction between *each* and the other two.

Moving forward, this discussion follows the view of most research into PQs that postnominal instantiations of *all, both,* and *each* are related to those that are postposed outside of the nominal. The BNC data supports this theory; examples (53) through (56) show postnominal instances of *all, both,* and *each* occurring separated from the other nominal elements by sentence adverbs, as in (53) and (54), or by identifying phrases, as in (55). Neither of these environments would be possible if the quantifier were considered part of the noun phrase, and these environments are frequent in the data. Additionally, because postnominal participle modifiers, such as the phrase beginning with "accused of" in (56), typically occur last in the nominal (Radden & Dirven, 2007), it is likely that *each* would have

occurred before the postnominal modifier if it were associated with the nominal rather than the verb phrase.

(53) **You and Mr Donson** for different reasons **both** want erm a policy that

(54) **You** probably **all** know Murphy's law that what can go wrong

(55) **Foreign companies** such as Nissan, (unclear), Mitsubishi, **all** come to

(56) **The two boys** accused of... **each** blamed the other

Thus, both postnominal and postposed instances of *all, both,* and *each* are analyzed here as participating in the same schematic construction, which is nominal external and motivates instances of PQs occurring either at the beginning (postnominal) or within (postposed) a verb phrase. Additionally, similarities in the distributional patterns of PQs and ERs in both the Paston Letters and the BNC indicate that this is the same construction that motivates the emphatic use of reflexives. While *each* does not occur as a PQ in the Paston Letters, *all* and *both* share a number of contexts with ERs. Both groups occur postposed between a verb and its complements, as in (57), or sentence-finally with intransitive verbs, as in (58). Additionally, both groups occur postnominally, as in (59), and can be clause-final when postnominal with both pronouns and nouns. *All* and ERs occur between an auxiliary and a main verb, as in (60), but *both* does not.

(57) **he** thynkyth **himself** þat it is no part — Postverbal

'he, himself, thinks that it is no part'

(58) **we** lyve **all** — Intransitive Clause-Final

'we all live'

(59) recomand me to **my sustyrs bothe** — Postnominal

'recommend me to both my sisters'

(60) **he** scholde **hym-selffe** haue spoken wyth yow Post-Auxiliary

'he should himself have spoken with you'

It is worth noting that reflexives are used in the Paston Letters as subject pronouns, an example of which is given in (61). Today, these pronouns can only be used as verbal or prepositional objects and only in circumstances wherein the subject is acting upon itself. While the pronominal use of reflexives is not emphatic, the fact that they had a pronominal counterpart that could act as a subject in much the same way postposed quantifiers did—and still do—provides further support for the consideration that they may have been interpreted as members of the same class at some point in their history.

(61) of Thomas Gorney and of hys man: **hym-self** is clerk convicte

'of Thomas Gorney and his men, he is a clerk convict'

There are much fewer environments where only a PQ or only an ER are found. ERs can occur clause-finally with transitive verbs, as in (62), and *both* is found once postposed from an object, given in (63). Apart from these two environments, PQs and ERs do not exhibit any other distributional differences in the ME period.

(62) tyl þat **he** confessyd it **hym-selfe** Clause-Final ER

'till the time he confessed it himself'

(63) I fynd **hem** rythe well disposyd **bothe** Object-Postposed *both*

'I find them both right well disposed'

Today, their distributions are slightly more varied, though both ERs and PQs exhibit the same changes regarding their slot within the verb phrase. Instead of primarily occurring

between a verb and its complements, both ERs and PQs are found in the BNC between an auxiliary and main verb, as in (64), or between a copula and its complement, as in (65).

(64) I don't think **you** can **both** stir it — Post-Auxiliary PQ

(65) **The heat generated** was **itself** a problem — Post-Copula ER

This shift is widely attested as part of a large-scale set of changes to the English auxiliary schema that occurred between the 16th and 17th centuries, which restricted certain elements to the post-auxiliary/post-copula positions and other elements to the post-verbal position. It is significant, then, that both ERs and PQs were assigned to the post-auxiliary slot, particularly because the majority of elements assigned to this slot are temporal (*always*), epistemic (*probably*), or manner (*willingly*) adverbs (Buchstaller and Traugott, 2006). Neither ERs nor PQs exhibit any functional similarities with the other elements restricted to this slot.

ERs are found in the BNC occurring in two environments not available to *all* or *both*: they are found clause-final when postposed from subjects of both transitive and intransitive verbs, as in (66), and clause-final when postnominal with full nouns, as in (67). *All* and *both* can only occur clause-finally when postnominal with pronouns, as in (68).

(66) cause they thought he'd burnt it out **himself** — Subject Clause-Final ER

(67) addressed by **the prophet himself** — Post-N Clause-Final ER

(68) We'll have **them both** — Post-PN Clause-Final PQ

*Each,* which was not yet a PQ in the Paston Letters, has since become acceptable in the typical postnominal and post-auxiliary positions as well as clause-final when postposed from subjects, a position it shares with ERs. An example of this structure is given in (69). *Each* occurs in one additional construction that is unlike any used by the other PQs or ERs: it can

be postposed from indirect objects (70) and any nominal postmodified by a prepositional phrase (71). It does not occur postposed from direct objects or clause-finally with intransitive verbs and is always immediately following either the direct object or prepositional object in all environments identified in (69) through (71). The direct object or prepositional object has been underlined in the examples.

(69) **We** both get <u>a goal</u> **each** — Subject Clause-Final *each*

(70) The girls bought **you** <u>a bottle</u> **each** — Object Postposed *each*

(71) sent **the er kids** over to her house with <u>an Easter egg</u> **each** — N-PP Postposed *each*

Several syntactic links have been identified between PQs and ERs thus far; in the Paston Letters, the two groups are found in the majority of the same contexts, with the main exception being postposed ERs occurring clause-finally where PQs do not. Since this time, PQs have lost the ability to be postposed following a main verb and to postnominally modify non-pronoun heads in the clause-final position. *Each* has gained the ability to occur in both the postposed and postnominal positions, and, like ERs, is found postposed from subjects clause-finally. Additionally, *each* is distinct from the others in its ability to occur postposed from indirect objects and nominals followed by prepositional phrases. Given the distributional links between PQs and ERs, the fact that both groups were affected by the reformation of the English auxiliary schema in the same way, and that *each* has exhibited structural expansion that aligns with ERs more than with PQs, it is evident that the groups are motivated by the same constructional schema. The environments in which PQs and ERs can

occur postposed or postnominally in both the Paston Letters and the BNC are listed in Table 6.

**Table 6**
*Patterns of Postposed and Postnominal Quantifiers and Emphatic Reflexives in the Paston Letters and the British National Corpus*

| Schema | Head | Position | *all* | | *both* | | *each* | | ER | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ME | PDE | ME | PDE | ME | PDE | ME | PDE |
| POSTPOSED | SUBJ | [V] __ [VC] | ✓ | | ✓ | | | | ✓ | |
| | | [AUX] __ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| | | [COP] __ | | ✓ | | ✓ | | ✓ | | ✓ |
| | | (transitive) __ # | | | | | | ✓ | ✓ | ✓ |
| | | (intransitive) __ # | ✓ | | ✓ | | | | ✓ | ✓ |
| | IO | [DO] __ | | | ✓ | | | ✓ | | |
| | N | [OPP] __ | | | | | | ✓ | | |
| POSTNOMINAL | NP | __ [VP] | ✓ | | ✓ | | | | ✓ | ✓ |
| | $NP_{pro}$ | __ [VP] | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |

*Note*. ME—Middle English; PDE—Present-Day English; ER—emphatic reflexives; SUBJ—subject; IO—indirect object; N—noun; NP—noun phrase; VP—verb phrase; OPP—object of a preposition; DO—direct object; pro—pronominal; [V]__[VC]—occurring between a verb and its complement; [AUX]__—following an auxiliary verb; [COP]__—following a copula; __#—clause final.

This notion is also supported by the functional properties of PQs and ERs. In the Paston Letters, there are a number of examples in which *all* and *both* identify a nominal referent whose contrast with an alternative referent is integral to the pragmatic intent of the statement. In an example of *both,* (72), the writer is discussing a court settlement in which the respondent is involved and is identifying a course of action that will satisfy both parties as opposed to one or the other. The writer additionally proceeds to describe a previous court case for the same settlement, in which he prevented the other party from unfairly winning a

larger settlement. This use, then, is clearly contrasted against a situation where only the other party is pleased with the results.

(72) ye shall tak a way be-twyx yow so that **ye** shall be **bothe** plesyd

'you shall [find] a way between you so that **you** are **both** pleased'

In (73), the writer is communicating with a woman he has yet to meet in person and spends the entire letter in what appears to be an attempt to convince her that she can trust him and that he will be the perfect man for her if given the chance. These uses of *all* are clearly emphatic, and it seems likely that they are meant to invoke a comparison between his promised behavior and the behavior she may expect from a man she does not know.

(73) I beseche yow to thynk non other-wyse in me but that I wyll and shall at **all seasons** be redy, wythe Godys grace, to acomplyshe **all syche thyngys**

'I beseech you to think nothing otherwise of me except that I will and shall at all seasons be ready, with God's grace, to accomplish all such things.'

This same contrastive focus can be found in the BNC data for *all, both,* and *each*. In (74), for example, the first speaker makes a statement about her own weight before another speaker contrasts this with the statement that *we all* look that way. *All* here contrasts the maximal extension of the referent, analogous to *everyone*, with the notion of the first speaker being the only person to have fat. The speaker is likely also using an exaggerated *all* to emphasize this contrast.

(74) Speaker 1: I'm all (unclear) look, that's all fat

Speaker 2: **We**'ve **all** got that though Lyn, I mean come off it

In (75), the intended contrastive focus can be identified by the necessity of there being an alternative to the statement, “that both will continue to work.” If this statement cannot be guaranteed, then the alternatives of *one* or *none* are implicitly, and likely intentionally, invoked. Using a non-postposed quantifier in this instance, as in “you can’t guarantee that many will continue to work,” would not contribute the same effect because it would not restrict the referent to only one possible interpretation.

(75) even though **you**’re **both** working you can’t guarantee that **both** will continue to work

The example of *each* in (76) is less clearly contrastive than the other two PDE examples, though the correction made by the speaker in forming the nominal suggests that the distinction between *we* and *we each* is significant enough for the speaker to backtrack and repeat themself. Because *each* is distributive, its presence here does not necessarily indicate a different interpretation of the referent, but a different interpretation of the referent’s relationship with the action being performed. Meaning, *we each* does not force the interpretation that *we* profiles the entire set of entities that could be referred to as such, but rather it forces the interpretation that, of the entire set of people who performed the action of carrying a chair, every one of them performed the action separately. This contrasts the statement with the interpretation that one chair was carried by the entire set. Thus, while *all* and *both* provide a contrast that excludes all other interpretations of the referent but the maximal one, *each* excludes all other interpretations of the relationship between the referent and the action being performed but one that maximizes the number of iterations of the action.

(76) **we** had to carry, **each** carry a chair up to the new

The distributive contrast profiled by *each* can explain both the relationship between *each* and ERs and the unique postposed environments in which *each* can occur. In much of the existing research into ERs, they are described as having both adnominal and adverbial intensifying functions in PDE; in the post-auxiliary and postnominal positions, which they share with all PQs, they function adnominally and project a contrastive focus onto the nominal referent. Clause finally, however, they can also function adverbially, in which cases they profile an exclusive relationship between the subject and the action denoted by the verb while still agreeing with the subject in number and gender. This results in separate semantic functions, where adnominal ERs, such as those in (77), can be rephrased as "and no one else," emphasizing the exclusivity of the referent in the subject role, and adverbial ERs, such as those in (78), can be rephrased as "without help," emphasizing the exclusivity of the action and its participants (Ahn, 2010). In light of these distinctions, adnominal ERs project referent-oriented contrastive focus, while adverbial ERs project actor-oriented contrastive focus.

(77) The nurses and the doctors took over the ward.... **The patients themselves** kept the management out

(78) It's not always possible for the teen care people to actually erm, have that expertise if you like. In other words, **they** can't go out **themselves**

The adverbial function of ERs aligns well with the distinction between *each* and the other two PQs, *each* having been shown previously to project a contrastive focus on the relationship between the referent and the action rather than the referent itself. Despite this, when *each* is postnominal or post-auxiliary, it can be considered referent-oriented like the

other PQs and adnominal ERs: the focus of the statement is on the referent. This can be seen in (79), where post-auxiliary *each* is used in a context where the speaker is describing a hypothetical situation in which a certain demographic is identified as the referent. When it is sentence final, which only occurs with transitive verbs, *each* places focus instead on the direct object. The proposition in (80), for example, is given as a determining factor for whether or not the speech participants should read another book or do something else. Stating that they had already "had a story each" calls to attention the fact that the number of stories they have read is already maximal for the number of participants and likely indicates that the speaker would rather do something else.

(79) so if it's a married couple, **they**'ll **each** get that amount

(80) Oh we could read it or we could go in the garden. What do you think? **We**'ve had a story **each** now

Considering the already established distinction between adnominal and adverbial ERs, it is likely that the slot in the construction itself is associated with adverbial focus. As shown previously, however, *each* can also be postposed from indirect objects or from any nominal modified by a postnominal prepositional phrase. In (81), *each* refers to the indirect object, *everybody,* and projects a distributive contrast between the correct relationship between the indirect and direct objects—that every person gets their own cake—and all other non-maximal interpretations.

(81) she's buying **everybody** <u>a cake</u> **each**

Similarly, the contrast profiled by *each* in (82) highlights that the property assigned in the prepositional phrase, the possession of *four bedrooms*, is maximal with regard to the number

of houses. There are twenty houses, and thus twenty sets of four bedrooms, and this interpretation is inherently contrasted with the alternative proposal that only four bedrooms exist among all twenty houses.

(82) the sale of **twenty houses** with <u>four bedrooms</u> **each**

When the three constructions identified in (80) to (82) are considered in terms of profiled relations, the similarities between the three become apparent. The concept of profiled relations in CxG has been briefly touched on in the Partitive discussion, but important here is the fact that relations are the functional contributions of prepositional and verb phrases to their larger structures (Langacker, 2008). Any given relation has a trajector as well as a landmark that is mapped onto the trajector via the specific relation profiled by either the verb or the preposition. A modifying preposition maps its object (landmark) onto the preceding nominal (trajector), while a transitive verb maps its object (landmark) onto its subject (trajector). Ditransitive verbs instead map the direct object (landmark) onto the indirect object (trajector).

Whether *each* is postposed from a subject, an indirect object, or a nominal and a modifying prepositional phrase, it projects maximal exclusion onto the profiled relation between a trajector and a landmark. It assigns the maximal extension of the trajector onto the landmark and excludes all interpretations of the landmark but the one that is maximal according to its trajector. Thus, while adverbial ERs are actor oriented, and project exclusive contrast by applying the maximal extension of the nominal in the actor role to the total number of possible actors, adverbial *each* is relation-oriented, and projects exclusive contrast by applying the maximal extension of a trajector to its landmark.

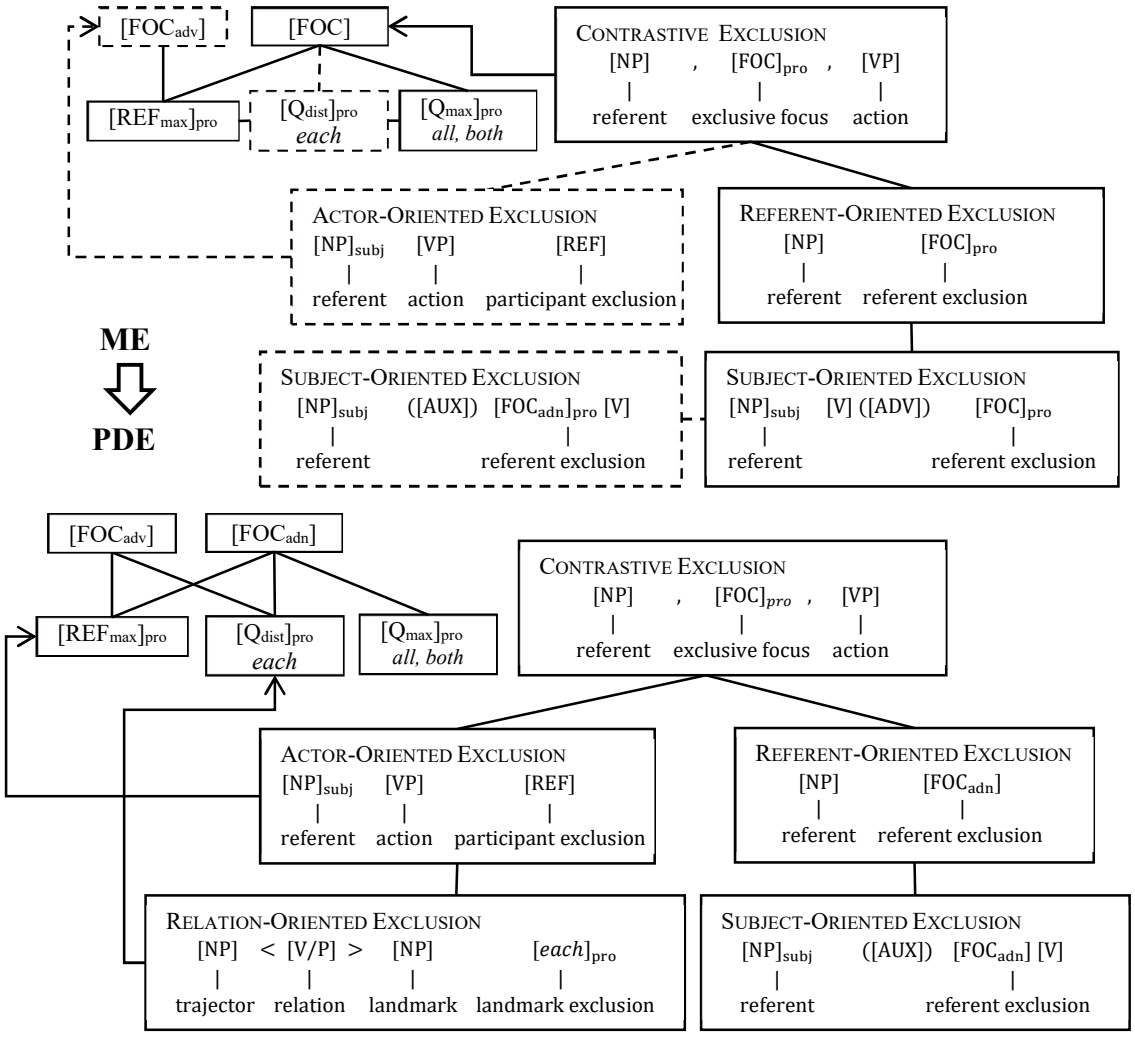
Considering *each* developed its distributive function following the composition of the Paston Letters, as shown in the Pronominal discussion, and that its distributivity is integral to its behavior as a PQ, it is likely that it becoming distributive created a context where speakers began to interpret it as contrastive. Additionally, *all* and *both* occur clause-finally in the letters, *both* occurs once postposed from an object, and there are no clause-final instances of ERs that can be interpreted as adverbial or exhibiting a "without help" meaning. This indicates that the distinction between adverbial and adnominal ERs had not yet been established, and neither the clause-final position nor the ability to occur postposed from objects had been restricted to adverbial focus markers. If this restriction occurred after *each* became acceptable as a PQ, it would have been natural for *each* to retain its adverbial positions while *all* and *both* lost them.

In sum, PQs can be shown to exhibit syntactic and pragmatic links with ERs, supporting the notion that they occur in the postposed and postnominal positions as a result of their ability to project contrastive exclusion. Postnominally and post-auxiliary, both groups provide a subject-oriented contrast; PQs exclude all possible interpretations of the referent in the subject role but the maximal one, while ERs exclude any interpretation in which the maximal referent identified by the nominal in the subject role does not perform the action. Clause-finally, ERs provide an actor-oriented contrast, instead excluding any interpretations that the referent in the subject role is not the sole actor, while *each* provides a relation-oriented contrast, excluding any interpretations of the landmark but the one that is maximal according to the referent in the subject role. This analysis strongly supports the belief held by most CxG and usage-based approaches that lexical categories have gradient boundaries and

are better defined as functional categories where individual lexemes can have dual-category membership. The changes described here are visualized in Figure 19.

**Figure 19**

*Contrastive Exclusion Constructions in the Paston Letters and the British National Corpus*




*Note*. XP—any phrase; FOC—focus marker; Q—quantifier; NP—noun phrase; VP—verb phrase; AUX—auxiliary verb; V—main verb; ADV—adverb; REF—reflexive; adn—adnominal; adv—adverbial; P—preposition; grnd—grounding; max—maximal; pro—pronominal; dist—distributive; subj—subject; obj—object. Angled brackets (<) indicate a profiled relationship between two elements.

**Summary of Functional Analysis**

In this section, the patterns identified in the Data section have been compared against the functional properties of quantifiers and the distributional and functional patterns of other nominal dependents. The first section, on prenominal quantifiers, addressed the second research question of this study:

2. What can the changes to quantifier constructions indicate regarding how quantifiers relate to—and diverge from—typical adjectives and determiners?

The second through fourth sections each addressed a different atypical pattern, with the goal of answering the final two research questions:

3. Can any sources or paths of change be identified in the data that might explain the variation in the syntactic distributions of atypical quantifiers?
4. If not, what other factors can be identified in the data that may have contributed to the distributional patterns of atypical quantifiers in PDE?

Each of these sections focused on a particular position, highlighting the quantifiers that exhibit atypical properties in that position. The second section discussed pronominal quantifiers and the inability for *every* to occur as such; the third section discussed partitive and predeterminer quantifiers, exploring why *all* and *both* occur as predeterminers when no other quantifier can; and the fourth section discussed postposed and postnominal quantifiers and what allows *all, both,* and *each* to occur in these typically adverbial positions.

Wide-scale changes taking place in English during the ME period were found to have triggered a large number of changes that led to the current distribution of quantifiers. Primarily, nearly every PDE construction involving quantifiers was affected by the

increasing reliance on word order following the loss of the case system. Within the noun phrase, the restriction of the determiner slot led to the determiner class emerging as separate from adjectives, which led to relative quantifiers being reanalyzed as determiners while ACQs retained their status as grounding adjectives due to similarities with unbounded adjectives. Additionally, the establishment of the determiner class led to determiners being unable to occur in the partitive; the majority of nominal modifiers left in this position were quantifiers and grounding adjectives that exhibited a quantifying function, and the partitive subsequently became associated with quantification and underwent type expansion to allow for the occurrence of *all* and *little.* With *all* acceptable in the partitive, the predeterminer construction was reanalyzed as being a reduced partitive due to formal and functional links between the two constructions.

The restriction of the noun slot caused nominal dependents to no longer be acceptable pronominally if they did not provide an identifying function. The collective function of *every*, which it developed as a result of synonymity with *each* (which simultaneously developed a distributive function), was not compatible with this new restriction, and it adopted the use of the propword *one* as a pronoun. This use of *one* expanded to non-identifying adjectives and became the default method for adapting non-identifying adjectives to the pronominal requirements.

Finally, the establishment of the PDE auxiliary system led to a shift in the locations of PQs and ERs from primarily the post-verb slot to primarily the post-auxiliary slot. PQs and ERs have been shown to project a contrastive effect on their head nouns, and *each* became associated with PQs after developing a distributive function. At some point, ERs and *each*

developed adverbial meanings and the clause-final position became restricted to adverbial focus markers. *Each* likely then became associated with the object occurring before it, and now it can occur postposed from indirect objects and nominals modified by postnominal prepositional phrases.

A visualization of the total constructional schemas and identified changes between the Paston Letters and the BNC can be seen in Figures 19 and 20. This figure displays all of the same information from Figures 15 through 18 but shows the links between all of the constructions that have been discussed separately thus far.

**Figure 20**
*Network of Quantifier Constructions in Middle English*

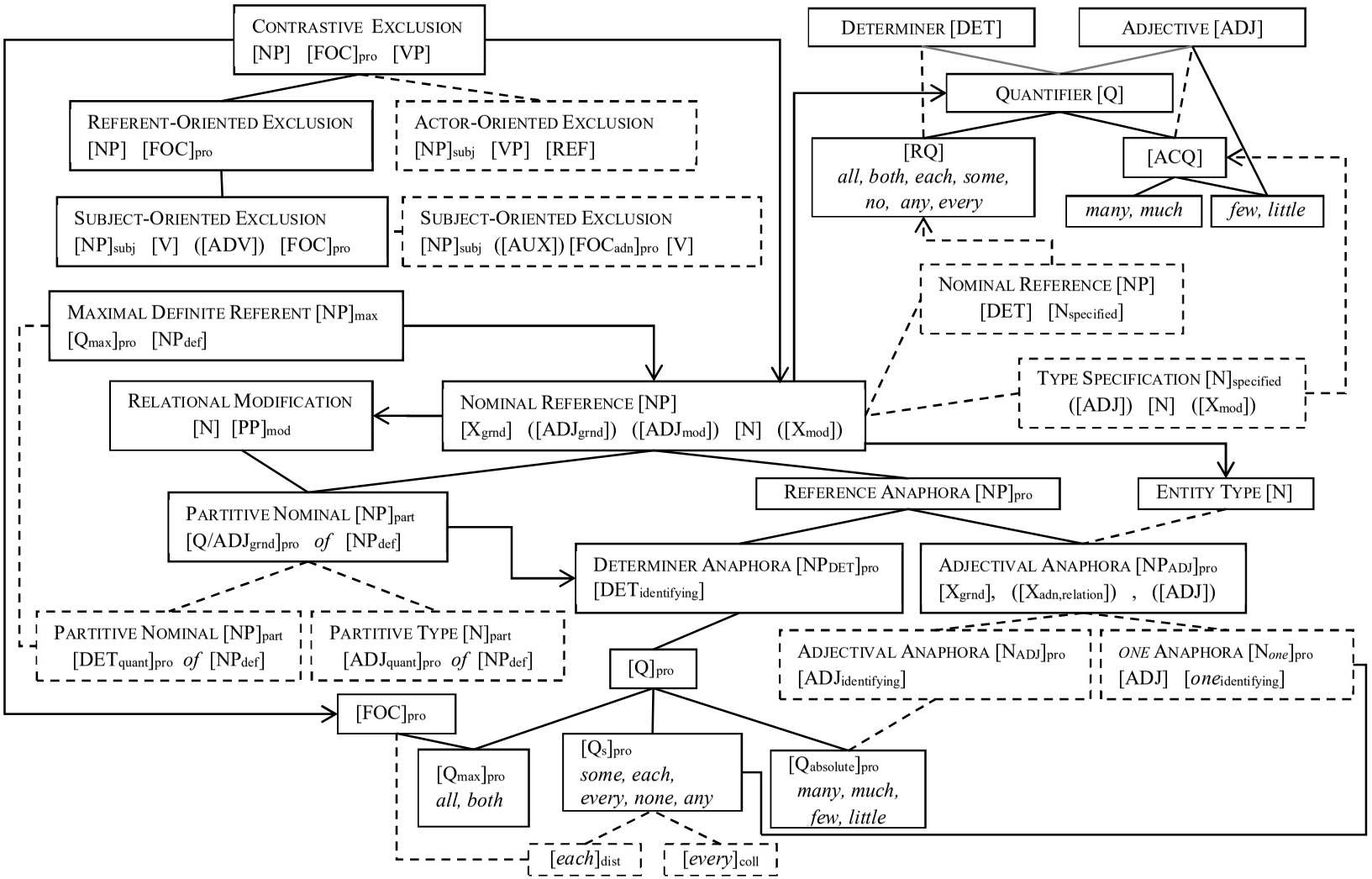
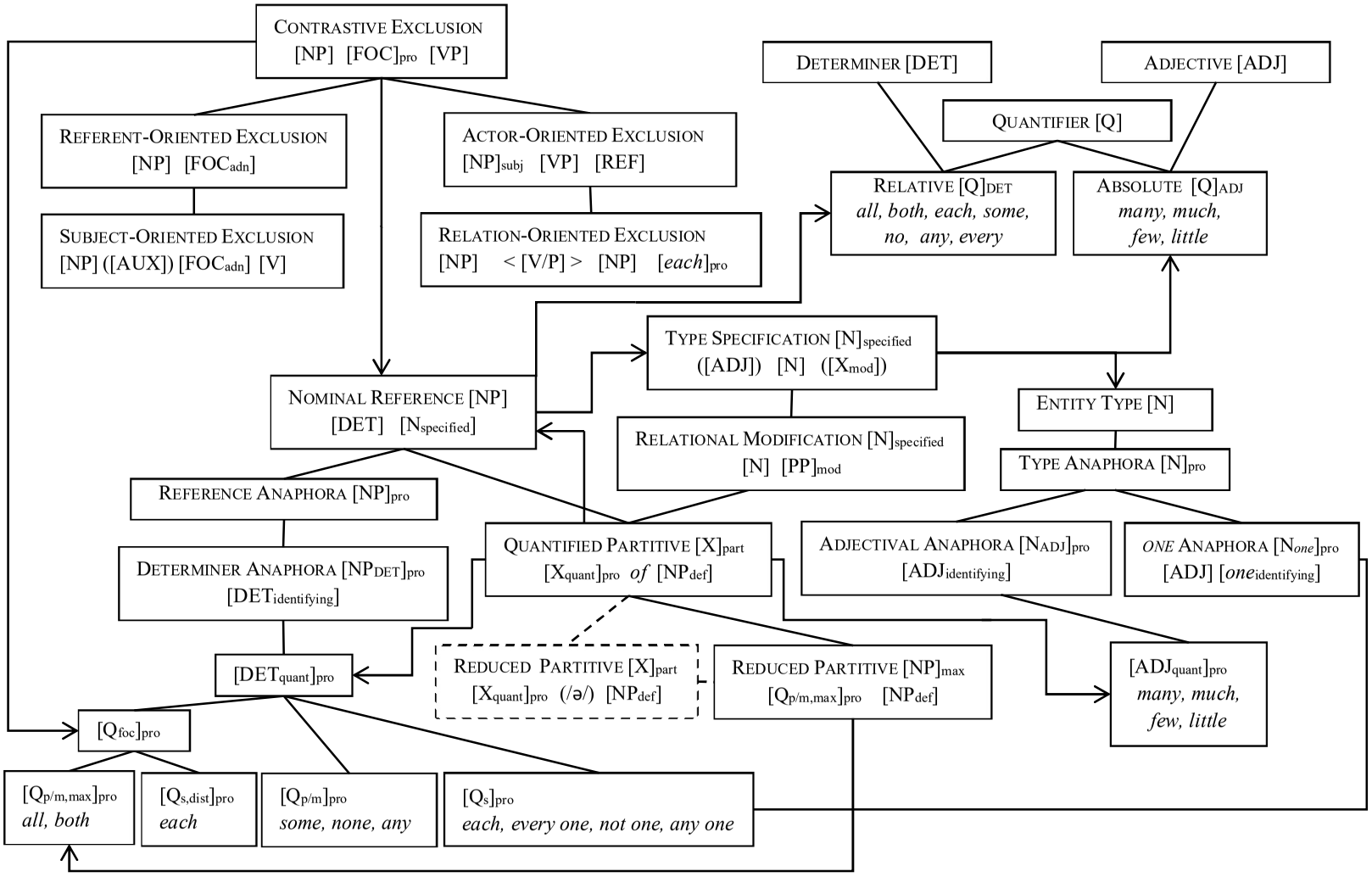


**Figure 21**

*Network of Quantifier Constructions in Present-Day English*



*Note*. X—any element matching the features designated by the subscript; Q—quantifier; RQ—relative quantifier; ACQ—absolute continuous quantifier; ADJ—adjective; ADV—adverb; DET—determiner; NP—noun phrase; VP—verb phrase; AUX—auxiliary verb; V—main verb; REF—reflexive; FOC—focus marker; P—preposition; PP—prepositional phrase; grnd—grounding; quant—quantifying; part—partitive; max—maximal; pro—pronominal; subj—subject; obj—object; s—singular; p/m—plural or mass; def—definite; coll—collective; dist—distributive; adn—adnominal.

## Conclusions and Future Prospects

This analysis has explored the variation exhibited among quantifier constructions from the crucial perspective of why they vary rather than how they vary, seeking explanations for the distinction between determiner-like and adjective-like quantifiers and for the variation exhibited by atypical quantifiers, *every, all, both,* and *each*. Existing research has typically been unable to fully explain these patterns within the context of the whole set of quantifiers; generally, these analyses have been restricted to certain sets of quantifiers or certain behaviors and have not considered how the group as a whole interacts. Proposals based on traditional word-class categories, which tend to assert that quantifiers are either determiners or adjectives, cannot account for the distributional differences between relative and absolute quantifiers, while proposals based on functional categories often disregard syntactic distinctions. *Every*, in particular, has been given very little attention in the literature; it is typically addressed alongside the distinction between *no* and *none* but has otherwise rarely been analyzed in terms of why it cannot occur pronominally. Additionally, there have been accounts of the loss of synonymity between *each* and *every*, but none that discuss how the particular functional extension of *every* as a collective modifier can explain its syntactic restrictions.

Furthermore, neither of the two leading analyses of PQs—those labeling them as floating quantifiers or adverbs—have been able to identify any explanation for their behavior outside of the fact that they occur there at all. The floating analysis relies on transformational rules, which do not apply consistently to PQs, while the adverbial analysis generally attaches arbitrary labels to these quantifiers that motivate their use but cannot be attributed to any

functional properties. I have adopted the base argument of an alternative proposal, that PQs are focus markers akin to ERs, from Shin (2014), primarily as a result of it being the only existing theory that has formal and functional explanations, with syntactic, pragmatic, and prosodic features used to support the relationship between the two. Though the original proposal is primarily theoretical and does not comprise any quantitative analysis, my findings support the notion that the two structures are motivated by the same construction.

The most significant findings identified in this study can be summarized as follows:

1. Relative quantifiers are determiner quantifiers and ACQs are adjective quantifiers; ACQs do provide a grounding function, but as grounding adjectives rather than determiners.
2. *Every* is unable to occur as a pronoun or in the partitive due to the collective manner with which it profiles its referent; this collectivity is incompatible with the requirement for a pronoun to be able to identify a subset of a set.
3. *All* and *both* are able to occur as predeterminers as a result of their being maximal; however, they did not develop this construction as a reduced partitive, as previous studies have proposed, but were interpreted as reduced partitives when *all* became acceptable in the partitive construction and the two structures could be associated with one another.
4. *All, both,* and *each* project a contrastive, exclusionary focus on their referent when occurring in the postnominal and postposed positions. They participate in the same constructional schemas as ERs, with *each* exhibiting additional adverbial focus effects in the clause-final position and when postposed from objects. The distributive

nature of *each* allowed it to develop its use as a PQ and its adverbial contrast alongside ERs.

This analysis favors an interpretation of functional (rather than grammatical) categories that have gradient boundaries and thus contain peripheral members that exhibit features of more than one category. These findings support the notion that form and function are inherently linked, and that synchronic variation can be explained via an analysis of diachronic change. Because this study only focuses on two periods, additional research that corroborates these findings on a larger scale and can identify changes in the intermediate period between the 16th and 20th centuries would provide additional support to these findings. Particularly, an analysis of *each* and *every* developing their distributive and collective functions after the time of the PL—particularly in the context of *every* losing its pronominal acceptability and *each* becoming a PQ—could deepen both the pronominal analysis and PQ analysis. *All* and *each* would benefit from research into their predeterminer and postposed/postnominal functions prior to the 15th century, as they were already established in these positions at the time. Finally, a comprehensive overview of the quantifiers not discussed here—such as phrasal quantifiers (*a few, a lot, a bunch*) and absolute quantized quantifiers (numerals, *several*)—would confirm the extent of these schematic constructions.

Throughout the previous sections, I have identified diachronic, functional explanations for the distinction between determiner and adjective quantifiers and for each of the atypical quantifier patterns in PDE using a CxG-based framework for constructionalization and constructional change. In doing so, I have shown the value that can be added to an analysis when it considers change from a holistic, cross-domain perspective.

## References


Aarts, B. (2011). *Oxford modern English grammar.* Oxford University Press.

Abeille, A., & Godard, D. (2001). A class of "lite" adverbs in French. In J. Camps & C. R. Wiltshire (Eds.), *Romance syntax, semantics and L2 acquisition: Selected papers from the 30th Linguistic Symposium on Romance Languages, Gainesville, Florida, February 2000* (pp. 9–25). John Benjamins Publishing Company. https://doi.org/10.1075/cilt.216.04abe

Ahn, B. T. (2010). *Not just emphatic reflexives themselves: Their syntax, semantics, and prosody* [Master's thesis, the University of California, Los Angeles]. https://www.byronahn.com/pub/Ahn-MA.pdf

Barwise, J., & Cooper, R. (1981). Generalized quantifiers and natural language. *Linguistics and Philosophy*, *4*(2), 159–219. https://doi.org/10.1007/BF00350139

Bergs, A. (2005). *Social networks and historical sociolinguistics: Studies in morphosyntactic variation in the Paston Letters (1421–1503).* De Gruyter Mouton. https://doi.org/10.1515/9783110923223

Brems, L. (2012). The establishment of quantifier constructions for size nouns: A diachronic case study of heap(s) and lot(s). *Journal of Historical Pragmatics*, *13*(2), 202–231. https://doi.org/10.1075/jhp.13.2.02bre

Brodie, B. L. (1985). English adverb placement in generalized phrase structure grammar. *Working Papers in Linguistics*, *31*, 1–63. http://hdl.handle.net/1811/81777

Buchstaller, I., & Traugott, E. C. (2006). The lady was al demonyak: Historical aspects of adverb all. *English Language and Linguistics*, *10*(2), 345–370. https://doi.org/10.1017/S136067430600195X

Bybee, J. L. (2010). *Language, usage and cognition*. Cambridge University Press. https://doi.org/10.1017/CBO9780511750526

Carlson, A. M. (1977). *A diachronic treatment of English quantifiers* [Doctoral dissertation, McGill University]. eScholarship, McGill University Library. https://escholarship.mcgill.ca/concern/theses/dj52w607z

Croft, W. (2001). *Radical construction grammar*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198299554.001.0001

Crystal, D. (1995). *The Cambridge encyclopedia of the English language* (1st ed.). Cambridge University Press.

Davidse, K., & Breban, T. (2019). A cognitive-functional approach to the order of adjectives in the English noun phrase. *Linguistics*, *57*(2), 327–371. https://doi.org/10.1515/ling-2019-0003

Davies, M. (2004). *British national corpus* [Data set]. Oxford University Press. https://www.english-corpora.org/bnc/

Davis, N. (Ed.). (1971). *Paston letters and papers of the fifteenth century.* The Corpus of Middle English Prose and Verse, University of Michigan Library. https://quod.lib.umich.edu/c/cme/Paston

Denison, D. (2006). Category change and gradience in the determiner system. In A. van Kemenade & B. Los (Eds.), *The handbook of the history of English* (pp. 279–304). Blackwell Publishing. https://doi.org/10.1002/9780470757048.ch12

Fillmore, C. J. (1988). The mechanisms of "construction grammar." *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society*, *14*, 35–55. https://doi.org/10.3765/bls.v14i0.1794

Fischer, O., & van der Wurff, W. (2006). Syntax. In R. Hogg & D. Denison (Eds.), *A history of the English language* (pp. 109–198). Cambridge University Press. https://doi.org/10.1017/CBO9780511791154.004

Fried, M. (2013). Principles of constructional change. In T. Hoffmann & G. Trousdale (Eds.), *The Oxford handbook of construction grammar* (pp. 418–437). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195396683.013.0023

Goldberg, A. E. (1995). *Constructions: A construction grammar approach to argument structure*. University of Chicago Press.

Goldberg, A. E. (2005). *Constructions at work*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199268511.001.0001

Goldberg, A. E. (2013). Constructionist approaches. In T. Hoffmann & G. Trousdale (Eds.), *The Oxford handbook of construction grammar* (pp. 14–31). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195396683.013.0002

Hoeksema, J. (1996). Floating quantifiers, partitives and distributivity. In J. Hoeksema (Ed.), *Partitives* (pp. 57–106). De Gruyter Mouton. https://doi.org/10.1515/9783110908985.57

Hoffmann, T. (2017). Construction grammars. In B. Dancygier (Ed.), *The Cambridge handbook of cognitive linguistics* (pp. 310–329). Cambridge University Press. https://doi.org/10.1017/9781316339732.020

Hoffmann, T., & Trousdale, G. (2011). Variation, change and constructions in English. *Cognitive Linguistics*, *22*(1), 1–23. https://doi.org/10.1515/cogl.2011.001

Hoffmann, T., & Trousdale, G. (Eds.). (2013). *The Oxford handbook of construction grammar*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195396683.001.0001

Holme, R. (2015). Someone to open each and every door: Construction grammar as a learner grammar: The case of English indefinite pronouns. *Journal of Social Sciences*, *11*(3), 352–362. https://doi.org/10.3844/jssp.2015.352.362

Ionin, T., Matushansky, O., & Ruys, E. G. (2005, October 28–30). *Parts of speech: Toward a unified semantics for partitives* [Conference session]. 36th Annual Meeting of the North East Linguistics Society, Amherst, MA, United States. https://www.academia.edu/26118953/Parts_of_speech_Toward_a_unified_semantics_for_partitives

Jackendoff, R. (1997). *The architecture of the language faculty*. MIT Press.

Jackendoff, R. (2002). *Foundations of language: Brain, meaning, grammar, evolution*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198270126.001.0001

Kayne, R. S. (1975). *French syntax: The transformational cycle.* MIT Press.

Kayne, R. S. (2007). On the syntax of quantity in English. In J. Bayer, T. Bhattacharya, & M. T. Hany Babu (Eds.), *Linguistic theory and South Asian languages: Essays in honour of K. A. Jayaseelan* (pp. 73–105). John Benjamins Publishing Company. https://doi.org/10.1075/la.102.09kay

Kim, Y. (2019). The syntax of quantifier all: Q-stranding. *Studies in Linguistics*, *50*, 151–169. https://doi.org/10.17002/sil..50.201901.151

Kim, J.-B., & Kim, J.-S. (2009). English floating quantifier constructions: A non-movement approach. *Language and Information*, *13*(1), 57–75. https://doi.org/10.29403/LI.13.1.4

Kim, J.-B., & Michaelis, L. A. (2020). *Syntactic constructions in English*. Cambridge University Press.

Lakoff, G. (1969). On generative semantics. In D. D. Steinberg & L. A. Jakobovits (Eds.), *Semantics: An interdisciplinary reader in philosophy, linguistics, and psychology* (pp. 232–296). Cambridge University Press.

Lakoff, G. (1987). Cognitive models and prototype theory. In U. Neisser (Ed.), *Concepts and conceptual development: Ecological and intellectual factors in categorization* (pp. 63–100). Cambridge University Press.

Langacker, R. W. (1991). *Foundations of cognitive grammar: Vol. 1. Theoretical prerequisites.* Stanford University Press.

Langacker, R. W. (2008). *Cognitive grammar: A basic introduction*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195331967.001.0001

Langacker, R. W. (2016). Nominal grounding and English quantifiers. *Cognitive Linguistic Studies*, *3*(1), 1–31. https://doi.org/10.1075/cogls.3.1.01lan

Lewis, R. E. (Ed.). (2019). *Middle English dictionary* (Online ed.). University of Michigan Press. https://quod.lib.umich.edu/m/middle-english-dictionary/dictionary

Lightfoot, D. W. (1979). *Principles of diachronic syntax*. Cambridge University Press.

Maling, J. M. (1976). Notes on quantifier-postposing. *Linguistic Inquiry*, *7*(4), 708–718. https://www.jstor.org/stable/4177962

Matthewson, L. (2001). Quantification and the nature of crosslinguistic variation. *Natural Language Semantics*, *9*(2), 145–189. https://doi.org/10.1023/A:1012492911285

McArthur, T. (Ed.). (1998). *Concise Oxford companion to the English language* (1st ed.). Oxford University Press.

Moltmann, F. (2003). Nominalizing quantifiers. *Journal of Philosophical Logic*, *32*(5), 445–481. https://doi.org/10.1023/A:1025649423579

Park, B.-S. (1995, February 1). *A constraint-based lexical approach to "floating" quantifiers* [Conference Session]. 10th Pacific Asia Conference on Language, Information and Computation, Hong Kong, China. https://aclanthology.org/Y95-1008.pdf

Postal, P. M. (1974). *On raising: One rule of English grammar and its theoretical implications.* MIT Press.

Radden, G., & Dirven, R. (2007). *Cognitive English grammar*. John Benjamins Publishing Company. https://doi.org/10.1075/clip.2

Sag, I. A., & Fodor, J. D. (1995). Extraction without traces. In R. Aranovich, W. Byrne, S. Preuss, & M. Senturia (Eds.), *WCCFL 13: The proceedings of the Thirteenth West Coast Conference on Formal Linguistics* (pp. 365–384). CSLI Publications.

Shin, K. Y. (2014). English floating quantifiers as intensifiers. *English Language and Literature 21*, *27*(4), 373–393. https://doi.org/10.35771/ENGDOI.2014.27.4.017

Shin, K. Y. (2016). Quantifiers in English partitives. *Natural Language & Linguistic Theory*, *34*(4), 1493–1508. https://doi.org/10.1007/s11049-016-9330-3

Sommerer, L., & Hofmann, K. (2021). Constructional competition and network reconfiguration: Investigating sum(e) in Old, Middle and Early Modern English. *English Language & Linguistics*, *25*(1), 1–33. https://doi.org/10.1017/S136067431900039X

Spamer, J. B. (1979). The development of the definite article in English: A case study of syntactic change. *Glossa*, *13*(2), 241–250.

Sportiche, D. (1988). A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry*, *19*(3), 425–449. https://www.jstor.org/stable/25164903

Storoshenko, D. R. (2011, May 28–30). *Distribution and analysis of adverbial emphatic reflexives in English* [Conference session]. The 2011 Annual Conference of the Canadian Linguistic Association, Fredericton, New Brunswick, Canada. https://cla-acl.ca/pdfs/actes-2011/Storoshenko_2011.pdf

Tiskin, D. (2016). Negative floating quantifiers: Underestimated evidence for the stranding analysis? *Proceedings of the International Conference "Typology of Morphosyntactic Parameters*," *3*, 313–325. https://www.academia.edu/31100071/Negative_Floating_Quantifiers_Underestimated_Evidence_for_the_Stranding_Analysis

Traugott, E. C. (2003). Constructions in grammaticalization. In B. D. Joseph & R. D. Janda (Eds.), *The handbook of historical linguistics* (Vol. 1, pp. 624–647). Blackwell Publishing. https://doi.org/10.1002/9780470756393.ch20

Traugott, E. C. (2008). Grammaticalization, constructions and the incremental development of language: Suggestions from the development of degree modifiers in English. In R. Eckardt, G. Jäger, & T. Veenstra (Eds.), *Variation, selection, development: Probing the evolutionary model of language change* (pp. 219–252). De Gruyter Mouton. https://doi.org/10.1515/9783110205398.3.219

Traugott, E. C. (2014). Toward a constructional framework for research on language change. *Cognitive Linguistic Studies*, *1*(1), 3–21. https://doi.org/10.1075/cogls.1.1.01tra

Traugott, E. C., & Trousdale, G. (2013). *Constructionalization and constructional changes*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199679898.001.0001

Yeager, D. (1993). The position of quantifiers in Old English nominals. *Cornell Working Papers in Linguistics*, *11*, 179–212. https://linguistics.cornell.edu/sites/linguistics/files/volume11_fall_1993.pdf

Yoo, E.-J. (2002). A lexical approach to English floating quantifiers. *Proceedings of the Twenty-Eighth Annual Meeting of the Berkeley Linguistics Society*, *28*, 351–362. https://doi.org/10.3765/bls.v28i1.3850

Yoon-kyoung, J. (2011). Two types of floated quantifiers. *The Jungang Journal of English Language and Literature*, *53*(1), 363–384. https://doi.org/10.18853/JJELL.2011.53.1.017

# Appendix
## Total Data from the Paston Letters and the British National Corpus

**THE PASTON LETTERS**

| | PRENOMINAL | | | PRONOMINAL | | | PARTITIVE | | | PREDETERMINER | | | POSTNOMINAL | | | POSTPOSED | | | Q TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | % |
| **ALL** | **332** | *35.7* | *17.2* | **84** | *9.0* | *22.1* | **-** | *-* | *-* | **460** | *49.5* | *97.0* | **41** | *4.4* | *54.7* | **12** | *1.3* | *63.2* | **929** | ***30.2*** |
| **BOTH** | **18** | *20.9* | *0.9* | **13** | *15.1* | *3.4* | **2** | *2.3* | *1.0* | **13** | *15.1* | *2.7* | **33** | *38.5* | *44.0* | **7** | *9.5* | *36.8* | **86** | ***2.8*** |
| **+DET** | 4 | *22.2* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 4 | *4.7* |
| **EACH** | **15** | *28.8* | *0.8* | **6** | *11.5* | *1.6* | **31** | *59.6* | *15.8* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **52** | ***1.7*** |
| **EVERY** | **86** | *88.7* | *4.5* | **1** | *1.0* | *0.3* | **10** | *10.3* | *5.1* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **97** | ***3.2*** |
| **ANY** | **501** | *83.6* | *26.0* | **23** | *3.8* | *6.1* | **74** | *12.4* | *37.8* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **598** | ***19.5*** |
| **NO** | **526** | *100* | *27.3* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **526** | ***17.1*** |
| **NONE** | **172** | *58.9* | *8.9* | **87** | *29.8* | *22.9* | **32** | *11.0* | *16.3* | **1** | *0.3* | *0.2* | **-** | *-* | *-* | **-** | *-* | *-* | **292** | ***9.5*** |
| **SOME** | **185** | *49.7* | *3.9* | **56** | *21.5* | *14.7* | **20** | *7.7* | *10.2* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **151** | ***4.9*** |
| **MANY** | **104** | *73.8* | *5.4* | **19** | *13.5* | *5.0* | **16** | *11.3* | *8.2* | **-** | *-* | *-* | **1** | *0.7* | *1.3* | **-** | *-* | *-* | **141** | ***4.6*** |
| **+INT** | 26 | *25.0* | *-* | 12 | *63.2* | *-* | 4 | *25.0* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 42 | *29.8* |
| **MUCH** | **63** | *45.3* | *3.3* | **69** | *49.6* | *18.2* | **7** | *5.0* | *3.6* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **139** | ***4.5*** |
| **+INT** | 32 | *50.8* | *-* | 54 | *78.3* | *-* | 4 | *57.1* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | | *-* | *-* | 90 | *64.7* |
| **FEW** | **10** | *43.5* | *0.5* | **8** | *34.8* | *2.1* | **4** | *17.4* | *2.0* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **23** | ***0.7*** |
| **+INT** | - | - | - | 1 | *12.5* | *-* | 1 | *25.0* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | | *-* | *-* | 2 | *8.7* |
| **+DET** | 2 | *4.0* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 2 | *8.7* |
| **LITTLE** | **25** | *64.1* | *1.3* | **14** | *35.9* | *3.7* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **39** | ***1.3*** |
| **+INT** | 6 | *24.0* | *-* | 9 | *64.3* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 15 | *38.5* |
| **+DET** | 1 | *4.0* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 1 | *2.6* |
| **P TOTAL** | **1926** | | | **380** | | | **196** | | | **474** | | | **75** | | | **19** | | | **3073** | |

**THE BRITISH NATIONAL CORPUS**

| | PRENOM | | | PRONOM | | | PART | | | PREDET | | | POSTNOM | | | POSTP | | | Q TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | %Q | %P | # | % |
| **ALL** | **2926** | *11.3* | *7.1* | **3464** | *13.3* | *35.3* | **1149** | *4.4* | *16.1* | **10902** | *41.9* | *99.1* | **4551** | *17.5* | *92.0* | **3013** | *11.6* | *83.5* | **26005** | ***33.5*** |
| **BOTH** | **508** | *27.0* | *1.2* | **290** | *15.4* | *3.0* | **259** | *13.8* | *3.6* | **83** | *4.4* | *0.8* | **368** | *19.6* | *7.4* | **360** | *19.1* | *10.0* | **1882** | ***2.4*** |
| **+DET** | 11 | *2.2* | *-* | 3 | *1.0* | *-* | 13 | *5.0* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 27 | *1.4* |
| **EACH** | **1523** | *72.0* | *3.7* | **125** | *5.9* | *1.3* | **206** | *9.7* | *2.9* | **-** | *-* | *-* | **27** | *1.3* | *0.5* | **234** | *11.1* | *6.5* | **2115** | ***2.7*** |
| **EVERY** | **3160** | *99.9* | *7.7* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **3160** | ***4.1*** |
| **+DET** | **1** | *0.03* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 1 | ***.03*** |
| **ANY** | **8715** | *83.9* | *21.2* | **748** | *7.2* | *7.6* | **917** | *8.8* | *12.8* | **6** | *0.06* | *0.1* | **-** | *-* | *-* | **-** | *-* | *-* | **10386** | ***13.4*** |
| **NO** | **8673** | *100* | *21.1* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **8673** | ***11.2*** |
| **NONE** | **-** | *-* | *-* | **315** | *45.0* | *3.2* | **385** | *55.0* | *5.4* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **700** | ***0.9*** |
| **SOME** | **7837** | *61.6* | *19.1* | **1519** | *11.9* | *15.5* | **3358** | *26.4* | *47.0* | **10** | *0.08* | *0.1* | **-** | *-* | *-* | **-** | *-* | *-* | **12724** | ***16.4*** |
| **MANY** | **5473** | *78.7* | *13.3* | **915** | *13.2* | *9.3* | **564** | *8.1* | *7.9* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **6958** | ***9.0*** |
| **+INT** | 3109 | *56.8* | *-* | 754 | *82.4* | *-* | 222 | *39.4* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 4090 | *58.8* |
| **+DET** | 66 | *1.2* | *-* | 5 | *0.5* | *-* | 3 | *0.5* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 74 | *1.1* |
| **MUCH** | **1595** | *39.2* | *3.9* | **2200** | *54.1* | *22.4* | **274** | *6.7* | *3.8* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **4070** | ***5.2*** |
| **+INT** | 1121 | *70.3* | *-* | 1888 | *85.8* | *-* | 129 | *47.1* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 3138 | *77.1* |
| **FEW** | **517** | *80.8* | *1.3* | **91** | *14.2* | *0.9* | **29** | *4.5* | *0.4* | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **640** | ***0.8*** |
| **+INT** | 101 | *19.5* | *-* | 60 | *65.9* | *-* | 17 | *58.6* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 178 | *27.8* |
| **+DET** | 308 | *59.6* | *-* | 23 | *25.3* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 331 | *51.7* |
| **LITTLE** | **146** | *47.1* | *0.4* | **154** | *49.7* | *1.6* | **8** | *2.6* | 0.1 | **-** | *-* | *-* | **-** | *-* | *-* | **-** | *-* | *-* | **310** | ***0.4*** |
| **+INT** | 105 | *71.9* | *-* | 131 | *85.1* | *-* | 5 | *62.5* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 241 | *77.7* |
| **+DET** | 4 | *2.7* | *-* | 2 | *1.3* | *-* | 2 | *25.0* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | *-* | 8 | *2.6* |
| **P TOTAL** | **41073** | | | **9819** | | | **7149** | | | **11001** | | | **4946** | | | **3607** | | | **77623** | |

*Note.* PRENOM—prenominal; PRONOM—pronominal; PART—partitive; PREDET—predeterminer; POSTNOM—postnominal; POSTP—postposed; Q TOTAL—total number of each quantifier; P TOTAL—total number in each position; #—token count in position per quantifier; %Q—percent of # in Q TOTAL; %P—percent of # in P TOTAL; +DET—postdeterminer; +INT—intensified. %Q in +DET and +INT rows (shaded) is percent postdeterminer/intensified in position per quantifier.