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(出版者 / Publisher)

法政大学文学部

(雑誌名 / Journal or Publication Title)

Bulletin of the Faculty of Letters, Hosei University / 法政大学文学部紀要

(巻 / Volume)

75

(開始ページ / Start Page)

73

(終了ページ / End Page)

85

(発行年 / Year)

2017-09-30

(URL)

<https://doi.org/10.15002/00014326>

# Grammaticalization as Space Creation: A New View of Grammaticalization

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## Abstract

In this paper, I discuss the emergence of articles, *the* and *a/an*, in the history of English. The indefinite article *a/an* appeared later than the definite article *the* in English. This phenomenon is also to be observed in other languages (Abraham 1997, Lyons 1999). Furthermore, there are marked asymmetries between the definite and indefinite articles in terms of both semantics and distribution (Christophersen 1939, Lyons 1999, Crisma 2011, Dryer and Haspelmath 2013). Here I try to elucidate the reasons for these asymmetries.

The articles *the* and *a/an* are believed to have developed from the Old English demonstrative *se/seo* and the numeral *an* 'one' (cf. Sommerer 2011). This is an instantiation of grammaticalization (Hopper and Traugott 2003). I assume that a syntactic determiner system, DP (Abney 1987), was absent in Old English.

Based on an examination of *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE), and *The Penn-Helsinki Parsed Corpus of Middle English, Phase II* (PPCME 2), I claim that *se/seo* contributed to this grammaticalization (primary grammaticalization), while *an* was grammaticalized as a result of this primary grammaticalization.

In my hypothesis, grammaticalization means creating a functional space in a given structure. In this case, a space has been established before a noun in a nominal structure. Therefore, although depending on the properties of nominals, the use of determiners has become obligatory in Present-day English (cf. Gelderen 1993, 2000). *Se/seo* contributed to the creation of this space, while *an* was later grammaticalized in the determiner space created by *se/seo*. Hence, the time difference in their appearance can be accounted for in this way.

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## Chapter 1 Introduction

The grammaticalization process I will discuss in this paper is the development of a determiner system, i.e. the emergence and establishment of a functional DP in the history of English. The articles *the* and *a/an* are believed to have developed from the Old English demonstrative *se/seo* and the numeral *an* 'one' (cf. Sommerer 2011). This is an instantiation of grammaticalization (Hopper and Traugott 2003). Following Gelderen (1993), Abraham (1997), Philippi (1997), I assume that Old English had no obligatory functional determiner system DP, unlike Present-day English, and the DP emerged in the Middle English period and became established by around 1400.

In Present-day English, there are two articles, definite *the* and indefinite *a/an*. There are marked asymmetries between the definite and indefinite articles in terms of semantics,

distribution and diachrony. In this paper, I will discuss why there are such asymmetries between the two articles. I especially try to answer the question of why the indefinite article appeared later than the definite article. It is widely known that the indefinite article *a/an* appeared later than the definite article *the* in the history of English. This phenomenon also occurred in other languages (Abraham 1997, Lyons 1999).

My main claims are:

- ① the indefinite article *a/an* as a D(eterminer)-head appeared later than the definite article *the* as a D head in English because the appearance of the indefinite article is a side-effect of the emergence of the definite article *the* as a D head.
- ② the precursor of the indefinite article *a/an*, namely, the Old English numeral *an* 'one' did not contribute much to the grammaticalization of a determiner system, while the ancestors of *the*, i.e. Old English *se/seo*, did.

Trying to answer these questions, I will make an important suggestion as to the nature of grammaticalization.

The outline of this paper is as follows: in Chapter 2 I will summarize the asymmetries between the definite and indefinite articles; in Chapter 3 I will discuss the absence of a DP in Old English and the emergence of a D system; in Chapter 4 I will discuss the rise of the indefinite article; in Chapter 5, I conclude my discussion.

## Chapter 2 Asymmetries between definite and indefinite articles

### 2.1. Quantitative aspect

There is a marked asymmetry between definite and indefinite determiners. The first aspect of this asymmetry is the quantitative fact that languages may have a definite, but not an indefinite article. According to *The World Atlas of Language Structures Online* (Dryer and Haspelmath 2013), the number of languages which have a definite word distinct from demonstratives, is 216, while 102 languages have an indefinite word distinct from 'one' (i.e. numeral). The number of languages which have both distinct definite and indefinite articles is 55, while the number of languages which have neither definite nor indefinite articles is 198. For example, Russian, Hindi, Urdu, Japanese, Korean, Czech, Finnish, Polish, etc. lack both types.

The number of languages which have no indefinite, but a definite article is 98, while the number of languages which have no definite, but an indefinite article is 45. For example, Irish has only a definite article and the absence of the definite article signifies that a given noun phrase is indefinite.

The presence of 45 languages which have only indefinite articles may be a counter-example to my subsequent claim. However, in 20 of them, the indefinite article is the same word as 'one', that is, the numeral *one* is used as the indefinite article. An article means a D head of the syntactic category DP, which is heading its own syntactic projection in the nominal structure; the

**Table 1**

Definite article distinct from demonstrative	216
Indefinite article distinct from 'one'	102
Definite article and Indefinite article distinct from 'one'	55
No Definite or Indefinite article	198
No Definite but Indefinite article	45
No Indefinite but Definite article	98

(Source: Matthew S Dryer. 2013. Definite Articles, Indefinite Articles. *The WALS Online*)

numeral is excluded.

*The WALS Online* counts Japanese as a language which has no definite but an indefinite article distinct from the numeral *one*. However, as many researchers have commented on *The WALS Online*, Japanese has no articles, neither definite nor indefinite. 'Aru' (=a certain) is not an article.

Whether DP is present or not in a given language should be decided based on syntactic criteria such as reflexive binding. Some of languages which are judged to have articles on *The WALS Online* might have no articles. Hence, if that is the case, the actual number of languages which have articles is lower than that.

The data from *The WALS Online* has shown that there is a striking difference in the distribution of definite and indefinite articles in the world's languages. The definite determiner is more widely spread than the indefinite determiner. Indeed, languages which lack both definite and indefinite determiners are common.

## 2.2. semantic aspect

Here I will discuss the asymmetry between the definite and indefinite articles from a different aspect, i.e. the semantic one. I raise a very fundamental question of what semantic content the Present-day English indefinite article, *a/an*, has. The expected answer is that the indefinite determiner implies 'indefiniteness', or more specifically, it makes indefinite the noun phrase with the determiner.

However, noun phrases which do not contain the indefinite determiner also denote indefiniteness:

(1) I bought three books this morning. (Lyons 1999: 33)

Where does this indefinite reading come from? Does the numeral *three* convey the indefinite reading? As shown in (2), numerals can co-occur with definite determiners:

(2) Pass me those three books. (Lyons 1999: 33)

If such is the case, numerals may be supposed to be neutral with respect to (in)definiteness (cf. Lyons 1999: 33). A plausible answer is that the absence of the definite article can give an

indefinite reading. What role does the indefinite article play, then, if a noun phrase without it can convey an indefinite reading? It is not implausible to claim that the indefinite article *a/an* has no inherent meaning except 'one' and does not play much of a role in the Present-day English determiner system.

Of course, it is not that the indefinite article has no function at all. It signifies that a given noun is a countable singular noun, and is thus a marker of countability. However, this function could be taken care of by the numeral *one*. Nevertheless, why is the definite article *a/an* required although in a limited context (i.e. in a singular count noun phrase) ?

My next question concerns the nature of this "indefiniteness". Previous research has mainly focused on the discussion of definiteness and there is not much discussion on the nature of indefiniteness. If we assume that the definite determiner signifies the feature [+Def], it follows that the indefinite determiner *a/an* encodes the feature [-Def]. But, what does this mean?

This only means that a given noun (phrase) is not definite. But, as touched upon above, the 'not definite' reading can be conveyed by other means such as the absence of any definite determiner. For example, Irish has no indefinite article and the absence of the definite article signifies that a given noun phrase is indefinite.

Based on these facts, we must ask what the *raison d'être* of the indefinite determiner *a/an* is. Compared with the definite determiner, its role in the Present-day English determiner system is obscure.

I suggest, albeit tentatively, that the indefinite article in Present-day English has only the feature [+Sg] ('singular'). Since this feature can be signified by other means, i.e. by *one*. The indefinite article makes less of a semantic contribution than the definite article *the*.

### 2.3. Diachronic aspect

In this section, I will discuss the asymmetry in the emergence of the definite and indefinite articles. It is widely known that the indefinite article *a/an* appeared later than the definite article *the* in the history of English. Again this is a phenomenon to be observed in the case of other languages. For example, in German the definite article emerged noticeably earlier than the indefinite article (Abraham 1997: 59).

Going further back to the earlier days of the Indo-European languages, we find that ancient Greek (around the 9th to 4th centuries BC) did not have articles; instead, it had demonstrative pronouns (Smyth 1920: 284). While Modern Greek has definite articles which developed from weakened demonstrative pronouns, it has no indefinite articles. Vincent (1997: 149-169) argues that functional categories like D, C and I, which are amply instantiated in all the modern Romance languages, play a limited role or are simply absent in Latin. Since neither articles nor clitic pronouns are attested in Latin, it follows that they emerged later in the Romance languages.

What about languages other than the Germanic and the Romance languages? It is very difficult to exhaust all languages of the world, but typological studies point out a general tendency for a D-system to emerge later. Greenberg (1978, 1981) proposes the following sequence for the evolution of definite articles:

(3) no articles → anaphoric demonstratives → definite articles

All in all, we can safely say that languages have acquired their syntactic determiner system in the order of definite and indefinite determiners cross-linguistically. That is, a definite determiner goes first, and an indefinite determiner follows. In this way, there is a clear gap in the time of their appearance. Nevertheless, neither the reason for this asymmetrical emergence nor the relation between the developments of the two determiners has been discussed much by researchers, in spite of the fact that the emergence of definite articles has been repeatedly argued. Is this a single change or two distinct processes?

### **Chapter 3 Grammaticalization of a determiner system: the emergence of a D system in English**

#### **3.1. No DPs in Old English**

As touched upon above, I assume that Old English had no obligatory functional determiner system DP, unlike Present day English, and that the DP emerged in the Middle English period and became established by around 1400. The possible counter-argument against this claim is that there were two demonstratives, namely *se* (*seo/pæt*), and *þes* (*þis/þeos*), which functioned somewhat like determiners. Can these words be a functional D? We must be careful when we decide whether some lexical item in a given language qualifies as functional category or not. As Abney (1987: 64f.) argues, the nature of functional categories is multi-faceted; functional elements are generally phonologically and morphologically dependent; functional elements are usually inseparable from their complements; functional elements lack descriptive content; the semantic contribution is second-order, etc. However, none of these properties are crucial in deciding whether an element is lexical or functional. Each of these properties constitutes a tendency. Not all of these properties need to be shared by all functional categories. Therefore, I would like to suggest, in addition to the fore-mentioned properties, that the presence of syntactic effects which are dependent on the presence of a relevant functional category in a given language is crucial (cf. Abney, Osawa 2000, 2009).

When we judge whether a certain lexical item is a functional category or a lexical category, the judgment must be made syntactically, not semantically. As Philippi (1997: 62) discusses, even if “we find in all these (Germanic) languages demonstratives used in a way similar to the article of the modern Germanic languages, we cannot label them as articles, the latter (i.e. articles) acting as obligatory definiteness markers in modern Germanic languages.” A functional D is syntactically required in some nominal structures in Present day English.

With these things in mind, I will show that there is no evidence suggesting the presence of a DP in Old English.

In Old English, we can find examples of bare NPs in which determiners would be required in Present-day English.

- (4) Her Martianus and Valentinus on-fengon rice  
 here Mauricius -nom. and Valentinian-nom. seized kingdom-acc.  
 (AS. Chronicle Parker MS, from Sweet 1953: 73)  
 'At this point Mauricius and Valentinian seized the kingdom'

In (4), *rice* 'kingdom' usually would need a determiner in Present-day English.

As mentioned above, functional elements often cannot occur independently of their complements and they are generally phonologically and morphologically dependent in Present-day English.

- (5) a. I saw the/a\* (boy).  
 b. \*The is a great king.

However, demonstratives in Old English were not dependent on the noun or nominal elements, but were independent lexical elements. The evidence to show this comes from the fact that they were used as demonstrative pronouns without the company of nominals as in (6), or as an antecedent to a relative, meaning *that (man) that, he that* etc.:

- (6) a. þæt wæs god cyning!  
 that was good king-nom.  
 'that was a good king' (Beowulf 11)

A more decisive piece of evidence for the absence of a DP comes from the fact that the syntactic phenomena involving a DP are not observed in Old English texts. I would like to point out the absence of reflexive binding in Old English. In Old English, personal pronouns were used as anaphors and consequently, the meaning of the sentence "He killed him" was indeterminate whether the object referred to is the subject or not. Since a D-system is the locus of binding properties of nominals and pronouns, this absence follows if we assume the lack of a D-system in Old English.

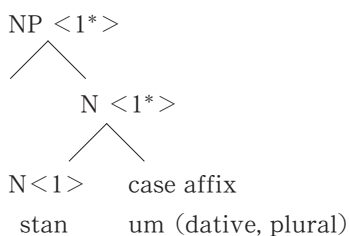
One question which arises here is how the task of identifying the referentiality of a nominal is done in Old English without DPs, if we assume that the task of a D is denoting a particular entity NP in the discourse and consequently changing predicative NPs into referential argument DPs (cf. Higginbotham 1985). 'Referential' means that a particular entity is pinned down in the real world. According to Higginbotham (1985), a simple noun like *book* has an open place in it and so denotes each of the various books. This open place is a referential argument in the argument structure of the word *book*, which is called "Referential role". This position must be bound for an NP to be an argument:

- (7) a. John is champion.  
 b. \*I met champion yesterday.

As shown above, NPs like *champion* cannot occur in argument positions such as subject and object positions of predicative verbs, since NPs are inherently predicative and hence cannot occur in argument positions. That is, a nominal must be specified as either definite or indefinite for interpretation.

In the absence of a D-system, the task of identifying the referentiality of a nominal is taken care of by morphological case on head nouns in Old English. Case affixes attached to head nouns can bind the Referential role.

(8) Old English: stan 'stone' stan-um 'stones' (dative plural)



(Osawa 2000: 63)

That is, nouns can become arguments of predicates if they are case-marked in Old English. What made this possible is the lexical-thematic nature of Old English and its thematically motivated case system. The lexical-thematic nature means that all constituents in a given language belong to lexical categories (i.e. NP, VP, AP), and all sister constituents are thematically inter-related. Functional categories such as DP, CP, or TP do not exist or are developed only limitedly in such a language. One instantiation of this nature is a morpho-semantic case system.

In Old English, morphological case was assigned to a thematically related NP. Morphological case was closely related to the thematic roles of nouns. In Present-day English the thematic role of subject of the verb like *undergo*, meaning 'to bear', 'to suffer', is not Agent, but Patient. Still, the subject of the verb *undergo* can be assigned nominative case. Like this, there is no motivated relation between thematic roles and syntactic cases in Present-day English. There may be a many-to-many relationship between structural cases and thematic roles. Whatever its thematic role is, Agent, Patient, or Experiencer, nominative case can be assigned to the subject. However, in a lexical-thematic language like Old English, morphological case was assigned to a thematically related NP. See Plank (1981, 1983) for further details of this kind of case system.

Under this case system, a constituent is licensed to occur in a given argument position only if it is assigned an appropriate theta role. Nouns can become arguments by theta role assignment only, and theta roles are expressed in the form of morphological case: morphological case marking is sufficient for a NP to be an argument.

It is true that it is difficult to prove that Old English was purely lexical-thematic based on available Old English texts. Still, the observed facts strongly suggest that there was a motivated correlation between theta roles and morphological case in early English.



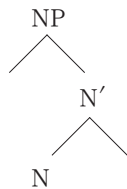
### 3.2. The demise of morphological case and the introduction of DPs

The leveling of inflectional endings had already begun in Old English, and by the early Middle English period many Old English inflectional distinctions were lost. Morphological case could not perform the task of identifying the Referential role of nouns and turning them into arguments any more. The thematically motivated case system decayed and, subsequently a functional D-system developed to do the same job in English. The demise of morphological case had already progressed to a considerable extent during the Middle English period.

The Old English demonstrative *se* (the masculine nominative, singular form) was replaced by the form *þe* around 950. The nominative masculine *se* and feminine *seo* had become *þe* in most regions of England by 1300. This new form *þe* came to be used as an invariable definite article *the* about 1400.

(9) a. the structure of an NP

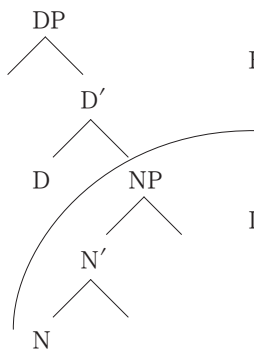
Old English



lexical domain

b. the structure of a DP

after late Middle English



Functional domain

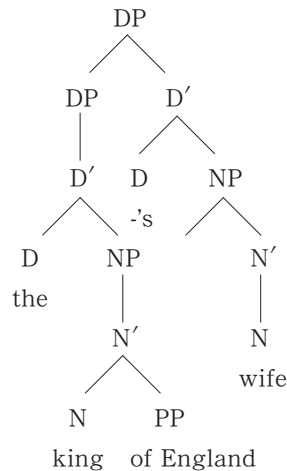
Lexical domain

As shown above, in Old English, a nominal phrase is an NP, a projection of a noun, which constitutes lexical categories only. After Middle English, one more projection has appeared over the lexical NP domain over time. This new projection is a DP where the functional category D is its head.

Thanks to the emergent D, new nominal constructions were made possible. For example, group genitive constructions such as *the king of England's wife*, which are not attested in Old English, were established as such around the middle of the 15th century.

The structure of a group genitive construction is as follows:

(10)



Group genitives are not possible without a D-system, since in this construction another DP (i.e. *the king of England* above) occurs in [Spec, DP] position. If we assume that the genitive form was reanalyzed as a D-head, we can easily explain this innovation. See Osawa (2007) for further details.

## Chapter 4 The emergence of the indefinite article *a/an* in English

In the previous chapter, I discussed the emergence of the definite article, *the* in the Middle English period. In this chapter, I discuss the emergence of the indefinite article *a/an*, and try to answer the question of why the indefinite article appeared later than the definite article.

### 4.1. The prior studies

There are few previous studies examining the emergence of indefinite articles. Among them, Hopper and Traugott (2003) explain the development of the indefinite determiner, as an instance of divergence:

“When a lexical form undergoes grammaticalization to a clitic or affix, the original lexical form may remain as an autonomous element and undergo the same changes as ordinary lexical items. This characteristic of ‘divergence’ is a natural outcome of the process of grammaticalization” (Hopper and Traugott 2003: 118, 119).

So, Present-day English *a/an* diverged from Old English *an* and has become an indefinite article, while the Old English *an*, the original form, has remained as an autonomous element until now. Divergence may be a correct description of what happened in English, but, the question of time gap of their appearance is not well answered.

Based on the previous observations and data from *The WALS Online*, I propose the following hypothesis:

Hypothesis I:

The emergence of DPs was initiated by the ancestors of *the*, i.e. *se/seo*. The ancestor of the indefinite article *a/an*, the numeral *an*, did not contribute to this process of grammaticalization. Rather, the reason of its later emergence is that the rise of the indefinite article is parasitic on the presence of the definite article. The definite article emerged first: this is the primary grammaticalization and the indefinite article appeared due to the establishment of the definite article *the*.

Based on the examination of *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE), I claim that *se/seo* contributed to this grammaticalization, while *an* did not make much contribution to this process. Throughout the YCOE, the frequency of the numeral *an* is very low:

In order to examine the different degree of the two precursors' contribution to the grammaticalization, I have examined the frequency of *se/seo* and *an* in the YCOE corpus. The examples involving the *se/seo* are collected according to the two types:

- Type I a: [se+NP]
- Type I b: [se+Adj+NP]
- Type II a: [seo+NP]
- Type II b: [seo+Adj+NP]

The result of the frequency of these types in the YCOE is in Table 2:

**Table 2**

Type I a	se+NP	4970
Type I b	se+Adj+ NP	811
Type II a	seo+NP	1175
Type II b	seo+Adj+NP	176

**Table 3 the frequency of a numeral *an* in the YCOE.**

an+NP	507
an+Adj+NP	59

The result is summarized as follows:

Noun phrases using *se/seo* vs. noun phrases using *an*  
 93% vs. 7%

Although in the PPCME 2 (i.e. Middle English), the frequency of the descendants of the numeral *an* is increasing, it is still outnumbered by the descendants of *se/seo*.

How is the frequency involved in the grammaticalization process? Hopper and Traugott (2003: 129) argue that “diachronic studies of frequency start from the assumption that increased

frequency of a construction over time is *prima facie* evidence of grammaticalization. The more frequently a form occurs in texts, the more grammatical it is assumed to be. Frequency demonstrates a kind of generalization in use pattern.”

Put simply, frequency is an important factor in grammaticalization.

The frequency of occurrence of *an* throughout the YCOE and the PPCME 2 is too low to trigger the important change in the nominal structure I have discussed.

In this connection, I make an important suggestion concerning the notion of grammaticalization. I propose the following second hypothesis:

Hypothesis II:

Grammaticalization is the creation of a new space/position in a given structure.

In the case of a DP, a space has been created before a head noun in a nominal structure, because a demonstrative *se/seo* was frequently placed before a head noun. At first, the placing of *se/seo* before a noun was limited to cases in which *se/seo* was required semantically. If *se/seo* was not needed semantically, there was no space before nouns. However, the repeated occurrence of *se/seo* made the space before nouns look like a constant position. In due course, the space before a noun has become a permanent position in the nominal phrase irrespective of meaning. The demonstrative *se/seo*, triggered the creation of this new space in the nominal phrase structure. This new space has become a head position, i.e. a new functional head D. Once a space, i.e. an independent projection DP in the nominal structure, is created and established in the nominal structure, other elements can occupy the space, or move from somewhere else into the space, where they undergo grammaticalization as well. This is indeed the case with the Old English numeral *an*. The numeral *an*, which had the feature [+sg] only, was grammaticalized in that position and became a D head without making a substantial contribution. It became an article thanks to this created position.

Grammaticalization is usually assumed to be a process by which lexical words change into function words. This process is an important part of grammaticalization, but, this category change leads to a more important change in the nominal structure. Following Roberts and Roussou (2003) and Gelderen (2004), I propose that grammaticalization brings about the structural change in a given structure. The emergence of a DP brought about the structural change that we observed in (9). Subsequently, although depending on the properties of nominals, the use of determiners has become obligatory in Present-day English (cf. Gelderen 1993, 2000). *Se/seo* contributed to the creation of this space, while *an* was later grammaticalized in that determiner space created by *se/seo*. The time difference in their appearance can be accounted for in this way.

## Chapter 5 Conclusion

In this paper, I have argued that there are two kinds of elements which are involved in the

grammaticalization process by which a Determiner system emerged in English. One is the contributor that triggers a given change, while the other is grammaticalized thanks to the primary contributor. This is related to the syntactic nature of grammaticalization; I claim that grammaticalization is driven structurally as discussed by Roberts and Roussou (2003) and Gelderen (2004).

I have focused on the emergence of a syntactic D system in English and have argued that *se/seo* contributed to this grammaticalization (a primary grammaticalization), while *an* was grammaticalized thanks to this primary grammaticalization. Then, there is such a time difference between *the* and *a/an* in their emergence.

I have also proposed a new view of grammaticalization, that is, grammaticalization means creating a space/place in the clause structure over a lexical domain/projection and causes a structural change. Hence, grammaticalization is a syntactic phenomenon (cf. Roberts and Roussou 2003, Gelderen 2004). Grammaticalization is the creation of a new space/position rather than the creation of new grammatical materials. This view explains why grammaticalization has a wide-ranging effect, once it has started.

\* This work supported by Grant-in-Aid for the Scientific Research of Japan Society for Promotion of Science No. 15K02614.

\* I would like to express my deepest gratitude to Professor Steven G. Nelson for his help in proofreading and valuable comments.

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### Corpora

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 The Penn-Helsinki Parsed Corpus of Middle English, Phase II (PPCME 2)