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The changing status of the minor categories Determiner and Modal

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0 Introduction

0.1 Categories

There has been a recent upsurge in interest in categories and parts of speech, exemplified by books by Taylor (2004), Anderson (1997), Malouf (2000), Beck (2002) and Baker (2003), the dissertation of Whitman (2004), and the papers by Newmeyer (2000, 2006), the latter given at a whole conference in Amsterdam devoted to the subject (PoS2006).

0.2 Background to this collaboration

Mari wrote a dissertation on the category D in PDE (M. G. Spinillo 2004) – a category whose existence she did her best to deny. Alison is writing a dissertation on the recent history of the category M in English (Cort in progress). David has written bits and pieces on both areas and is currently writing a book on word classes (Denison in prep.). A & D gave a joint paper at Edinburgh (Cort & Denison 2005), and Mari also presented her work there (M. Spinillo 2005), and afterwards we decided to follow through on our hunch that the two domains might profitably be studied side by side.

1 Modal

1.1 Criterial properties

The criterial properties used to define the class of modal verbs in English includes a basket of syntactic, morphological and semantic characteristics.

1.1.1 Syntactic

A modal verb in standard English

- is always the first verb

- is an operator, and thus in common with the other auxiliary verbs (*be, do, have*) as well as main verb uses of *be* and (in some dialects and contexts) *have*, modals may be used in clauses with the NICE properties (Huddleston, 1984):

(1) a. She *won't* want to sleep before twelve (Negation)
b. *Shall* I go? (Inversion)
c. She will arrive late and he *will* too (Code = post-auxiliary ellipsis)
d. He ***cán*** do it [although it had been suggested that he can't]. (Emphasis)

- is followed by plain stem

(2) a. I should go tomorrow
b. *I should to go tomorrow

- appears in the past tense as the first verb of the apodosis of an unreal conditional (Denison 1993: 293).

(3) 1872 'Mark Twain' *Roughing It* vii. 34, I *should* have shot that long gangly lubber they called Hank, if I could have done it without crippling six or seven other people. (*OED*^{2} s.v. *gangly*, a)

(4) 1891 Hardy *Tess* x, If I had known you was of that sort, I *wouldn't* have so let myself down as to come with such a whorage as this is! (*OED*^{2} s.v. *whorage*)

1.1.2 Morphological

Modals have

- no untensed forms: **to may, *to should, *musting, *mayed*
- no 3 sg. present *–s* inflection: **he mays, *she cans, *it shalls, *one musts*
- irregular past ~ present alternation

1.1.3 Semantic

Modals have

- meanings to do with probability, possibility/ necessity/ obligation
- possibility of epistemic, deontic or dynamic meaning
- highly irregular meaning relation between present and past tense

In addition to their morphological and syntactic properties, the core members of M also prove to be a semantically coherent group and are used in the expression of three primary meaning types: epistemic, deontic and dynamic. Epistemic meanings are primarily concerned with 'the truth, probability, possibility, etc. of the whole proposition' (Denison 1993: 293).

Deontic senses are concerned with the performative granting of permission or imposition of obligation, whilst dynamic meanings do not have a performative element.

Although the modal verbs CAN, MAY, SHALL and WILL (but not MUST) have distinct forms for the past and present tenses, *can/could, may/might*, etc., in practice the time relations expressed by these forms are opaque, as actual 'reference to past time is uncommon and typically restricted' with the 'past tense' forms *could, might, should* and *would* (Warner 1993: 9).

1.2 Membership according to different scholars

Most accounts of the category of Modal verbs in Present Day English cite a closed class with membership which consists at least of *can/could, may/might, must, shall/should, will/would*. However, even comparatively basic accounts disagree about the status of such items as *dare, need, ought to* and *used to*.

Source	***can, could, may, might, will, would, shall, should, must***	***dare***	***need***	***ought to***	***used to***	***other items***
Quirk et al. (1985)	central modal	marginal modal, later modal or lexical	marginal modal, later modal or lexical	[as *ought to*] marginal modal	[as *used to*] marginal modal	modal idioms (e.g. *had better; would rather*); semi-auxiliaries (e.g. *be about to*)
Huddleston & Pullum (2002)	modal	modal and/or lexical	modal or lexical	[as *ought*] 'very largely like a modal'	[as *use*] marginal aux but not modal	non-central modal (e.g. *had better*), quasi-modal *be*
The Oxford Guide to English Usage	modal	modal	modal	[as *ought (to)*] modal	[as *used (to)*] modal	

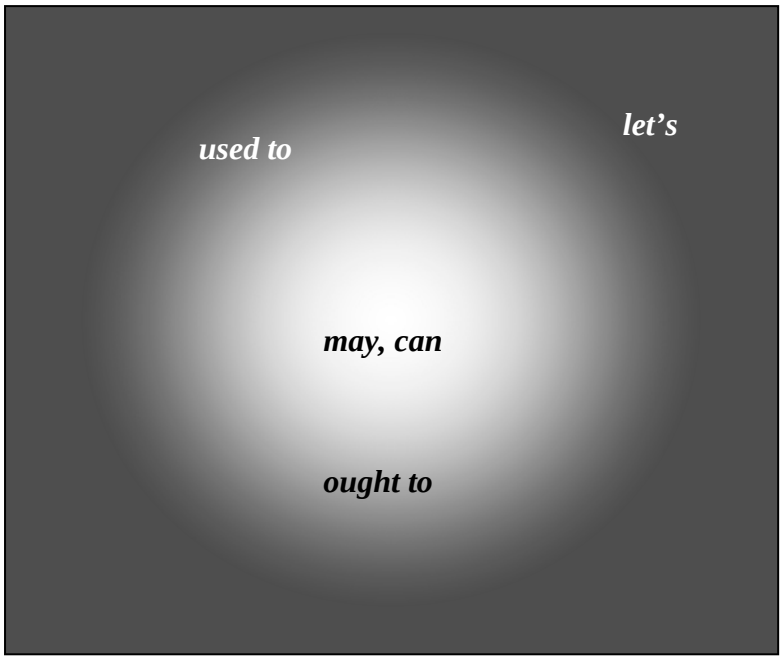
1.3 Nature of category M

M is a (relatively) closed class and a (relatively) functional category, not one of the basic categories (N, A, V, Adv) usually posited for human languages; see e.g. Hengeveld (1992)..

Although academic accounts of M have a lot in common, it is clear that Modal is not a good Aristotelian category in PDE. Not only is there disagreement on the status of certain items, but even where there is a consensus, different members display different subsets of the properties used to define membership.

Treating M as a prototype category removes some of the difficulties and allows us to consider the position of more marginal members and non-members alongside the true modals. Within the prototype model there are core category members: the 'must haves' for

any kind of description of the category (*can/could, may/might, must, shall/should, will/would*), i.e. the items which are generally held to behave in accordance with the definitional criteria for the category. But in addition to these there are a number of other



items which fail to satisfy all of the definitional criteria but which satisfy a sufficient number to justify placement in the outer reaches of the category, and which make an appearance in some, though by no means all, academic accounts of the class: items such as *ought to, used to, had better, is to,* and *have to*.

1.4 History: First appearance of category M

1.4.1 Where do core members come from?

Diachronically, the category is a relatively recent arrival in the grammar of English. Historically, all of the members of M derive from V.

It is generally acknowledged in historical accounts of the category that the verbs which have developed into the core members of M as it is recognised today have long shared a number of distinctive 'premodal' similarities. For example, in addition to their Present-Day morphological characteristics, such verbs are also historically distinctive in their morphology. With the exception of *willan*, 'itself an "anomalous" verb always lacking the regular 3rd person singular fricative desinence', the set of OE verbs which came to be reanalysed as modals 'have always been members of a particular inflectional class, the preterite-presents' (Plank 1984: 311).

1.4.2 16C reorganisation

Although predisposing factors may be traced back to OE, the major period of shift, resulting in the development of the category M as we now recognise it, took place during the 16th century as part of a general reorganisation of the English verb system (Lightfoot 1979, Warner 1993).

1.5 Sharpening of category

A reasonably conventional view is that since its arrival, M has become more sharply defined (by contrast with V) – cf. Rosch (1978, 1988) – and that new members of the category have been being attracted towards the prototype. Some support for this view comes from changes which took place during the18th/19th centuries as part of a further reorganisation of the auxiliary system (Warner 1993), such as

- Progressive *is being* appears at the end of the eighteenth century.
- Restriction of *is to* to finite forms is nineteenth/twentieth century.
- Only in the nineteenth century is there convincing evidence that infinitival *to* occurs with ellipsis.
- Final loss of NICE constructions by non-auxiliaries (Ellegård 1953, Tieken-Boon van Ostade 1987).
- Loss of agreement inflection dependent on the loss of *thou*.

1.6 Later accretions

In addition to the general periods of change, there are changes to individual items including

- Modal *have* gains epistemic use in mid-20th C
- Increased prevalence/development of epistemic meanings, e.g. CAN

A sample of other items is discussed below.

1.6.1 Modal *be*

Modal *be* mostly loses its ability to occur in untensed forms by the early part of the nineteenth century. It is no longer found in constructions such as:

(5) It *will be to be regretted*, much, if this business is not probed to the bottom. (ARCHER 1797wash.x4a)

(6) The statement of Marshal SUCHET *being to have* a command in alsace, is destitute of foundation. (ARCHER 1819mor2.n5b)

(7) So that *had* my cave *been to be seen*, it looked like a general magazine of all necessary things […] (1719 DEFOE, *Robinson Crusoe*)

The one exception is the fixed idiom *be to come*:

(8) With the latest rise in interest rates and speculation that more may *be to come*, that loan is becoming a millstone. (BNC A59 181)

1.6.2 *Better*

There is a change in progress:

(9) *Had better → 'd better → better*

The trajectory has not been completed, as for most speakers more than one variant is still currently possible, with selection of form used determined chiefly by register – though age and dialect are also factors. Nevertheless, the development appears to fit the general trend of sharper definition.

1.7 Movement away *from prototype*

Closer analysis reveals that there has been as much movement **away** from the alleged prototype as towards it, movement which can be seen for example in

- obsolescence of some of the core members of the category (Leech 2003)
- introduction of increasing number of bipartite forms, e.g. *is to, had better*
- introduction of an increasing number of forms which require following *to*-infinitive rather than bare infinitive, e.g. *is to, have to*

1.7.1 Loss of contracted negatives

In the twentieth century certain forms began to be lost which ought to be 'typically modal': among core modals *mayn't, ?shan't, ?mightn't* (query since still occasionally in use and this one perhaps has not ever been a serious contender: late to arrive – see (Brainerd 1989[1993]) – and never a hugely frequent form), and among peripheral modals *use(d)n't, ?oughtn't*.

1.7.2 Untensed modals

Certain items which have developed recently in ways that resemble modals or auxiliaries generally, and which have been suggested as peripheral members of the category, actually go against one of the most basic definitional properties of M: their deficient paradigms actually **lack** tense. The items in question include infinitive marker *to*, called an auxiliary verb by

Pullum (1982); *let's*; and *try and* (the last-named compatible with core modals, which rules it out as a straightforward modal itself). Two of the three permit post-verbal ellipsis ('Code'), all three are followed by a plain infinitive, and arguably all three have semantics more or less vaguely connected with modality. They all fit in with the idea of **invariance** as an increasingly salient property of auxiliaries (Denison 1998: 210-12).

1.7.3 Modal semantics

The core modal *will* has almost entirely lost the typical semantics of modality: the vast majority of uses in PDE are purely to do with time reference.

1.8 Features orthogonal to prototype

In addition to apparent movement away from the traditional description of the prototype, there are certain introduced features which, though not moving away from traditional modal properties, are simply outside the scope of anything in the prototype.

1.8.1 Clipping of *better*

Consider *had better*. Although in certain respects it seems to be becoming more modal-like, it differs quite markedly from more traditionally included items such as *should* and *ought to* (which share similar semantic content) and indeed from other generally-agreed members in its ability to appear in clipped constructions such as:

(10) '*Better* be careful who you play with, sonny.' (LOB N07:189)

(11) *Better* avoid it, and wait till her sixteenth birthday is over" (ARCHER 1881carl.x6b)

Other modals **can** occur in these kinds of constructions, as shown by

(12) 7 P.M. Sits with its head down, engaged in picking at imaginary objects in front of it. *Can* find its way in and out of its cage when roused to action. (ARCHER 1873ferr.s6b)

(13) My period -- right on time. *Couldn't* be more regular. Not pregnant for the second month in a row. (ARCHER 1978ryan.j8a)

(14) *Should have/'ve* gone to Specsavers

Although they are clearly possible, such clipped constructions with core modals are extremely low in frequency: for most modals only a handful of attested clips are found amongst thousands of instances.

	ARCHER (1)		Brown		FLOB		Frown		LOB	
	clips	total	clips	total	clips	total	clips	total	clips	total
Can	6 (0.19%)	3084	0	1762	0	1757	0	1725	0	2147
Could	7 (0.25%)	2765	0	1776	2 (0.13%)	1569	3 (0.2%)	1471	1 (0.06%)	1604
May	1 (0.04%)	2747	0	1301	0	1100	0	883	1 (0.07%)	1338
Might	4 (0.31%)	1301	0	663	4 (0.6%)	641	1 (0.16%)	638	6 (0.77%)	779
Must	5 (0.22%)	2242	2 (0.2%)	1013	0	803	1 (0.15%)	662	3 (0.27%)	1096
Ought to	1 (0.28%)	363	0	68	0	58	0	51	1 (0.97%)	103
Shall	3 (0.14%)	2109	0	267	0	200	0	149	0	351
Should	3 (0.13%)	2265	0	887	1 (0.09%)	1115	1 (0.13%)	756	2 (0.15%)	1301
Will	4	-	0	2344	0	2215	1 (0.06%)	1793	1 (0.04%)	2347
Would	3 (0.07%)	4222	0	2842	0	2293	0	2410	1 (0.04%)	2774
total	***37***	***-***	***2***	***12406***	***7***	***11751***	***7***	***10389***	***16***	***13840***

The use of 'core' modals in initial clipping

In contrast, where *better* is concerned, the proportion of initial clippings is significantly higher. Out of 298 attestations derived from 6 corpora, some 40 (i.e. over 13%) appear in clipped constructions.

BETTER		
	clipped structures	total data
ARCHER	10 (10.5%)	95
Brown	9 (22.5%)	40
FLOB	7 (18.9%)	37
FROWN	1 (2.8%)	36
LLC	4 (10%)	40
LOB	9 (18%)	50
total	*40 (13.4%)*	*298*

The use of BETTER in initial clipping

The motivation for this unusually high level of clipped constructions – discussed in Denison & Cort (in prep.) – seems to be the surface similarity of these constructions to certain proverbial patterns, where frequency of use and similarity of structure seem to license extensive ellipsis:

(15) It is *better* to VP1 than to VP2 (e.g. It is better to travel hopefully than to arrive)

(16) *Better* to VP1 than to VP2 (Better to have loved and lost than never to have loved at all)

(17) *Better* VP1 than VP2 (Better sit still than rise and fall)

(18) *Better* NP1 than NP2 (Better the devil you know than the devil you don't)

The patterns (15)–(18) are a potential second source for the grammaticalisation of *better*, but regardless of the source, the characteristic clipping shown by *better* neither conforms with nor clashes with the defining properties of modal: it is simply **different**.

1.8.2 No actual prototypical modal

In fact the very idea of a prototypical modal is problematic, since none of the core members clearly check all of the boxes for category membership.

- *Can/could*: retain some normality in the distinction between present and past tense; epistemic meanings limited
- *May/might*: obsolescent (certainly in AmE), no longer treated as a present ~ past pair, **mayn't, *mightn't?*
- *Must*: does not normally have past tense reference, and for most users therefore cannot appear in the apodosis of an unreal conditional. For many speakers, (19) – taken from Huddleston (1977: 46) – is ungrammatical.

(19) If he had stayed in the army, he *must* have become a colonel.

- *Shall*: obsolescent except in 1st person interrogatives
- *Will/would*: lack typical semantics, *would rather* + finite clause

2 Determiner

2.1 Criterial properties

2.1.1 Syntactic

Determiners

- take prenominal position – leftmost element in the NP, preceding premodifiers
- always followed by a noun
- do not allow modification

Order of occurrence has also played a part. Elements occurring before the articles, the demonstratives and the possessives are themselves determiners. Thus words such as *such*, *all* and *both* are treated as determiners:

(20) a. such a book
b. all that time
c. both my sisters

2.1.2 Morphological

Determiners do not have any distinguishing morphological properties. Having neither inflectional nor derivational endings, they have no morphological features which characterise

them as a class. There is no morphological characteristic shared by all of them, apart from the fact that they are (a) mostly short words and (b) mostly invariable.

2.1.3 Semantic

Determiners help to identify the referent of a noun and are typically involved with one or more of the following semantic notions:

- definiteness
- number
- countability.

In some theoretical approaches, definiteness takes a primary role in justifying the universality of D.

2.1.4 Function

The various determiners behave very differently from one another. Apart from the fact that they can all occur in front of a noun, morphologically, syntactically and semantically it is hard to find properties that all determiners share. The only distinguishing syntactic property they share, and which is not unique to them, is their connection with the leftmost prenominal position in the structure of the noun phrase.

Due to its lack of distinctive internal properties, the category Determiner is usually described in terms of the function its members have in phrase structure. Note that any genitive NP can fill the functional slot occupied by D; it is not conventional to regard the addition of *'s* to a noun as changing its category.

2.2 Membership according to different scholars

It is generally assumed that words such as the articles, the demonstratives, the possessives, the relatives and the quantifiers (e.g. *all, both, some, any, many, each, every, no,* etc.) constitute the category Determiner in English (Biber, Johansson, Leech, Conrad & Finegan 1999, Rodney Huddleston & Pullum 2002, Quirk, Greenbaum, Leech & Svartvik 1985).

There are, however, problems with defining its membership: there is no agreement on which members comprise the class, and different descriptions present different inventories. For example, *former* and *latter* are in D in Biber et al's (1999) but not in Quirk et al's (1985) or in Huddleston & Pullum's (2002); Quirk et al and Biber et al both include *next* and *last*, but Huddleston & Pullum do not; *other* is listed in Quirk et al and Biber et al, but not in H &

P; *double* and *twice* are determiners for Quirk et al and for Biber et al but not for H & P. The table below gives an overview of modern treatments of these items.

	the, a(n)	***my, your, his, etc.***	***this/these, that/those***	***what, which, whose***	***all, both, any, some,* etc.**	**numerals**
Poutsma (1914-29)	primary class	pronouns	pronouns	pronouns	pronouns	primary class
Kruisinga (1925)	pronouns	pronouns	pronouns	pronouns	pronouns	pronouns(?)
Jespersen (1909-49)	pronouns	pronouns	pronouns	pronouns	pronouns/ adjectives	primary class
Palmer (1924)	determiners	determiners	determiners	determiners	determiners	determiners
Bloomfield (1933)	adjectives	adjectives	adjectives	adjectives	adjectives	adjectives
Curme (1935)	adjectives	adjectives	adjectives	adjectives	adjectives	adjectives
Fries (1952)	determiners	determiners	determiners	_	determiners	determiners
Long (1961)	pronouns	pronouns	pronouns	pronouns	pronouns	pronouns
Gleason (1965)	determiners	determiners	determiners	_	determiners	determiners
Quirk et al (1985)	determiners	pronouns	determiners	determiners	determiners	primary class
Abney (1987)	determiners	determiners	determiners	determiners	determiners/ adjectives	nouns
Hudson (2000)	(pro)nouns	(pro)nouns	(pro)nouns	(pro)nouns	(pro)nouns	nouns
H & P (2002)	determiners	pronouns	determiners	determiners/ pronouns	determiners	determiners/ nouns

2.3 Nature of category D

D is a (relatively) closed class and a (relatively) functional category. It is not one of the basic categories identified cross-linguistically by Hengeveld (1992).

D is not a good Aristotelian category because different members display different subsets of the criterial properties. Very few of the elements conventionally classed as determiners have all the characteristic properties associated with the class. For example:

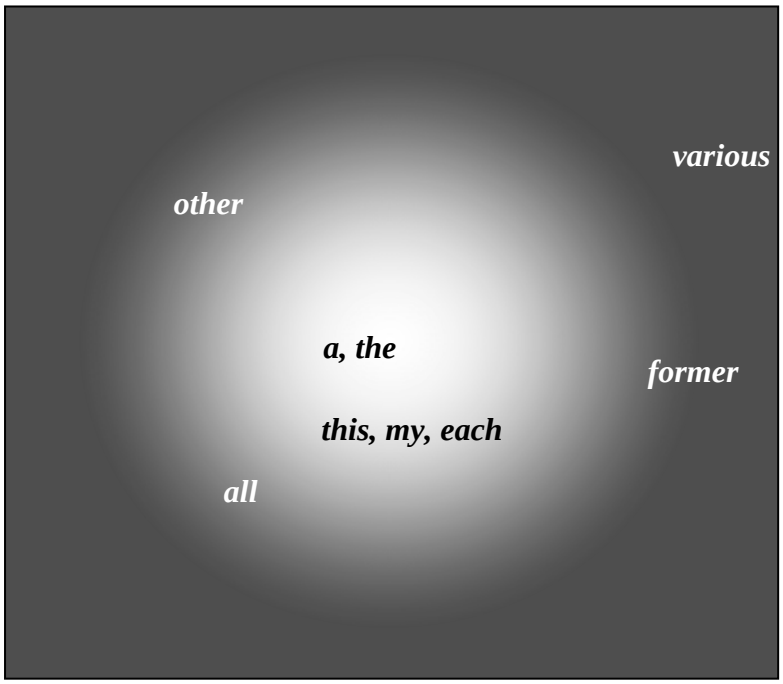
- Determiners always occur with a following noun – BUT

(21) a. *Those* are interesting.
b. The money is not *much*.
c. The problems are *many*.
d. *Both* live there.
e. I would like *some*.
f. *Such* was the demand.

- Determiners cannot be modified – BUT

(22) a. *too many* questions
b. *so much* money
c. *very few* candidates

Treating D as a prototype category removes some of the difficulties and allows us to consider more marginal members (e.g. *many*, *much*, *few*, *little*, *next*, *last*, *former*, *latter*) alongside the true determiners.



2.4 History: First appearance of category D

2.4.1 Articles

The basis of the class in PDE is the articles. However, if we go back to OE, the etyma of PDE articles are, respectively, *se/þæt/seo* for the definite article, which can be used as head of NP without complement, and *an* for the indefinite, which in OE is much more of a numeral than an article. There is nothing unique about these two items which would justify setting up a word class for them. Only in late ME do articles come to have something like modern distribution. There are summaries of the history of articles in, for example, Fischer & van der Wurff (2006), Denison (2006), and McColl Millar (2000).

2.4.2 Where do core members come from?

Most of the core members of D are historically pronouns, and indeed all but the articles and *every* can still be used pronominally.

2.5 Accounts of D in earlier English

D is not among the categories (word classes) of the early Modern English grammarians (e.g. Bullokar 1586, Ben Jonson 1640, Wallis 1653, Priestley 1761, Lowth 1762, Murray 1795). They are found scattered among the nouns, the pronouns and the adjectives. Their treatment is uncertain and oscillates between pronoun and adjective.

2.5.1 Possessives

The possessives (*my*, *your*, *his*, *her*, *its*, *our* and *their*): have been treated both as adjectives and as pronouns. Although most frequently treated as pronouns they are said to be adjectival in nature and consequently classed as ‘adjective pronouns’.

2.5.2 Demonstratives

The demonstratives (*this*/*these* and *that*/*those*): have also been classed as adjectives as well as pronouns. Again their most usual classification is as pronouns.

2.5.3 Quantifiers

The quantifiers (*all*, *both*, *some*, *any*, *many*, *much*, (*a*) *few*, (*a*) *little*, *such*, *either*, *neither*, *each*, *every*, *no*, (*an*)*other*, *more*, *most*, *several*, *enough*): no or few classifications are offered for most of the quantifiers. Some are treated as pronouns and others as adjectives.

2.5.4 Relatives

The relatives (*what, which* and *whose*): have been regarded as pronouns since very early (Butler 1633).

2.5.5 Articles

The articles *the* and *a*(*n*): their classification has been even more uncertain and varied. They have since very early been called 'articles', but whether the articles are a kind of pronoun, a type of adjective, or comprise a separate word class altogether, has been a long-standing debate. The most common practice among the early grammarians was to include them within some already existing class. Towards the end of the 18th century it becomes common practice to give them the status of primary class (Lowth 1762, Murray 1795).

2.5.6 Numerals

The numerals did not receive much attention from the early grammarians and no formal classification is offered. Their classification can be best seen in 19th-century grammars: they are classed as adjectives in some and given the status of a primary word class in others.

2.6 Sharpening of category

2.6.1 Complementary distribution

Being in complementary distribution with the articles and with each other seems to be the main reason for including elements like demonstratives, possessives and relatives that were once seen as pronouns. This distribution, however, was not always so clear-cut. Fischer & van der Wurff exemplify some of the possibilities for combinations found in OE and ME (2006: 120-21):

(23) a. se heora arwyrða bisceop 'the their venerable bishop' (OE)
b. ælc an hagelstan 'each a hailstone' (OE)
c. some þe messagers 'some the messengers' (eME)
d. alboth this thynges 'all both these things' (lME)
e. hwylc an scep 'which a sheep' (OE)
f. oþre twegen þa fæmnan, 'other two the women' (OE)

Now the loss of most of these combinations is from a similar time to the appearance of articles and so could be argued to be part of the **formation** of the category D. One combination continues into eModE and even lModE, however:

(24) this my chapter

See Rissanen (1999: 206) and Denison (1998: 114-16) on the obsolescence of the (24) pattern, which of course both strengthens the case for a category D and helps to make it more distinctive.

2.6.2 New D ~ Prn pairs

Another piece of evidence for category sharpening is the split of *my ~ mine* (and similar possessive pairs) and also of *no ~ none*. As long as these were effectively phonologically conditioned allomorphs of the same word, they straddled the boundary between D and Prn. Once the forms became grammatically conditioned, with *no, my, their* occurring only **with** a following head noun and *none, mine, theirs* only **without**, then the category boundary of D was sharpened accordingly; see Denison (2006) for more detail.

2.6.3 Every

In Spinillo (2004), only three items are impossible to re-assign to A or Prn: the articles *a* and *the* and *every*. The articles had lost their pronominal behaviour by the end of the ME period, but *every* maintained sporadic pronominal use into the eModE period:

(25) 1722 DE FOE Plague (1840) 41 Every of the said chirurgeons is to have twelvepence a body searched by them. (*OED*)

Loss of this possibility sharpens the boundary of D.

2.7 Later accretions

A number of items have been added to the category D recently, mostly from the A class. Their similarity with the prototype (articles) seems to be largely semantic in nature, usually having to do with the semantic notions of identification/specification/definiteness. Otherwise (syntactically and morphologically) they keep their adjectival properties, apart from a strong positional tendency to appear further to the left in the NP than true adjectives.

2.7.1 A > D quantifiers

Denison (2006) has argued that the four adjectives *divers(e), several, various* and *certain* have all been developing D-like properties in a stepwise process of semantic and syntactic change. Thus *certain*, to take one of the four, includes the following among the senses recorded in *OED*:

(26) 'Determined, fixed, settled; not variable or fluctuating; unfailing.' (s.v. *certain* a. A.I.1.a, from 1297)

(27) 'Used to define things which the mind definitely individualizes or particularizes from the general mass, but which may be left without further indentification [*sic*] in description; thus often used to indicate that the speaker does not choose further to identify or specify them: in sing. = a particular, in pl. = some particular, some definite.' (s.v., A.II.7.a, from a1300)

Now sense 1a, quoted in (26), is a normal kind of qualifying adjective sense, whereas sense 7a in (27) is much more determiner-like in its semantics. Yet against the latter sense *OED* actually comments as follows:

> Different as this seems to be from sense 1, it is hardly separable from it in a large number of examples: thus, in the first which follows, the *hour* was quite 'certain' or 'fixed', but it is not communicated to the reader; to him it remains, so far as his knowledge is concerned, quite indefinite; it may have been, *as far as he knows*, at any hour; though, *as a fact*, it was at a particular hour.
>
> a1300 *Cursor M.* 8933 Ilk dai a certain hore! þar lighted dun of heuen ture Angels.

Later the word occurs in what Huddleston & Pullum call the 'fused-head' construction, where a constituent is simultaneously a head and a determiner (in their nomenclature, determinative) or modifier:

(28) 1542 in *Add. MS.* 32,646 (B.M.) lf. 197b, The Names of *certain of the most notable and arrant traitours* recepted in Scotland. [*OED*]

The construction illustrated in the eModE example (28) is regarded as a test which discriminates D from A: on this and other grounds they regard *certain* as a marginal determiner in PDE (Rodney Huddleston & Pullum 2002: 392-3).

Similar developments are seen with all four words. Usually the adjectival senses predates the determiner-like ones; there is always a very subtle semantic transition between them that is remarked on by lexicographers; and then later on – sometimes only very recently – we find the determiner syntax of the fused-head construction.

2.7.2 A > D deictics

Davidse & Breban (2006) have argued that such adjectives as *old*, *regular* and *complete* have developed postdeterminer uses. According to them there has been a shift from full lexical attribute uses of these adjectives to deictic postdeterminer uses. They refer to this process of change as deictification and claim that it is a form of category shift (p. 2). This shift is from

attributing qualities to the entity designated by the NP to helping to express the specific identifiability status of the referent and its relation to other discourse referents. With such uses these adjectives do not describe the referent of the NP but have a 'reference-oriented' function, and they relate to the basic deictic systems of space, quantity and time. Thus *old* has developed postdeterminer meanings equivalent to 'former/previous' and 'past':

(29) He has absolutely captured what Silicon Valley is like at this moment in history--how crazy it is, how the *old* rules have been turned upside down (ANC2, written_1\ArticleIP_3530.txt)

(We give our own examples from the American National Corpus, 2nd edition.) *Regular* has developed postdeterminer uses which derive from the notion of temporal regularity. (p. 24)

(30) it does make a difference if there are *regular* visits by family (ANC2 spoken \sw4230-ms98-a-trans.txt)

Complete can express quantification in the same way that the quantifier *all* does – i.e. it quantifies over the whole thing. (p. 22)

(31) so you already have this right? so this wasn't the *complete* equation right? (ANC2 spoken\ofc270mg048.txt)

2.7.3 Last, next

Next is etymologically the superlative of *nigh* 'near' and later serves as the superlative of *near*. From very early it shows senses with determiner-like semantics:

> Designating a person, thing, occasion, etc., coming in immediate succession to another in time, in the sequence stated or implied in a narrative, etc., without anything of the same kind intervening. Usu. with *the*. (*OED* s.v. *next* a., A.4.a)

Last is etymologically the superlative of the adjective *late*. Again from very early it had rather determiner-like semantics, as shown in the sense 'Following all the others in a series, succession, order, or enumeration' (*OED* s.v. *last* a., adv. and n., A.1.a), but there appears to have been a leftward shift in its position in NP:

> With a cardinal numeral. In this combination two varieties of word-order are commonly used. (a) The more frequent form till the 17th c. appears to be *the two* (*three*, etc.) *last* (= F. *les deux derniers*, G. *die zwei letzten*); the variant *seven the last* appears in one example. (b) The form *the last two* (*three*, etc.) is now the more frequent of the two, exc. where *last* is equivalent to 'last-mentioned'; see also 3. Also preceded by an ordinal number, to denote how many places from the end of a series an object, name of a person, etc., occurs. (*OED* s.v., A.1.b)

PDE *last* and *next* are determiners for Quirk et al (1985) and Biber et al (1999). The justification is that (a) they are like ordinal numerals in that they evoke order, and (b) they can precede cardinal numerals and words such as *many* and *few*, which are also treated as determiners:

(32) the next three weeks

(33) his last few days

2.7.4 Other

The determiner treatment of *other* (Biber, Johansson, Leech, Conrad & Finegan 1999, Quirk, Greenbaum, Leech & Svartvik 1985) is due to it occurring before numerals and quantifiers such as *many*. These are alleged determiners, and under the assumption that a word preceding a determiner can only be a determiner itself, *other* is also classed as such:

(34) the other three examples

(35) all those other many occasions

It has a complicated history, functioning among other things in OE as an ordinal numeral.

2.8 Movement away *from prototype*

More work is needed here. Possible candidates are the development of modification of *few*, as in *very few* (1533- in *OED*), *a good few* (1828-), *quite a few* (1883-). Note too the development of colloquial locutions like

(36) 1982 *London Rev. Bks.* 20 May-2 June 3 *A whole other* wife and children all unbeknownst to Ackerley until after his father's death. (*OED*)

(37) 1963 *Word Study* Feb. 7, I have to grade *a whole nother* set of themes. (*OED*)

3 Synthesis

With both of these minor categories, then, we find it relatively easy to reject an Aristotelian analysis. With both we are tempted to go for a prototype analysis, though the dimensions of variation need working out. With M at least, and to some extent with D, there are problems also with prototypes. How far do their histories run parallel?

3.1 What M & D have in common

3.1.1 Analogy of relation to a major category

Dick Hudson has observed (p.c. 24 Mar. 2004) that the development of Aux besides V is analogous to (and largely simultaneous with) that of D besides N. Immediately two problems arise:

- In this paper we have mostly been talking about M, not Aux.
- As far as dating is concerned, the category D can be justified – or at least, justified almost to the same extent that it can be justified for PDE – from at least late ME times, whereas M and Aux are usually dated only from eModE.

There is a rough overlap in time, however, and the question of which categories are under discussion can be resolved to make sense of Hudson's assertion.

Within Aux, the modals are certainly the most central set of members, despite the Palmer tradition which labels *be, have, do* as 'primary auxiliaries'. Justification for our claim is that M are much less verb-like than *be, have, do* – for example in their complete absence of verbal inflection and the entirely idiosyncratic semantics of their use of tense (to the extent that they have tense at all). Therefore to a large extent what we have said about M applies to Aux as well, since M is a core subset of Aux – and especially if we do not take the NICE properties as criterial for Aux.

In Abney's (1987) and Hudson's (2000) conceptions, Prn is a subcategory of N, and the core members of D are pronouns, so to begin with, D develops out of N.

Now we can see that the relationship to a major category is two-fold for each of our minor categories. On the one hand, the major category provides the initial membership of the minor category, which eventually splits off and becomes a category in its own right. On the other hand, the minor category precedes the major category in linear order within the phrase, and there is genuine analytic doubt as to the headship of the phrase.

Langacker (2002a, 2002b) – reference due to (Davidse & Breban 2006) – provides another analogy:

> I suggest that, whereas a simple noun or verb stem merely specifies a type, a full nominal or finite clause designates a grounded instance of that type. (Langacker 2002a: 7)

> For nominals in English, grounding elements include demonstratives […] , articles […], and certain quantifiers […]. […] For English finite clauses, the grounding elements are tense […] and the modals […].(Langacker 2002a: 7-8)

Essentially, then, D and Tense/Modal are parallel in their semantico-pragmatic contribution to their respective phrasal types. Interestingly, in current Chomskyan syntax – about as different as it is possible to be from Langacker's approach – T = Tense is a category whose functional projections dominate the modals in tensed clauses, while functional projections of D are equally ubiquitous in nominal phrases. The parallel between T and D as grounding elements in Spec is already drawn in X-Bar work from the 1970s (Dominique Boulonnais, p.c.).

3.1.2 Inflectional morphology

Both M and D largely lack inflectional morphology but formerly had more. (But some D *do* have inflections: *these/those*, *fewer,* etc.)

3.1.3 Changes of membership

With both M and D, the initial set of members is joined by new members over time, often marginal at first. Furthermore, the actual behaviour of the members can change. With M there is more accretion than loss, but there is some loss too – or at least, loss by certain members of the set of properties which might be considered criterial for membership, as well as loss by many core members of token frequency. With D, is the traffic one-way or two-way?

3.1.4 Secondary members

We have already noted Davidse & Breban's (2006) paper on post-determiner adjectives (2.7.2 above) like *old, regular*, which they regard as a kind of secondary determiner. They refer to Langacker (2002a: 23) on 'two defining semantic characteristics of secondary auxiliaries such as *be going to* in their relation to the speech event, or "ground"', in context of the analogy that they develop between secondary auxiliaries and postdeterminers, both structural and semantic. Theirs is work in progress, so we will simply mention this idea for now.

3.2 What M & D tell us about categories: some possible conclusions

3.2.1 M & D as speeded-up versions of change in major categories?

In principle there are two obvious ways to go from here in trying to generalise from M and D to other and especially major categories. One is to assert that any category is simply the average of its members' properties, and that when either the membership or individual properties of members change, so must the category. With a small and recent category like M or D, such categorial change is evident. With a larger category like N or V, small changes in membership or distribution make a less perceptible difference to the overall 'average', and so such categories look superficially very stable. However, over a long enough period of time, even major categories change their morphosyntax.

3.2.2 Minor categories different in principle?

The other conclusion we might draw is that minor categories like M and D, which are not universal lexical categories, are in principle different from the major categories. There is **relatively** little on M or D in general discussions of categories: many recent works in the Cognitive/Construction/Functionalist schools tend to concentrate on major categories where there is a prototypical association between word class and real-world semantics (e.g. Noun ~ thing, Verb ~ event or process), or some general characterisation in terms of boundedness, etc., and always where there is opportunity for cross-linguistic comparison. Furthermore, such discussions generally concentrate on open-ended classes. An example is a recent paper on discreteness by Langacker, who discusses (2006: 136-9) whether "basic grammatical categories" are distinct (Langacker 1987b, 1991) or continuous (Ross 1972):

> The two categorizing schemes pertain to different aspects of the overall phenomenon. Ross was invoking specific grammatical behaviors as the basis for categorization. By contrast, I was proposing schematic conceptual characterizations, regarding grammatical behavior as symptomatic of conceptual factors rather than definitional. I would argue that the discrete conceptual characterizations are more fundamental, and that the continuity emerges secondarily by summation. It is the product of numerous individual factors which collectively yield a continuous result. (p.137)

Although this recent paper of Langacker's is mentioned here because among categories it only mentions such categories as V, A, N, P and participles, it is interesting that in a wide-

ranging discussion of discreteness in language, Langacker recognises continuity almost everywhere **except** in the delimiting of categories!

3.2.3 A compromise interpretation

At present we are inclined to the view that the best way to characterise a category typologically is by a notional – principally semantic – account. See here Croft, Langacker, and others. Such characterisations allow one to generalise across languages, as indeed is widely recognised, e.g. by Huddleston (1984: 74-5) in his contrast between (often notional) **general** definitions and (structurally defined) **language-specific** definitions. However, a definition which works cross-linguistically is also one which should work diachronically across a single language at different periods of its history, and that is why we find that of the linguistic domains we have considered here, it is semantics which seems most stable. There are nouns in Old English and in PDE, and as a class they meant much the same then as now. However, their distributional and formal properties, though similar, are certainly not the same in OE and PDE. The more transient word classes, like those we have studied in this paper, may actually have no lexical members at a given time (arguably true in OE of both D and M), even though the meanings associated with the classes (e.g. definiteness for D, modality for M) can be expressed in OE by other means. A lexical class as a whole, then, considered as a morphosyntactic category of phonetically non-null words, is neither fixed nor universal.

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