When the Mass Was Counted:
English as Classifier and Non-Classifier Language*
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In this paper, the counting system in English is analysed diachronically, especially in terms of classifier and non-classifier language types. Earlier English did not make a clear distinction between mass and count nouns, and such a distinction emerged around late Middle English/early Modern English. Proto-Indo-European, the parent language of Present-day English, lacked such a distinction and the state of earlier English can be considered as the residue of Proto-Indo-European. The development could be partly a result of language contact particularly with French or Latin, but it is also possible that the speakers' world-view had changed, which triggered the change in counting system. It is also suggested that by studying other grammatical features, such as locational or temporal relationships, the change in the speakers' world-view can be much more clearly identified.

Keywords: *classifier, non-classifier, language contact, cognition and world-view*

1. Introduction

Various aspects of historical change in English have been studied, but there are some areas which are often neglected. One of them is the treatment of nouns in terms of counting system. English grammars often state that there are countable and uncountable nouns, but this does not go beyond mere description. In this paper, the development of the counting system is analysed, especially in terms of classifier and non-classifier languages. Our main question is about how the distinction between mass and count nouns evolved. Earlier English surprisingly has a relatively poor counting system, the distinction between count and mass nouns not being clear. This poor distinction in earlier English has developed into a new system of considering certain referents as mass nouns, and these referents came to be counted differently from those considered as count nouns. There are various changes involved in this development, and it is possible that factors like language contact caused the change. This view is challenged, asking whether other possibilities, such as a change in human cognition and the world-view of speakers, also affected this development.

The paper is organised as follows: firstly, the counting system in English is introduced from a historical perspective, focusing on three constructions, numerals (Section 2.1), classifiers (Section 2.2) and mass nouns (Section 2.3). After establishing the general pattern of change, possible reasons identified why such a change happened. Discussion of this issue will employ the distinction often used in typology-oriented research between classifier and non-classifier languages. The former does not distinguish mass nouns from count nouns, while the latter makes a firm distinction between them. The history of English is discussed using this distinction, and then this issue is considered within the scope of Indo-European languages. Most Indo-European languages seem to have developed in the same way as English, but there are some exceptions which show that the diversity could occur easily. Finally, it is also hinted that various other linguistic phenomena, such as temporal distinction or locational relationships, can help us to reveal what was involved in the change in the counting system more clearly.

The data used in this paper is mainly taken from the OED, but the Old English and Middle English sections of the Helsinki corpus were also used. I also use the conventional diachronic distinction between Old English (OE, 700-1100), early Middle English (eME, 1100-1350), late Middle English (lME, 1350-1500), early Modern English (eModE, 1500-1700), late Modern English (lModE, 1700 to present), and Present-day English (PDE, present).

2. The counting system in English

There seem to be subtle but substantial changes in the counting system in English. PDE distinguishes the mass noun (e.g. water, information, furniture, etc.) from the count noun (e.g. book, table, window, etc.). Among the various clues which show the changes, we pay particular attentions to classifiers, i.e., the numerals and classifiers, such as a piece of, a pair of, etc. and the mass noun. We look at each in turn.

2.1 *Numerals*

The numerals have been present throughout the history of English. The numerals have been present throughout the history of English. Numerals in earlier English were used adjectivally, agreeing with the nouns they modify in case and number. Some earlier examples are shown in (1) and (2). In (1), the numeral in the dative plural is used in an adverbial phrase, and in (2), the phrase containing the numeral is used as a direct object in the accusative case.

(1) þrim   gearum   ær   he   forþferde
     three.DAT.PL   year.DAT.PL   after he   die.PST
     'three years before he died.' (*St. Edmund* 128)

(2) hē   hæfde   fēower   wīf
     he   have.PST.3SG   four.ACC.PL   wife.ACC.PL
     'He had four wives.' (*Ælfric Genesis* 15-6)

Case marking was not normally used for any numeral functions, except for the use of the genitive as a partitive marker, as exemplified in (3) and (4). Note also that case marking was apparent when the number was spelled out, but when Roman numerals are used, the case ending can be dropped as in (4).

(3) Se   bið   on   fīftegum   mancessa
     it   be.PRS   on   fifty.GEN.PL   mancus.GEN.PL
     'It will be worth fifty mancuses.' (*Gregory* 75-6)

(4) Ond   ymb   xxxi   wintra   þæs   þe   hē   rīce
     and   after 31   winter.GEN.PL   afterwards   which he   kingdom
     hæfde, …
     have.PST.3SG
     'and after 31 years since he gained his kingdom, ...' (*Cynewulf* 7)

Throughout the history of English, the numerals are only used with count nouns, but earlier instances of mass noun did not have any classifiers (cf. Section 2.2 and 2.3 below), which makes these instances look superficially quite similar to those of count nouns.

2.2 *Classifiers*

The use of classifiers with the mass noun is quite common in PDE, as in *a piece of furniture*, *an item of clothing*, etc. There may be numerous classifies in PDE, but typical examples used for the analysis in this paper are listed in (5).

(5)   an article of clothing; a blade of grass; a block of ice; a bit of information; a bunch of grapes; a cake of soap; a cut of meat; a drop of water; an ear of corn; a grain of corn; an item of clothing; a leaf of sage; a loaf of bread; a lot of water; a piece of information; a sheet of paper; a slice of bacon; a speck of dust; a stick of chalk; a strip of land; a suit of clothing

The use of these phrases, however, is not common in earlier English. OE data from the Helsinki corpus have some instances, such as *sester* ((6), (7) and (8)), which was used with the partitive genitive (cf. (3) and (4)). *Sester* is an archaic word, which existed until lME/eModE. The last example cited in the OED is from 1580, as shown in (9). The presence of these phrases is a clear sign that these nouns are treated as the mass noun. However, notice that the partitive genitive had to be accompanied and this fact indicates that mass nouns used with *sester* were not considered as such in a sense of PDE. In addition, there were other words which are not found in the corpus but might appear to be a classifier in older English, e.g. OE *dæl/dael* 'part, portion', *clut* 'piece, patch', *cruma* 'framgment, small particle', *fōlh* 'chip', *scrēad*(*e*) 'shred, cutting', *snid* 'slice'. However, these words did not really function as classifiers, but as countable nouns referring to small parts, as shown in (10). A clear difference from *sester* is that these nouns were used on their own, not followed by any nouns to be quantified (cf. (6) to (9)). Some of these words totally disappeared from the English language (e.g. *fōlh* 'chip') or the earlier meanings referring to small parts or fragments have developed into new meanings after ME except for some cases such as *cruma*, which survived well into the nineteenth century (i.e. lModE) in the sense of 'a small particle of anything; a grain, as of dust' (s.v. OED *crumb* 1b), as exemplified in (11). It is also possible that some older meanings have survived in certain phrases in PDE (e.g. *dæl/dael* 'part, portion', as in *a great deal of expereince*). Overall, there were not many such expressions and their paucity earlier suggests that the distinction between mass and count nouns was not clearly made.

(6)   Nim   anne   sester   wines   &
        take.IMP.SG. one.ACC.SG   sester.ACC.SG   wine.GEN.SG   and
        twegen   wæteres
        two.ACC.SG   water.GEN.SG
        'Take one sester of wine and two sesters of water.' (*Quadrupedibus* 151)

(7)   þrim   sestrum   wæteres
        three.DAT.PL sester.DAT.PL   water.GEN.SG
        'three sesters of water.' (*Quadrupedibus* 590)

(8)   þrim   sestrum   eles
        three.DAT.PL   sester.DAT.PL   oil.GEN.SG
        'three sesters of oil.' (*Quadrupedibus* 52)

(9)   Demy Sétier, … halfe sester. (1580 HOLLYBAND *Tres. Fr. Tong.*)

        clut (s.v. OED *clout*, n1, I †3)
(10)   Sche rent it al to cloutes 'She tore it all to fragments' (c1386 CHAUCER *Merch. T.*
        709)

        cruma (s.v. OED *crumb* 1b)
(11)   His eye ... gleaming like a crumb of glass. (1883 STEVENSON *Treas. Isl.* III. xiv.
        (1886) 114)

The periods when the phrases shown in (5) were introduced into the language vary slightly
according to the phrase, but it can be roughly stated that the lME/eModE periods saw the
major change in the treatment of the mass noun (see Table 1). The variety in the earlier
instances can be shown in examples (12) to (19). The use of the corpus is not always reliable
in searching for the earliest documentation, so we use the examples listed in OED.[1]

Before 1350	1350-1500	1500-1700	1700-1900	Total
1 (5.0%)	7 (35.0%)	9 (45.0%)	3 (15.0%)	20 (100%)
sester;	an ear of;	a block of;	an article of;	
	a grain of;	a blade of;	a bit of;	
	a loaf of;	a bunch of,	a drop of;	
	a piece of;	a cake of;		
	a sheet of;	a cut of;		
	a slice of;	a lot of;		
	a strip of;	a speck of;		
		a stick of;		
		a suit of;		

Table 1 *Appearance of classifiers*

(12)   May no peny Ale hem paye, ne no pece of Bacum. (1362 LANGL. *P. Pl A* VII 297)

(13)   They no greine of pite sowe. (1390 GOWER *Conf.* I 14)

(14)   Take a loaf of white brede & tepp hit with the brothe. (c1440 Douce Ms. 55 lf. 6b)

(15)   In hom þou cast with sklices of bacon. (c1420 *Liber Cocorum* (1862) 48)

(16)   My sewte of blew velwet vestimentes. (1495 Somerset Med. Wills (1901) 330)

(17)   Blocke of tynne, savmon destain. (1530 PALSGR. 199/1)

(18)   Mixt, with a blade or two of Mace. (1653 WALTON *Angler* 158)

(19)   That superb article of modern luxury. (1823 Rutter Fonthill 50)

Note that most of them are exclusively used with mass nouns, but some of them, such as *a lot of* and *a bunch of*, can be used with both mass and count nouns. Both of these phrases appeared in ca. 1570. In addition, different dialects of English may have different classifiers. For instance, Hiberno-English has phrases such as *loads of* as in *They give you loads of information* (mass noun) and *There are loads of books on the table* (count noun), or *galore* as in *There's snow galore outside* (mass noun) and *There are songs galore* (count noun). In general, the distinction between the count and mass nouns is clearly made, but it becomes somewhat looser in some instances as the language develops.

From the viewpoint of PDE, the article can be considered another type of classifier. However, OE did not really have an article as in the same sense as PDE; e.g., *on beorg* 'onto a mountain', where it is normal to insert the indefinite article *a* in PDE. When what appears to be the origin of the PDE indefinite article *an* is used, it normally meant more than the indefinite article; e.g,. *an mægð* 'a certain tribe', *sum mon* 'a certain man'. It was thus more a demonstrative than a classifier. The lack of article was thus not an unmistakeable sign of a mass noun as in PDE.

2.3 *Mass nouns*

The counting system does not always depend on the use of classifiers, and the distinction between the count and mass nouns is also important. As already seen in various examples, there are some instances of mass nouns even in OE (cf. (6) to (8)), but they were not properly marked. One interesting feature is the introduction of these nouns into English: some of them are Anglo-Saxon origin but, since others are derived from other languages such as French or Latin, one can assume that if the number of these nouns was restricted in earlier English, the use of classifiers was not necessary. A sample of mass nouns, which can be roughly classified into substance (20), abstract nouns (21) and others (22), and the period of their first instance cited in the OED is listed in Table 2 to 4.

　　　Substance
(20)　bread; cloth; coffee; foliage; glass; gold; oil; paper; stone; water; wine; wood, etc.

　　　Abstract nouns
(21)　advice; experience; fiction; help; horror; information; knowledge; merchandise; news; poetry; work, etc.

　　Some others
(22)　baggage; damage; furniture; luggage; machinery; shopping, parking; post; weather, etc.

		Before 1100	1100-1350	1350-1500	1500-1700	1700-1900	Total
Substance	Bread; cloth; glass; gold; oil; stone; water; wine; wood;				coffee; foliage;		
		9 (81.8%)			2 (18.2%)		11 (100%)

Table 2 *Appearance of mass noun (substance nouns)*

	Before 1100	1100-1350	1350-1500	1500-1700	1700-1900	Total
Abstract	Help; work;	advice; knowledge;	experience; horror; information; news;			
	2 (25.0%)	2 (25.0%)	4 (50.0%)			8 (100%)

Table 3 *Appearance of mass noun (abstract nouns)*

	Before 1100	1100-1350	1350-1500	1500-1700	1700-1900	Total
Others	Weather;	damage; merchandise;	baggage; fiction; poetry;	luggage; furniture; machinery; post;	shopping; parking;	
	1 (8.3%)	2 (16.7%)	3 (25.0%)	4 (33.3%)	2 (16.7%)	12 (100%)

Table 4 *Appearance of mass noun (others)*

Table 2 and 3 show that most nouns appeared prior to lME, and notice that almost all the substance nouns did so before 1100, or in other words, before the Norman Conquest. The difference in other nouns is that the majority were introduced from either French or Latin. There were thus nouns which, from the PDE perspective, needed classifiers, but the appearance of these classifiers was much later than the appearance of the nouns (Table 1). This may indicate that the introduction of mass nouns triggered the emergence of classifiers.

2.4 *General changes*

The counting system has certainly changed in English with time. What seems most significant is the emergence of the distinction between the count and mass noun, and the use of various classifier phrases. Judging from the development of the various characteristics seen in Section 2.1 to 2.3, it seems fair to claim that the firm distinction was not made in OE and eME, but was established sometime around the lME or eModE period. Earlier English did not make such a distinction, because various clear signs, such as articles, classifiers were not used. In addition, the emergence of most mass nouns was reasonably late (cf. Table 2 to 4). From the lME period onwards, there is a clear distinction between mass and count nouns.

A question arising from this change is why there is an increase in the use and overt marking of mass nouns. Is it a mere coincidence of historical change, such as language contact, or is it something more complex, such as a change in speaker cognition? Since most mass nouns were borrowed from Latin or French, it seems like a case of language contact. However, does this suffice to change some cognitively fundamental distinctions such as the counting system? Earlier English can either be considered to lack the classifiers to mark mass nouns although they were aware of the mass and count noun, or speakers did not feel the need to distinguish between them. As we will see shortly, there are two basic types in counting systems in the world's languages, and English seems to have changed its type. For this, the typological distinction in counting system is analysed first, then the particular case of English is considered against the typological data.

3. Changes in the world-view

3.1 *Classifier and non-classifier languages*

Languages across the world can be roughly divided into two types in terms of counting system, which are commonly known as classifier and non-classifier languages. Lyons (1977: 463) defines them as follows:

> [Non-classifier] languages which grammaticalize the distinction between entity-denoting nouns and mass-denoting nouns tend to draw a sharp syntactic distinction between phrases like "three men" on the one hand, and "three glasses of whisky," on the other. Classifier languages do not: they treat enumerable entities and enumerable quanta in much the same way.

The actual instances of classifier languages are often not easy to describe using non-classifier languages like PDE: for instance, Lucy (2000: 331-332) describes the case of Yucatec (Mayan). The noun *kib'* in Yucatec is often glossed as 'candle' in English since it often refers to candles, but this is misleading. The interpretation as candle is only one instance, and what this noun refers to is rather 'wax' and various interpretations can be made according to the classifier; e.g., *'un-tz'iit kib'*, 'one long-thin candle'. What is significant in classifier languages is that every referent is considered a mass and a classifier is required in order to individualise each entity. Because of this characteristic these are often referred to as cookie-cutter languages:

> In order to individuate entities, a numeral classifier or some predicate is required to impose individuation on the material, metaphorically in much the same way that a cookie-cutter cuts up undifferentiated dough. (Levinson 1996: 185)

The use of classifiers in both classifier and non-classifier languages is diverse and such diversity can be also found within a single language family. As Lucy (2000: 331) states, "it is important to see how we come to think of classifiers as classifying nouns rather than their referents, that is, exactly how such an interpretative pattern has arisen in practice." English differs from other Germanic languages in this respect. In German, for instance, *Stück* 'piece' can be applied to both animate and inanimate referents in counting, so that. *zwei Stück* can be used for two pieces of bread or two birds, whereas in English, animacy plays an important role and the same classifier cannot be used for the different animacy; e.g., *two pieces of bread*, *two birds*, etc. However, there are other counting systems that share this similarity; e.g., *ein Blatt Papier* 'one sheet of paper', *zwei paar Hosen* 'two pairs of trousers', etc.

Judging from various characteristics of classifier and non-classifier languages, PDE is definitely a non-classifier language. However, earlier English can be considered a classifier language, since the distinction between mass and count nouns is not strictly made. In terms of the counting system, one can generally state that English prior to OE, OE and eME belonged to the classifier language type in the sense that mass and count nouns were treated identically, and lModE and PDE, to the non-classifier language type. ME, and perhaps eModE too, form an intermediate stage representing a transition from one type to the other. Although this type of change has not been identified in previous research, it signifies one of the most important changes in the history of English

3.2 *Generic relationship*

Classifier languages can be found in languages across the world in language families such as Malayo-Polynesian, Mon-Khmer, Austro-Asiatic, Sino-Tibetan, Altaic, Dravidian and Indo-Aryan (Senft 1996: 4) and a language isolate, Basque (personal communication Roslyn Frank). What is interesting for our argument is that the Indo-Aryan languages are classifier languages, in spite of the fact that other Indo-European languages are non-classifier languages. Hindi, for example, in principle uses the singular noun after the cardinal numbers in counting as in (23). Therefore, the singular form *rupayā* is used instead of its plural form *rupaye* 'rupees'. However, it is possible to use the plural form as in (24), i.e., *mahīne* is a plural form of *mahīnā* 'month'. In addition, Hindi as well as other Indo-Aryan languages also uses classifiers, such as 'a cup of', 'two cups of', etc., but the nouns involved in the phrase are all mass nouns. Thus for instance, *pyālā* 'cup' is used instead of *pyāle* 'cups' (cf. (25)). In non-classifier languages like PDE, 'milk' and 'tea' are always treated as mass nouns, but 'cup' is always a count noun, hence, 'three cups of milk/tea'.

     Hindi (McGregor 1995: 69)
(23)   tīn   rupayā
        three   rupee
        'three rupees'

(24)   chah   mahīne mem
        six   month   in
        'in six months.'

     Hindi (McGregor 1995: 70)
(25)   tīn   pyālā   dūdh/cāy
        three   cup   milk/tea
        'three cups of milk/tea'

Although they are not generally considered classifier languages, Celtic languages, another branch in Indo-European languages, have a somewhat similar pattern to Indo-Aryan languages. For instance, the classifier *go leor* 'many, much, a lot' can be used for both count and mass nouns, and the noun modified by it has to be in the singular (e.g. (26)), similar to the Indo-Aryan languages. However, there is a much more complex counting system in the Celtic languages, which cannot be found in other branches of Indo-European. This involves various sound changes in the noun. For instance, consider *bád* 'boat' in Irish, with the nominal classifiers from one to ten as shown in (27). Note that there is a plural form, *baíd* 'boats', but the singular form is used in counting. There are some changes in the noun, but it is not the singular-plural distinction, but the change of initial consonant; *aon* 'one' to *sé* 'six' causes lenition (addition of aspiration, orthographically marked by *h*, to the initial consonant), and *seacht* 'seven' to *deich* 'ten' causes eclipsis (addition of consonant, which silences the original initial consonant. Thus, in the eclipsed form of *bád*, *mbád*, *m* is pronounced but not *b*).

     Irish
(26)   a. seachtain   'week' (SG)

b. go leor seachtain   'many weeks' (SG)
c. trí seachtainí   'three weeks' (PL)

   Irish
(27)   bád amháin 'one boat'; dhá bhád 'two boats'; trí bhád 'three boats'; cheithre bhád 'four boats'; chúig bhád 'five boats'; sé bhád 'six boats'; seacht mbád 'seven boats'; ocht mbád 'eight boats'; noai mbad 'nine boats'; deich mbád 'ten boats', etc.

To make the grammatical rule still more complex, the addition of a definite article causes another change as exemplified in (28). Note that there is no indefinite article in Celtic languages. The definite article has two forms, *an* (SG) and *na* (PL), but the number two can take both forms. Exceptions to these rules can be found in nouns denoting measurement. In this case, the initial consonants are not affected, and the nouns can be in the plural form, e.g., *trí ceathrúnaí* 'three quarters' (*ceathrú* (SG)); *trí troighthe* 'three feet' (*triogh* (SG)); *thrí galúin* 'three gallons' (cf. *galún* (SG)), etc. Note that *seachtain* 'week' as in (24) also behaves in this way.

   Irish
(28)   a. an t-aon fhuinneoig (amháin)   'the only window'
    b. an/na dá fhuinneoig   'two windows'
    c. na trí fhuinneoig   'three windows'

Both Germanic, Celtic and Indo-Aryan languages are descendants of a common ancestral language, Proto-Indo-European. The reconstructed data available to us so far suggest that the cardinal numbers existed, but the distinction between the mass and count noun was not clearly made. Proto-Indo-European was thus a classifier language and it is obvious that there was a divergence into different types. Judging from the way PDE organises the counting system, the distinction between mass and count nouns seems to have been established a long time ago. However, as various data in Section 2.1 to 2.3 have shown, it was not surprising that Old English preserved some relics of Proto-Indo-European. Various other traces can be found in word order, gender system, etc. (cf. Toyota 2005, 2009), which show that the development of English into PDE happened reasonably late, perhaps after lME., Some unsettled ambiguous cases can also be considered indicators of this relatively late change in the counting system. For example, *money* is normally a mass noun, but it can be pluralized as *moneys/monies*, meaning 'amounts of money'. Furthermore, it becomes more complex once articles or quantifiers are involved: consider *less* in *less work* (uncountable noun) and *less students* (countable noun) or the article in *I have a tea* indicates that *tea* is a count noun, but *tea* as in *Would you like tea or coffee?* is generally considered a mass noun. This type of unclarity shows that the mass-count distinction in English is still in flux, and this is due to the relatively late development of the clear distinction and its related items, such as quantifiers or articles. This is partly due to the lack of necessity, and entities such as 'water' were not counted in the sense of 'a cup of water'. This means that another possible reason could be that the way speakers viewed the world changed. We turn to this argument in the next section.

3.3 *Changes in terms of conceptualisation and cognition*

The difference between classifier and non-classifier languages is often considered in terms of different conceptualisations; for instance, each language treats spatial and temporal expressions differently (cf. Bybee and Pagliuca 1985; Levinson 2003). This means that there is a distinction between classifier and non-classifier languages, but what is classified and how it is classified depends on each language, as nicely summarised in Nisbett (2003: 18):

> For the Chinese, the background scheme for the nature of the world was that it was a mass of substances rather than a collection of discrete objects. Looking at a piece of wood, the Chinese philosopher saw a seamless whole composed of a single substance, or perhaps of interpenetrating substances of several kinds. The Greek philosopher would have seen an object composed of particles. Whether the world was composed of atoms or of continuous substances was debated in Greece, but the issue never arose in China. It was continuous substances, period.

It is a very well-known fact that there are two opposing issues on lexicalised concepts and general thinking and reasoning, represented by the linguistic relativity theory and the language of thought hypothesis. The ongoing argument between these two approaches focuses on the synchronic state of languages and comparison of them, as in the case of distinction between the classifier and non-classifier languages. Even among classifier languages, there are variations in the way various classifiers are applied to certain objects. This kind of variety, according to some scholars (see, among others, Levinson 1992, 2003; Lucy 1992, 2000, Senft 1996, 2000), represents the way that each language packages the surrounding world in its own way. This concept has long been current, as in Benjamin Whorf's comment that:

> Every complex of a culture and a l[angua]ge (or every 'culture' in the broadest sense, as including l[angua]ge) carries with it a metaphysics; a model of the universe, composed of notions and assumptions organized into a harmonious system which is valid for framing statements about what goes on in the world as the carriers of that culture see it. (Whorf 1938, cited in Lee 1996: 264)

This type of statement can be applied to the variations found in the counting system of Indo-European languages, as with the preservation of the classifier type only in Indo-Aryan and Celtic languages and not in the others. However, changes within a particular language over periods of time, such as the one we are discussing here, are rarely noticed.

The lack of vocabulary relating to the counting system in earlier English means that speakers could not express the distinction between the mass and count nouns, although they wanted to. This makes the change in the counting system look like a case of language contact, but is it possible that a change in the way speakers viewed the world triggered the change in English? One can assume that the borrowing of new vocabularies could have been done without making the distinction between count and mass nouns, so that it is hypothetically possible to use phrases like *two informations*, *three furnitures*, etc. The ungrammaticality of these phrases in PDE means that speakers developed a certain pattern in distinguishing mass nouns from count ones. In addition, another piece of evidence for the change in the world-view is that the counting of days and years has changed ─ days used to be counted as nights (as in *several moons ago* 'several days ago') and years as winters (as in *two winters have*

passed 'two years have passed'), or as Mitchell and Robinson (1994: 209) put it, "the Anglo-Saxons reckoned years in terms of winters." This system is still present in some modern Indo-European languages, for instance, in Russian. This is not surprising: since Russian is rather archaic in its grammatical structure (see Toyota 2008, forthcoming), their world-view also seems to be archaic and preserved in counting. These pieces of evidence also show the way the world-view of the speakers had indeed changed in some languages. The English grammar has changed significantly since OE, and the degree of changes is much greater than that in any other Indo-European languages, as extensively discussed in Toyota (forthcoming), and it is not surprising that some basic concepts such as counting system have changed over the past 3,000 years or so.

The change in cognition has to be further investigated in relation to other cognitions, such as locational or temporal conceptualisation. For instance, there is a co-relationship between the space and time: languages that use the past and non-past as the basic tense distinction tend to have a specific metaphorical usage of body parts; i.e., the front of the body for the future and the back for the past; e.g., years ahead of us indicates that the forthcoming year is expressed via the front parts of the body, while years behind us, the past years require the back of the body. Those languages that have the distinction between future and non-future often use the reverse combination, i.e., the back of the body for the future and the front for the past. Nuñez (1999: 52) reports the case of Aymara (an Amerind language spoken in the highlands of the Andes). This language has the second pattern of metaphorisation (back of body-future and front of body-past) and this can be found in the spontaneous gestures of the native speakers: "when saying something like 'a long time ago' they point towards the front and when referring to some event that occurred even earlier than that, they point even further ahead" (Nuñez ibid.: 52). Such instances further confirm that the time and locative relationships are somehow related to each other in human cognition. In order to solve problems about the counting system, it is important to look at various changes in English, some of which may not necessarily be linguistic. We can then provide a much firmer conclusion that the change in counting system in English was triggered by changes in the world-view of its speaker.

4. Conclusion

We have analysed the counting system in the history of English. The evidence of written data suggests that the counting system has certainly changed. Earlier English surprisingly has a reasonably poor counting system and can be considered a classifier language. PDE, on the other hand, is a non-classifier language and this change seems to have happened around the lME/eModE periods. The earlier lack of a clear distinction between the count and mass nouns was in part due to the paucity of earlier mass nouns and classifiers, and this seems to have been resolved by language contact with French and Latin. However, it is argued here that this was also due to the change in speakers' world-view, i.e., the way speakers of earlier English treated certain objects differently from that of PDE speakers. Such changes can be found elsewhere in the language, such as counting days by nights, years by winters, etc. This type of claim can be further strengthened by studying various other human cognitions, such as locational or temporal relationships. This paper therefore suggests that the counting system in English has changed from a classifier language type to a non-classifier one, but it also

indicates that further studies in various other changes in English can reveal more clearly how the world-view of the speakers has changed from OE to PDE.

Notes:
* I am grateful to an anonymous reviewer for valuable comments on the earlier version of this paper. Any shortcomings are, needless to say, my own.
1 Earlier instances (i.e., OE and ME) of these phrases cannot be found in the corpora.

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