

Identifying noun modifiers in English

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This paper argues for the existence of a rather untypical type of noun modifier in English, which has so far received no attention in the grammars of English, i.e. identifying noun modifiers as in *the Bush administration* or *the Adamson paper*. The main focus of this paper lies in the description of the formal and functional properties of identifying noun modifiers. Apart from that, I will also adopt a historical perspective and trace the emergence of these noun modifiers in the history of English. It will be argued that identifying noun modifiers are a relatively recent innovation in English, which emerged due to the gradual semantic extension of noun modifiers to referents high in saliency.

1. Introduction: Noun modifiers in English

Noun modifiers as in *cat food* or *theatre ticket* are a typical feature of present-day English. They can express a wide range of semantic relations, though there is so far no consensus as to any consistent classification (for some classifications see e.g. Levi 1978; Warren 1978; Biber et al. 1990: §8.3). In the present paper I will proceed from the 3 functions of premodifiers identified by Teyssier (1968), i.e. ‘classifying’, ‘qualifying’ and ‘identifying’ function, a classification also adopted by Adamson (2000). Noun modifiers usually have classifying function; that is, *cat* in *cat food* specifies what type of food it is and *theatre* in *theatre ticket* what type of ticket.¹ Accordingly, they are typically adjacent to the head noun, preceding any qualifying element, cf. examples (1) and (2)

- (1) a. *this good cat food*
b. *this expensive theatre ticket*
- (2) a. **this cat good food*
b. **this theatre expensive ticket*

Noun modifiers are usually not referential and considered to be ‘anaphoric islands’ (Postal 1969), which means that they cannot be the antecedent for an anaphor, cf. the examples in (3),

¹ In the following I am describing the typical properties of classifying noun modifiers. There are many exceptions to the generalizations sketched in this section, which will be ignored in order to illustrate prototypical noun modifiers as a reference point as to which to compare later on identifying noun modifiers.

where the anaphor cannot be interpreted as being co-referential with the preceding noun modifier (see, however, (6) below for counterexamples to this claim from Ward et al. 1991).

- (3) a. ??? *I've bought some cat_i food. She_i is always so hungry.*
 b. ??? *I've bought a theatre_i ticket. It_i's round the corner.*

There is an ongoing discussion as to whether noun modifiers are part of morphological compounds or syntactic phrases, i.e. whether the first part in these constructions are to be analysed as a morphological or a syntactic modifier (cf. e.g. Bauer 1998, Giegerich 2004; Huddleston & Pullum 2002: §14.4). As the focus of this paper is on a specific (and novel) *function* of noun modifiers, this theoretical question concerning their formal status will be ignored in this paper, as it is not really relevant for the issues addressed here.

What is relevant – and in fact important - for the purpose of the present paper is that noun modifiers tie in very well with the neat form- function correspondence we usually find in the noun phrase, as illustrated in table 1.

Determination	Premodification		Head
<i>this</i>	<i>good</i>	<i>cat</i>	<i>food</i>
<i>this</i>	<i>expensive</i>	<i>theatre</i>	<i>ticket</i>
<i>[the girl]_{NP}'s</i>	<i>old</i>		<i>book</i>
identifying function	characterising function	classifying function	
reference ←			→ denotation

Table 1: Form – function correspondence in the noun phrase

The generalization is that elements contributing to properties of the head or the denotation, i.e. elements having classifying function and thus restricting the denotational scope of the head noun, are positioned close to the head noun, while elements contributing to the identification of the referent of the noun phrase, helping to establish reference in the noun phrase, are positioned at the left side of the prehead string, usually in determiner position. If there are any nominal expressions with identifying function in prehead position, they are typically noun phrases, marked with the possessive ‘s and positioned in the determiner slot , i.e. determiner genitives (*the girl's old book*).

2. Identifying noun modifiers

The major claim made in this article is that there are also noun modifiers in prehead position, a position typically reserved for classifying elements, which have identifying function. This constitutes a clear case of mismatch between form and function; see the following examples in (4).²

- (4) a. All the questions that Sarah had asked in **the Sizela kitchen** ... (G. Slovo, *Red Dust*, p. 134)
- b. “Mr. Lindenbaum had two bags, a small one and a larger canvas duffel...” [...] “**The Lindenbaum bag** and its contents, *and these objects alone, of all the artefacts recovered from the crash*” ... (K. Reichs, *Fatal Voyage*, p. 350)
- c. Chuck nodded, looking past Alfred at **the Lambert house**. (J. Franzen, *The Corrections*, p. 286)
- d. Jimmy’s two younger brothers had become withdrawn and compliant, struggling to conform to **the Aunt Zuzi view of what men should be** – hard-working, God-fearing nonentities who abnegated their authority to the women who ran their homes. (M. Walters, *Acid Row*, p. 206)
- e. Hopper and Thompson (1980) suggest a different interpretation of DOM, one which is also iconic [...] **The Hopper and Thompson approach** is not related to markedness reversal and therefore does not, as far as I can tell, make predictions about discriminate *subject* marking systems ... (Aissen 2003: 438, note 4)
- f. The Presidency of George W. Bush, also known as **the George W. Bush Administration**, began on his inauguration on January 20, 2001.... (http://en.wikipedia.org/wiki/George_W._Bush_administration)

In all these examples the noun modifier is either culturally known (as in (4g), *George W. Bush*) or contextually known, either because it has been previously mentioned in the context (as *Mr. Lindenbaum* in (4b)³ and *Hopper and Thompson* in (4e)) or because it is generally the

² Throughout this paper, I’m highlighting the matrix NPs in which the noun modifiers are embedded in bold in the examples; all other highlighting is the original’s.

³ In this part of the novel, Mr. Lindenbaum has been identified as the victim of a plane crash. In that particular passage he is topical and we can find multiple reference to his belongings by means of noun modifiers, see e.g.

topic of the novel (as the families of Sizela in (4a), the Lambert family in (4c), or Aunt Zuzi in (4d)). Importantly, in all these examples the noun modifier helps to identify the referent of the noun phrase rather than classifying it. So, for example, *Sizela* in (4a) helps to identify whose kitchen it is, *Lindenbaum* in (4b) whose bag, *Lambert* in (4c) whose house, and so on. Note, that all these modifiers are proper nouns. This is not a coincidence. As will be argued below proper nouns are particularly suitable for having identifying function, although they do not have to, as the examples in (5) illustrate, where the proper noun modifiers do not help to identify the referent of the noun phrase.

- (5) a. Crowe repeated the movement, adding **a Monica Seles grunt**. (K. Reichs, *Fatal Voyage*, p. 331)
- b. ... he has given her **his John Lennon poster**,... (Anita Shreve, *Last time they met*, p. 289)
- c. I've been on **a Margaret Drabble kick**. (Anita Shreve, *Last time they met*, p. 289)
- d. "Enid dahling", the turd mocked in **a David Niven accent**,.. (J. Franzen, *The Corrections*, p. 331)

Proper noun modifiers are an extremely heterogeneous class which so far have been only little studied. Kay & Zimmer (1976) focus exclusively on the classifying use of proper noun modifiers (as those in (5)). Ward et al. (1991) draw attention to them because they appear to be a notable exception to what has been claimed to be 'anaphoric islands' (see also below). To my knowledge, Warren (1978: 43-44) is the first scholar to mention the identifying function of proper nouns in the first part of noun + noun sequences, though almost in passing so. In Rosenbach (2002: 17-18), a study of English genitive variation, the potential of proper noun modifiers to vary with determiner genitives is mentioned, an observation which had led to the in-depth study of the emerging variation of (identifying) noun modifiers and determiner genitives in Rosenbach (2007). Otherwise, however, we find no mention (let alone description) of identifying noun modifiers in the grammars of English, nor elsewhere in the English linguistics literature.⁴

the Lindenbaum jacket (p. 351), *the Lindenbaum duffel* (p. 352), *the Lindenbaum suitcase* (p. 353, 354), *the Lindenbaum pipe* (p. 356); see also (7) for an example where the nominal dependent '(Mr.) Lindenbaum' alternates with a determiner genitive in the same expression.

⁴ In an unpublished manuscript Koptjevskaja-Tamm & Rosenbach (2005) contrastively discuss some properties of proper-noun modifiers in English and Swedish to argue for the 'fuzziness' of the function of nominal

So, what are the (special) properties of the proper noun modifiers in (4) ? Formally they behave like classifying noun modifiers in that they are adjacent to the head noun. So it's e.g. *the spacious Sizela kitchen / Lambert house* and not **the Sizela spacious kitchen* or *the Lambert spacious house*, or *the recent Hopper and Thompson approach* and not **the Hopper and Thompson recent approach*. However, unlike typical classifying noun modifiers they are referentially accessible. In their (1991) article Ward et al. give various examples for such anaphors in their appendix, as e.g. the following (all taken from Ward et al. 1991: 469-470). Example (6c) shows that such outbound anaphor is not confined to proper nouns.⁵

- (6) a. Well, action is still needed. If we're to finish the job. Reagan's Regiments will have to become the **Bush** Brigades. Soon **he**'ll be the chief, and **he**'ll need you every bit as much as I did. (Ronald Reagan, farewell speech. January 11, 1989, reported in Associated Press Newswire.)
- b. The **Senator Bradley** forum has been cancelled due to **his** need to be in Washington for the budget vote. (Note on poster at AT&T Bell Labs, September 26, 1990)
- c. **Museum visitors** can see through **its** big windows the 900-year-old Tower of London and the modern office blocks of the City financial district. (Associated Press Newswire: July 5, 1989)

But what type of evidence do we have that the noun modifiers in (4) really have identifying function ? As argued above these noun modifiers all help to identify the referent of the NP. In so doing, they ought to have the same function as determiner genitives. And indeed, all noun modifiers in (4) could also be rendered by a corresponding determiner genitive, see e.g. *the Sizelas' kitchen* for (4a) , *Lindenbaum's bag* in (4b), *the Lamberts' house* (4c), *Aunt Zuzi's view of what men should be* (4d), and so on. What is more, the examples in (7) to (9) below illustrate cases where the same expression is alternatively realized as a noun modifier and as a determiner genitive within the same novel, without any apparent difference in meaning.

determination. See also Koptjevskaja-Tamm (2009) for an in-depth study on proper-name nominal compounds in Swedish, some of which may have identifying function.

⁵ Strictly speaking, also classifying noun modifiers can be accessible to anaphor given sufficient contextual support. Bauer (1998:72), for example, cites the following example from Ward et al. (1991:471): *So, I hear you're a real cat-lover. How many do you have now ?* What I claim here is that identifying noun modifiers are more easily referentially accessible because in order to have identifying function they need to be (more) individuated.

- (7) “Heat from the incandescent combustion in **Mr. Lindenbaum’s duffel** aggravated the crack, allowing minute quantities of vaporized fuel to dissipate from the line into the hold.” [...] **The Lindenbaum duffel** could be seen high in the left rear of the baggage compartment, immediately below seats 23A and B.” (K. Reichs, *Fatal Voyage*, p. 352)
- (8) a. I know he don’t live too far from **the Steiners’ crib**. (P. Cornwell, *The Body Farm*, p. 149)
- (b) ...you got to the church at one end and **the Steiner crib** at the other with about two miles in between. (P. Cornwell, *The Body Farm*, p. 90)
- (9) a. “... She and that housekeeper at the Old Rectory, Mrs. Dennison, are the only ones who were at **the Mairs’ dinner party** who made no attempt to produce an alibi...” (PD James, *Devices and Desires*, 279)
- b. He was at **the Mair dinner party**. (PD James, *Devices and Desires*, 270)
- c. “... There was a rather cryptic exchange at **the Mairs’ dinner party** between him and Hilary Roberts.” Rickards crouched forward, his huge hand cradling the whisky glass. Without looking up, he said: “**The Mair dinner party**. I reckon that cosy little gathering – if it was cosy – is at the nub of this case. ...”(PD James, *Devices and Desires*, 274-5)⁶

The duffel of the passenger Mr. Lindenbaum in (7), in this passage describing the aftermath of a plane crash, is referred to within a few lines as both *Mr. Lindenbaum’s duffel* and as *the Lindenbaum duffel*. In Patricia Cornwell’s novel *The Body Farm* we find both *the Steiners’ crib* as well as *the Steiner crib* (8), with ‘Steiner’ being the name of a family which plays a major role in this crime novel. And in PD James’ novel *Devices and Desires* the dinner party organised by the Mairs, one of the central events in the novel, is either referred to as *the Mairs’ dinner party* (9a) or *the Mair dinner party* (9b) or even both side by side (9c) throughout the novel. In all these cases the noun modifier clearly helps to narrow down the referent of the noun phrase, and this identifying function shows in the use of an equivalent

⁶ See also Rosenbach (2007).

determiner genitive, which is otherwise the prototypical formal device for expressing the function of referential anchoring which underlies nominal determination.

Further evidence for the meaning equivalence between determiner genitives and noun modifiers comes from translations.

- (10) a. Apart from **the Grieg Piano Concerto**, there is only one other Nordic concerto that has attained classic status and universal popularity: the Sibelius Violin Concerto.
- b. Abgesehen von **Griegs Klavierkonzert** gibt es nur noch ein einziges skandinavisches Instrumentalkonzert, das den Rang eines zeitlosen Werks und allgemeine Beliebtheit erlangt hat: **das Violinkonzert von Sibelius**.
(from CD *Sibelius – The Complete Works for Violin and Orchestra*, Christian Tetzlaff, Danish National Symphony Orchestra, EMI Records, Virgin Classics, 2002.)
- (11) „McClellans Buch soll erst am 21. April 2008 in den US-Handel kommen. Sein Titel lautet: „What Happened Inside **the Bush White House** and What’s wrong with Washington“ (Was passiert ist: Im Inneren von **Bushs Weißem Haus** und was das Problem mit Washington ist).“ (*Westdeutsche Zeitung (WZ)*, 24/11/2007)

In the English original in (10) the composers Grieg and Sibelius are realized as noun modifiers (*the Grieg Piano Concerto, the Sibelius Violin Concerto*), whereas the German translation gives Grieg as a prenominal determiner genitive (*Griegs Klavierkonzert*, ‘Grieg’s piano concert’) and Sibelius as part of a periphrastic *von*-possessive construction (*das Violinkonzert von Sibelius*, ‘the violin concert of Sibelius’). Note that German does not lack a corresponding use of noun modifier; it would have been perfectly possible to translate the English expressions one-to-one as *das Grieg Klavierkonzert* and *das Sibelius Violinkonzert* (see also §5 below for proper-noun modifiers in German). In the German example in (11) the author mentions the English title of a forthcoming book, which contains the modifying expression *the Bush White House* and goes on to translate this for his German audience as *Bushs Weißem Haus*, i.e. a determiner genitive. The very fact that the translators opt for possessive constructions in (10) and (11) shows that these constructions were felt to be equivalent with the noun modifiers.

All this indicates that these noun modifiers have, at least to some extent, possessive semantics. But what does it mean to have ‘possessive semantics’? Possessives are notorious for their ‘fuzzy’ semantics (see e.g. Rosenbach 2002: §4.3 for discussion). Following Taylor (1996), among others, I will focus on the function of determiner genitives as ‘reference points’ or ‘referential anchors’.⁷ Put simply, the idea is that determiner genitives help to narrow down the referent of the noun phrase, that is, they are serving as ‘reference points’ or as referential ‘anchors’. So, for example, in *Mary’s house* the genitive *Mary’s* specifies whose house it is. Accordingly, the core function of determiner genitives is the identification of the referent of the noun phrase, and through this function of referent identification they are closely connected to the expression of definiteness in the noun phrase (see also below). In principle, all sorts of nominals can serve as referential anchors in determiner genitives. However, not all nominals, or rather referents, can serve this referential anchoring function equally well. In order to be a good referential anchor the referent itself should be highly salient and accessible (cf. Taylor 1996, *inter alia*), that is, high on the animacy and definiteness/referentiality scales in (12).

- (12) a. animacy scale: human > animate > inanimate
 b. definiteness/ referentiality scale: proper N > def. common N > indef.
 common N

That is, the optimal referential anchor is a human proper noun. And indeed, many studies have shown that the preference for the English determiner genitive decreases along the scale in (13), cf. e.g. Jucker (1993); Leech et al. (1994); Hundt (1997), Raab-Fischer (1995), O’Connor et al. (2004), Hinrichs & Szmrecsanyi (2007).⁸ A human noun as in *the boy’s bike* more frequently takes a determiner genitive than an inanimate noun as in *the museum’s shop*, and a proper-noun genitive as in *John’s book* is more likely to occur than a common-noun genitive as in *the boy’s bike*, although they are both human, as illustrated in (13) (preference always vis-à-vis a corresponding *of*-genitive).

(13)

⁷ See also Langacker (1995) for a similar Cognitive-Grammar approach; likewise the idea of ‘referential anchors’ (with determiner genitives constituting one specific case) can also be found in theoretical accounts of definiteness (Hawkins 1991, Löbner 1985). In the typological literature the view of ‘determiner genitives’ as referential anchors can be found in Haspelmath (1999) or Koptjevskaja-Tamm (2001).

⁸ Note that the scale in (13) is simplifying things considerably in conflating the scales in (12) and generalizing over the results of various empirical studies, which not all used precisely the categories depicted on this scale. However, as a general trend this scale can be considered to be representative.

proper N	human >	animal >	collective>	temporal >	locative >	other
>	common N	common N	common N	common N	common N	common N
<i>John's ></i>	<i>the boy's ></i>	<i>the dog's</i>	<i>the ></i>	<i>the ></i>	<i>the city's ></i>	<i>the</i>
<i>bike</i>	<i>bike</i>	<i>> collar</i>	<i>company's</i>	<i>morning's</i>	<i>traffic</i>	<i>building's</i>
			<i>director</i>	<i>paper</i>		<i>door</i>

Scale of preference for determiner genitives ➔

Note, that locative and temporal nouns as in *the morning's paper* or *the city's traffic* apparently are better referential anchors than other inanimate noun classes, as they occur more frequently with genitives than other inanimate noun classes; I will get back to this issue in section 4 below.

Now, recall that the examples of identifying noun modifiers we have seen so far are all human proper nouns, as in e.g. in *the Sizela kitchen*, *the Lindenbaum bag* or *the Grieg violin concert*. That is, they all belong to the most salient noun class and as such are easily compatible with the function of a referential anchor. However, one important difference between determiner genitives and noun modifiers lies in the expression of definiteness. Determiner genitives render the matrix noun phrase definite, so *Mary's house* translates into 'the house of Mary' and not into 'a house of Mary'.⁹ This is not the case with noun modifiers; here the matrix NP can be either definite or indefinite (*the/a Bush administration*), as the determiner slot is still available, so to speak. Notice that for identifying noun modifiers the determiner position is available for *all sorts of* determiners, including also determiner genitives, as illustrated in table 2.

⁹ That determiner genitive confer definiteness on the matrix noun phrase is the standard view in the literature (cf. e.g. Huddleston & Pullum 2002: §16.3). Note, however, that other scholars are arguing against the view that determiner genitives are necessarily linked to definiteness (e.g. Taylor 1996); for a discussion see also Rosenbach (2006: 107-109).

Determination	Premodification		Head
<i>John's</i>	<i>old</i>		<i>book</i>
<i>the/a/this/...</i>	<i>new</i>	<i>Bush</i>	<i>administration</i>
<i>the/ yesterday's</i>		<i>Mair</i>	<i>dinner party</i>

Table 2: Co-occurrence patterns between determiners and identifying noun modifiers in the noun phrase

In order to be equivalent in meaning to determiner genitives, identifying noun modifiers *must* be embedded in definite noun phrases, as in fact they all do in (4). When searching for individual collocations on the web, it is also striking that (potentially) identifying noun modifiers are far more likely to occur in definite than in indefinite noun phrases, see the results from google searches (all conducted on 18/05/08).¹⁰

- (14) a. the Bush administration: 14,500,000 hits (98.3%)
a Bush administration: 245,000 hits
- b. the Bush supporter 12,600 hits (14.9%)
a Bush supporter 71,700 hits
- b. the Clinton campaign 1,320,000 hits (96.3%)
a Clinton campaign 51,200 hits
- c. the Clinton house 12,100 hits (97.3%)
a Clinton house 335 hits

Interestingly, the ‘counter-examples’ with indefinite noun phrases can often be explained otherwise. For example, the indefinite *a Bush administration* is often used in counter-factual, irrealis contexts (see the example in (15a)); likewise such expressions often occur as (the first) part of compounds, as in the example of *a Clinton campaign source* in (1b).

- (15) a. If it does, then **a Bush administration** may find itself paralysed.
Lacking real legitimacy, with a tied Senate and the barest of majorities
in the House of ...
(www.prospect-magazine.co.uk/article_details.php?id=3403)

- b. "It was sad to watch," said a **Clinton campaign source**. "He has no idea how to deal with McCain."

(www.guardian.co.uk/world/2008/feb/09/usa.barackobama)

Note, also that the collocations searched for in (14) show different affinities towards being embedded in an indefinite noun phrase. The indefinite expression *a Bush supporter*, for example, is more frequent than the definite *the Bush supporter*. The disposition of a noun modifier to be identifying – and thus to occur in a definite noun phrase – does not only depend on its salience but also on the specific concept denoted. While *Bush administration* designates a unique entity, *Bush supporter* defines a class of people, which is less likely to occur in a definite construction than *Bush(’s) administration*. In fact, the hits for the corresponding determiner genitive *Bush’s supporter* are exceedingly low (170 hits). Note further that identifying noun modifiers may easily receive a classifying interpretation. For example, *the Bush administration*, although designating a unique referent, can also refer to a certain type of administration. In fact, it is such a frequent expression that it may already be taken as a kind of fixed term and thus a concept itself. However, even noun modifiers which productively identify the head noun, as in (4b) or (4c) could designate a certain type of house (*the Lambert house*) or a particular type of look (*the Aunt Zuzi look at what men should be*). Such a reading could be easily enforced by the premodifier ‘typical’: *a/the typical Lambert house*, *the typical Aunt Zuzi look at what men should be*, etc. The classifying interpretation is possible, given the context, because classification as *the* prototypical function of noun modifiers is still available. For this reason, identifying noun modifiers may be potentially ambiguous between these two interpretations, unlike determiner genitives.¹¹ Another difference to determiner genitives is that identifying noun modifiers are apparently less salient, less individualized and even less referential than the former. So, for example, noun modifiers typically give the last name only (cf. *the Sizela kitchen*, *the Lindenbaum bag*, *the Lambert house*, *the Bush administration* – though see *the George W. Bush administration* in 4g as a notable exception). And although they express plural concepts, they appear in the singular form (e.g. *the Lambert house*, *the Sizela kitchen*, *the Mair dinner party*), while the corresponding determiner genitive do express the plurality of referents (cf. *the Lamberts’ house*, *the Sizelas’ kitchen*, *the Mairs’ dinner party*). This lack of plural marking in the noun

¹¹ There are, however, also s-genitive constructions which are inherently ambiguous between an identifying (= determiner) and a classifying reading. For example, in the sentence *I went to a solicitor’s office*, the NP ‘a solicitor’ could be identifying whose office it is, or the noun ‘solicitor’ could classify the type of office, see Rosenbach (2006a) for discussion. Ambiguity between determiner and classifier reading is, however, far more restricted with s-genitives.

modifiers is a further indication of their reduced referentiality.¹² Koptjevskaja-Tamm & Rosenbach (2005) showed that ‘Bush’ was more likely to be mentioned in the context of the noun+noun sequence (*the*) *Bush administration* than in the determiner genitive *Bush’s administration* (cf. also Rosenbach 2007: 148-9), which indicates that nominal dependents are more salient/ foregrounded and more referential in the syntactic position of a determiner genitive than in that of a noun modifier.

To sum up so far, we can notice that some noun modifiers – or rather some uses of noun modifiers - have identifying function and be roughly equivalent in meaning with a corresponding determiner genitive. At this stage I – rather tentatively – suggest a cline of noun modifiers from truly identifying cases which are equivalent with determiner genitives (most notably, the cases cited in examples (7) to (9) above, where the noun modifiers alternate with determiner genitives) to semantically more hybrid cases, which are also open for classifying interpretation. Further research will have to look more closely at the intricate semantics of these noun modifiers. In the following section I will now try to answer the question of where these noun modifiers come from. How – and when – do they first occur in English, and how do they spread ?

3. Historical development: the emergence of identifying proper noun modifiers

Very little is known about the history of noun modifiers in English in general (see e.g. Rosenbach 2006b for a summary of the literature and findings). A notable exception is Biber & Clark’s (2002) diachronic corpus study which show that noun modifiers become more frequent in the 20th century. In Rosenbach (2007) I re-analysed parts of Biber & Clark’s data in terms of the animacy of the noun modifiers. Figure 1 gives the frequency (per 10,000 words) of noun modifiers according to their animacy from the middle of the 17th century to present-day English.

¹² Note that in principle plural noun modifiers are possible in English (e.g. *arms dealer*, *airways clearance*, *drugs problem*), cf. e.g. Johansson (1980) or Biber et al. (1990: §8.3.2).

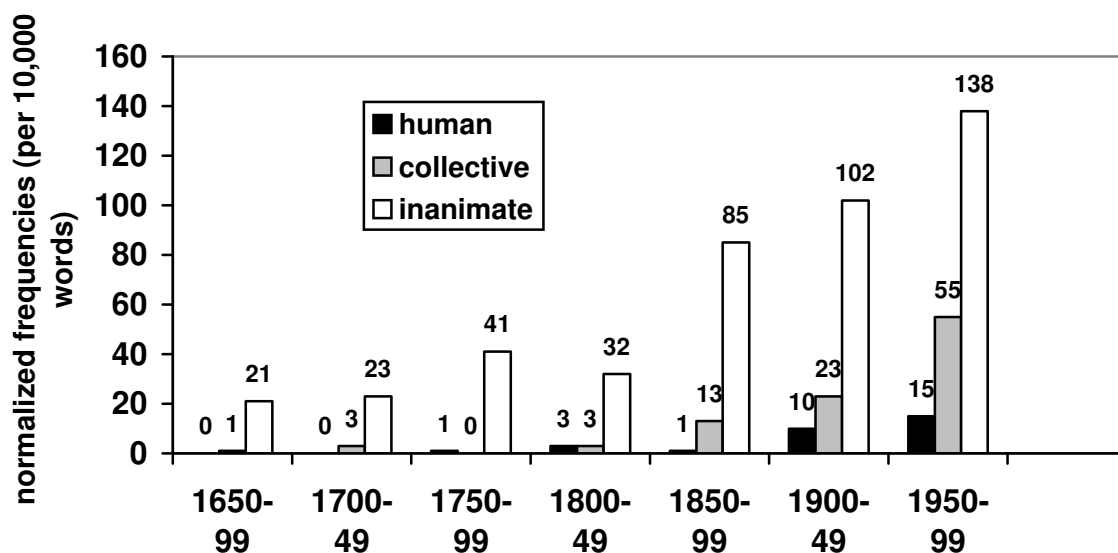


Figure 1: Frequency (normalized) of noun modifiers according to animacy in ARCHER corpus (BrE; news sections), cf. Rosenbach (2007: 163)

We can clearly see a drastic increase in the frequency of noun modifiers, particularly from the 20th century onwards. Looking at the animacy of noun modifiers, two things are worth mentioning. First of all, we can notice that noun modifiers occur most frequently with inanimate referents, as in *war history*, followed by collective nouns (*Labour candidate*), and are least frequent with human nouns (as in *Bush administration*). Looking at the historical development it is interesting to note that originally, in the 17th and 18th centuries noun modifiers were basically restricted to inanimate nouns and then gradually extended to collective and human nouns. As noun modifiers are generally becoming more frequent, particularly in the 20th century, so are collective and human nouns. Looking more closely at proper nouns (see figure 2 below), we can notice proper noun modifiers very clearly before the 20th century, but these early occurrences are restricted to inanimate proper nouns, in particular locative and temporal proper nouns (as in *Ghana government* or *Saturday review*). Human proper nouns, i.e. the noun class best compatible with identifying function, do not appear in the corpus before the 20th century. They are clearly a modern phenomenon.

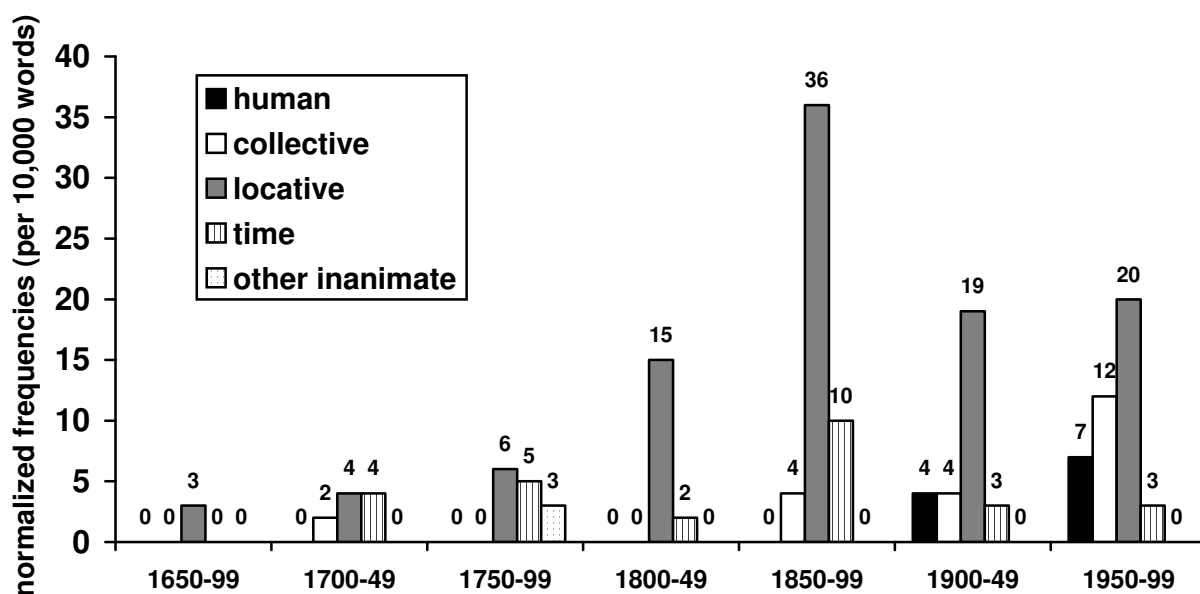


Figure 2: Frequency (normalized) of proper noun modifiers according to animacy in ARCHER corpus (BrE; news sections), cf. Rosenbach (2007: 166)

To sum up so far, we have seen that human proper noun modifiers did not appear out of the blue but are part of the larger development of noun modifiers – gradually and rather systematically – extending in frequency and in contexts to referents higher(er) in animacy.

But why did noun modifiers start to extend to animate nouns in the first place? Two possible reasons can be mentioned here. For one, there are already cases of (non-productive) human proper noun modifiers in late Middle and early Modern English, such as *Valentine Day* or *Saynt Marke day*. Such expressions seem to result from the lexicalisation of determiner genitives. *Valentine day*, for example, starts off as a determiner genitive in the 14th century according to the OED and from the 18th century got reduced to the *s*-less *Valentine Day* (data from OED), cf. also Rosenbach (2007: 181)

- (16) a. 1381 Chaucer *Parl Foules* 309. For this was on *seynt Volantynys day*...
- b. 1668 H. More *Div. Dial III. xiii.* (1713) 206 As some... embrace the first they meet on *Valentine's day*.
- c. 1725 *bourne in Brand Pop. Antiq.* (1777) 225 On the Eve before *Valentine-day*.

A similar pathway may be assumed for expressions for certain days which relate to famous saints, as *saynt Marke day* (16thc, *The Diary of Henry Machyn*, 34). Apart from such lexicalized expressions there are also determiner genitives lacking the possessive 's, as in *the bucher wyff* (16thc, *The Diary of Henry Machyn*, 8), or *the man name* (16thc, *The Diary of Henry Machyn*, 21), thus overtly resembling human modifiers but being straight-forward possessives. This *s*-less genitive variant originates in the Middle English period,¹³ persisting throughout EModE, and particularly so in northern English dialects where it could be found well until the early 20th century (see e.g. Wyld 1936: 316; Altenberg 1982: 13; Klemola 1997). Both lexicalized expressions as in *Valentine-day* or *saynt Marke day* and *s*-less genitives may have served as a model for noun modifiers to productively extend to animate noun classes.

A further aspect worth mentioning is another development taking place in the prenominal string within the noun phrase at the time, namely the development of determiner genitives. Like noun modifiers, determiner genitives have become more frequent from the early Modern English period onwards. And like noun modifiers, determiner genitives extended semantically to other noun classes. In fact, as shown in Rosenbach (2007) the development of noun modifiers and determiner genitives along the animacy scale is a kind of mirror image: while noun modifiers have spread to nouns high(er) in animacy, determiner genitives have spread to nouns low(er) in animacy. As a result of this development, the two nominal dependents increasingly converge with respect to the semantic noun classes they allow, which then makes the variation between the two possible, as illustrated in the examples in (7) to (9) above; see Rosenbach (2007) for details of this development.

4. Identifying noun modifiers – beyond proper nouns

So far we have only looked at human proper noun modifiers as the 'prototype' of an identifying noun modifier. It is important to note, however, that while the identifying function of noun modifiers works best for referents highest in saliency, it is not restricted to those highly salient noun classes, as illustrated by the examples in (17) below. In all these examples the modifier neither denotes a human referent, nor is it a proper noun. Yet, all these noun modifiers have identifying function, and they can all be converted into a corresponding determiner genitive.

¹³ What is meant here are *s*-less genitives with noun classes originally not occurring without overt genitive marking in Old English, as e.g. *r*-stem nouns did.

- (17) a. She is **the convent archivist**, you know. (K. Reichs, *Death du Jour*, p.6)
- b. Robin's father, Nick, was Fazio's middle child and the only Passafaro of his generation who never got with the Teamster program. Nick was **the family brain** and a committed Socialist;... (J. Franzen, *The Corrections*, p. 394)
- c. The first of **the cinema occupiers** emerged, to the relief and consternation of the tense crowd,... (T. Pears, *In a Land of Plenty*, p. 643)
- d. To one side of this building stood a barn, and music issued from inside: Frank Sinatra by the sound of it, crooning a pop tune in Italian. St James headed in this direction. **The barn door** hung partially open, and he could see that **its** interior was whitewashed and lit by rows of fluorescent tubes that dangled from the ceiling. (E. George, *A Place of Hiding*, 311)
- e. Chip's doorman, Zoroaster, hurried out to help with the luggage and installed the Lamberts in the building's balky elevator. [...] "Dad and I were at the housewarming in June," Enid said. "It was spectacular. They'd had it catered, and they had *pyramids* of shrimp. It was solid shrimp, in pyramids. I've never seen anything like it." "Pyramids of shrimp," Chip said. **The elevator door** had finally closed. (J. Franzen, *The Corrections*, p. 24)
- f. Fondly, she rubbed her cheek against his fur before replacing him in the cage. The piece of toast was nearly his size, but he managed to drag is industriously towards his nest. Elena smiled, tapped her fingers on **the cage top**, grabbed the rest of the toast, and left the room. (E. George, *For the Sake of Elena*, p. 14)
- g. He returned Stewart his report, and watched as the DI assiduously smoothed the pages against **the table top** to remove the curled edges. (E. George, *For the Sake of Elena*, p. 33)

In (17a) and (17b) we see examples of collective noun modifiers where the referent of the noun modifier is topical in the context. In (17a) the whole context is about this convent, and in (17b) the passage is explicitly about the family. Also, it is clear that *the convent archivist* does not denote a type of archivist but rather identifies a particular archivist. Likewise, *the family brain* is not a type of brain but the brain of that particular family. Example (17c) is an example for a locative noun modifier (*the cinema occupiers*) which, unlike the example in (4f) above (*the England team*) is not a proper noun. The larger context in which this example is embedded is situated within the cinema. Again, the noun modifier 'cinema' in this context

does not classify but identify the head noun ‘occupiers’. Locative and temporal noun modifiers are special and will be discussed in more detail below.

The examples in (17d) to (17g) all illustrate noun modifiers located at the very end of the scale in (13), i.e. inanimate common nouns, being least likely to perform the function of a referential anchor. Examples (17d) and (17e) illustrate a very common identifying use of such inanimate noun modifiers in that they express a whole-part relation: *the barn door* (17d), *the elevator door* (17e). The noun modifier, although in a syntactic position typically not associated with referentiality/specificity, is still specific in these particular contexts because their referents have been explicitly introduced before in the context. In addition, as the matrix NP is specific (and definite) and as the relation is a whole-part relation, the modifier so to speak ‘inherits’ the specificity of the matrix NP: If there is a specific door, then also the barn (17d) or the elevator (17e) it belongs to must be specific.¹⁴ (For a similar example see also (19) below.) Note also that such part/whole relations are one of the core relations encoded by possessive constructions, i.e. those constructions typically associated with identification. The examples in (17f) and (17g) exemplify cases of identifying inanimate noun modifiers with the head noun ‘top’. As the modifier in (17f) ends on a sibilant (*the cage top*) one might assume an avoidance strategy here, as the possessive ‘s is known to be left out in such cases. However, there are various arguments which speak against such an interpretation. With sibilants not ending in /z/ (as in *cage*) the possessive ‘s is generally realized (cf. Quirk et al. 1985: §5.114). Also, the alternative *of*-construction (*the top of the cage*) is of course always an option, too. Note further that (17g) illustrates yet another case of an identifying noun modifier with the head noun ‘top’, this time however not ending in a sibilant (*table*). As (17d) and (17e), the examples of *the cage top* and *the table top* can be interpreted as whole-part relations (the top is one part of the cage / the table).

A further argument for the potential identifying function of inanimate noun modifiers comes from their ability to alternate with determiner genitives, just as in the examples with human proper noun modifiers in examples (7) to (9) above; see the examples in (18) and (19).

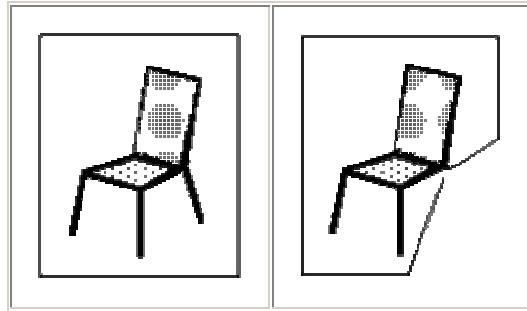
(18) He blamed **the motel's architect** for trusting a single layer of cinder block to preserve the repose of paying customers. He blamed **the motel management** for not keeping in

¹⁴ However, a whole-part relation and a specific and definite matrix NP cannot be sufficient for coercing an identifying function to noun modifiers. We cannot say, for example, **the building door*, which is also a whole-part relation, while we can say *the elevator door* or *the barn door*. A corresponding determiner genitive (*the building's door*) is no problem though. That is, there must be further restrictions which license the use of such inanimate noun modifiers.

reserve a room for guests who suffered.

(J. Franzen, *The Corrections*, p. 283)

- (19) Cut an ordinary photograph snipping a leg off the chair pictured. Then **the chair leg** is no longer visible. It is no longer part of the photographic image.



Now snip off a comparably sized piece from a diffraction image hologram containing the same chair information. When this mutilated hologram is illuminated by the reference beam the whole real space image appears - albeit dimmer and fuzzier. **The chair's leg** is preserved. In fact it can't be removed from the hologram by cutting! That is because any part of the hologram relates to the whole of the real space image. (<http://www.physics.ucla.edu/~chester/CES/october/>, emphasis mine)

In example (18) the nominal dependent *motel* is first realized as a determiner genitive in the expression *the motel's architect*, while in the very next sentence the author chose a noun modifier (*the motel management*) to express a very similar relation. Example (19) even testifies a case where the very same expression gets alternatively realized as a determiner genitive (*the chair's leg*) and a noun modifier (*the chair leg*), cf. also Rosenbach (2007: 178). In this example the compilation of a hologram showing a chair leg is being described. The chair itself is highly salient in the context; it is explicitly introduced and illustrated by a picture. When the chair leg is first described it is referred to by means of a noun modifier (*the chair leg*). However, only a few lines later the same object is referred to by a determiner genitive (*the chair's leg*), with no apparent difference in meaning.

Historically, the 'bridge' towards uses of noun modifiers with referents low in animacy and thus least compatible with a referential anchoring function are locative and temporal nouns. Recall that these noun classes have a special status on the preference scale given for determiner genitives in (13) above in that they occur more frequently with determiner genitives than other inanimate nouns. So, *the city's traffic* or *London's*

underground (both locative possessors) and *the morning's paper or Sunday's lunch* (both temporal possessors) more frequently take the *s*-genitive than *the museum's shop*.

As mentioned in the previous section, the historical development of noun modifiers is a precise mirror image of the development of determiner genitives, if we consider their animacy. While determiner genitives in early Modern English were basically restricted to animate nouns, noun modifiers at the time were confined to inanimate nouns. From late Modern English, however, they both extended along the animacy scale – determiner genitives down the animacy scale, and noun modifiers up the animacy scale in (13). In this semantic extension locative and temporal nouns mediate between animate and inanimate noun classes. Strictly speaking, they are not part of the animacy scale, but they have been shown to be special with respect to possessive constructions in that they occur much more frequently with determiner genitives than other inanimate noun classes (see also above). Why should that be so? As argued by Löbner (1985), certain head nouns such as 'weather' have situational arguments that need to be filled. The weather is always the weather at a particular point in time and/or at a particular place. If we extend this argument and allow for just any head noun to potentially have such situational arguments which may then be anchored in space and/or time, it is clear that locative and temporal nouns are particularly apt to fill such arguments, and, in so doing, are particularly good referential anchors and as such connected to the expression of definiteness in the noun phrase (Löbner 1985); see also Rosenbach (2008: §3) for discussion. While noun modifiers are generally said to make their appearance in the English language some time at the end of the Middle English period (cf. Rosenbach 2006:546-7), they remain very infrequent throughout early Modern English (cf. Raumolin-Brunberg 1991:275; Biber & Clark 2002; Rosenbach 2006b, 2007). Still, among the earliest examples we can already find productive cases of temporal and locative noun modifiers; see the examples in (20) (a temporal noun modifier in 20a, a locative one in 20b)

- (20) a. ...to serue **Saturday** market; for Wensday and Saturday are the most generall market daies of this Kingdome,... (Helsinki Corpus, CEHAND2B, Markham: *Countrey Contentments*, 1615)
- b. Wel coude he knowe a draughte of **London** ale (c1400, Chaucer, *CT*, Prologue)

That is, although noun modifiers were restricted to inanimate nouns in the early Modern English period, some of these inanimate nouns, i.e. locative and temporal nouns, could easily

serve as referential anchors for situational arguments. Note, that the examples in (20) could also be expressed by a determiner genitive (*Saturday's market, London's ale*). As shown in Rosenbach (2007: 157) determiner genitives begin to spread from animate to temporal and locative nouns already in the 17th century, so from this time onwards we can find variation between determiner genitives and (identifying) noun modifiers for locative and temporal referential anchors. One factor certainly contributing to the potential of locative and temporal nouns for having identifying function is the fact they can easily occur as proper nouns (e.g. *Ghana constitution, Barcelona papers, Ulster farmers, Sunday lunch, Monday paper*). In fact, locative and (though to a far lesser extent) temporal nouns constitute the majority of proper noun modifiers, as can be seen in figure 2 above. Yet, while locative proper nouns can have anchoring function they certainly do not have to. Consider the following examples:

- (21), I usually heard of him regularly. Our daughter, Katy. His dog, Boyd. My cat, Birdie. **His Illinois relatives. My Texas and Carolina relatives.** (K. Reichs, *Bare Bones*, p. 24)

In these examples the locative proper nouns cannot possibly be expressed by a determiner genitive (**(his) Illinois' relatives, *(my) Texas and Carolina's relatives*) and not just because of the initial possessive pronouns. Likewise, while *the London underground* is equivalent to *London's underground*, *the Sheffield NP workshop* is not equivalent to *Sheffield's NP workshop*. It remains to be seen in which cases such place names may have possessive meaning (and thus identifying function) and in which cases a possessive reading is ruled out.

5. Conclusion and outlook

In this article I argued for a class of identifying noun modifiers in English. Such noun modifiers are unusual in that they disturb the otherwise neat form – function correspondence in the noun phrase as their function (identification) clashes with their position (prehead) in the noun phrase. Evidence for their identifying function comes from the fact that these noun modifiers share the function of referential anchors with determiner genitives, which are the prototypical nominal dependents to have identifying function in the noun phrase. This equivalence in meaning shows, most importantly, in the ability of identifying noun modifiers to alternate with determiner genitives. It is particularly those semantic noun classes which are most compatible with the function of a referential anchor and which therefore attract determiner genitives most which are also most likely to exert identifying function with noun

modifiers (given the matrix NP is definite), that is, nouns high in animacy and referentiality: human proper nouns. With the gradual semantic extension of noun modifiers up the animacy scale since the early Modern English period they have become increasingly prone to be used in identifying function. Human proper noun modifiers, which are best compatible with an identifying function, are a relatively recent innovation, making their appearance in the English language at the turn of the 20th century. However, these noun modifiers have not just been innovated ‘out of the blue’ but they are part and parcel of a larger development. The historical development of identifying noun modifiers appears to be closely interwoven with the development of determiner genitives. As shown in Rosenbach (2007), the gradual extension of noun modifiers to referents high in animacy (and referentiality) is mirrored by a corresponding extension of determiner genitives down the animacy scale. As a result, these two types of nominal dependents become increasingly used in semantically similar contexts. One consequence of this development is that the borderline between nominal determination (= referential anchoring) and nominal classification (= non-referential anchoring) becomes increasingly blurred: Determiner genitives come increasingly used with referents not constituting ‘good’ referential anchors (being more compatible with classification), while noun modifiers come increasingly used with referents well compatible with identifying function (being more compatible with determination).¹⁵ The increasing gradience in the coding of classification vs. determination in the prenominal string of the noun phrase presumably contributes to the fact that noun modifiers – while possibly functioning as referential anchors today – often waver between a classifying and an identifying function as discussed above.¹⁶

This study certainly can only give a first account of identifying noun modifiers in English. Further studies will need to look in more detail into their semantics and their use. Among the questions which will have to be addressed are the following.

1. What is the range of semantic relations that can potentially be associated with identifying noun modifiers ?

As a first start we may assume that any kind of relation that can also be expressed by a corresponding determiner genitives can – potentially – have identifying force in a noun

¹⁵ See Rosenbach (2007) for spelling this out in terms of a gradience account between determiner *s*-genitives and noun modifiers.

¹⁶ Willemsse (2007) has recently argued that this gradience mainly rests on contextual-pragmatic factors in language use rather than on constructional semantics.

modifier, as e.g. part/whole relations (*the barn('s) door*) or relations of ownership (*the Lambert('s) house*). Kin terms, however, which are among the prototypical possessive relations (Koptjevskaja-Tamm 2001), do not that easily allow the use of an identifying noun modifier. The expressions *the Lambert son* or *the Lambert father* sound odd and do not appear to be equivalent in meaning with a determiner genitive to the same extent as the examples of, say, *the Mair dinner party* (vs. *the Mairs' dinner party*) or *the Lindenbaum bag* (*Lindenbaum's bag*). Likewise, the expression **the building door* does not work, although a corresponding determiner genitive is fine (*the building's door*) and although similar expressions do exist (*the barn door, the elevator door*).

2. *What, precisely, is the role /contribution of definiteness and specificity in identifying noun modifiers ?*

It is clear that noun modifiers can only have identifying function in contexts where they are embedded within definite and specific matrix noun phrases. The question remains what is the relative contribution of the noun modifier itself as compared to the definite article, the latter of which at least formally renders the noun phrase definite. Recall that in determiner genitives it is the whole possessor NP which is located in the determiner slot and which exerts determiner function. One might argue that the identifying force of the noun modifiers discussed in this paper derives from the definite article rather than the noun modifier. It is true that that the definite article is necessary to force the identifying reading of these noun modifiers, but it is also important to note that apparently the definite article alone does not do the job. For example, in the expressions *these old Doris Day records* or *the older Eagles stuff* the proper-names 'Doris Day' and 'Eagles' do not function as referential anchors (i.e. they do not answer the question of whose records it is, or whose stuff) despite being embedded within a definite NP. It is the specific combination of a definite article *and* a noun modifier with referential anchoring function which ensures the identifying force of the noun modifier. That is, neither the definite article nor the noun modifier alone suffice to exert identifying force in the NP but they have to work together.

3. *What determines the degree of identifying force in noun modifiers ?*

In this article I argued that identifying noun modifiers are potentially ambiguous between an identifying and a classifying function, presumably because of the observed mismatch in the morphosyntactic and semantic properties in the sense that they are morphosyntactically straightforward classifiers but have the semantics of identifiers. At the same time, individual

expressions seem to vary between having more or less potential for having a corresponding classifying reading. *The Bush administration* easily gives way to a classifying reading, while, at the other side of the pole, *the table top* does not. So, what is it precisely in the semantics of the individual expressions and/or the context that determines the degree of identifying force of noun modifiers ? How much of it can be attributed to (constructional) semantics, how much of it to the pragmatics of language use ?

4. What is the role of analogy in the process of noun modifiers of acquiring identifying function?

Given the striking parallels in the development of *s*-genitives and noun modifiers we may ask in how far structural analogy plays a role in assigning identifying function to noun modifiers. After all, both *s*-genitives and noun modifiers are nominal dependents in the prenominal string, often only minimally distinguished by the absence or presence of the possessive 's (at least at the surface). As shown at other places (Rosenbach 2006a), this minimal formal distinction gives way to various overlaps between the two construction types. Apart from *s*-less variants having determiner (identifying) function (such as identifying noun modifiers and *s*-less genitives), there are also *s*-genitives which have classifying function (e.g. *these lawyer's fees*).

5. Are identifying noun modifiers specific to particular text types or registers?

The examples for identifying noun modifiers cited in this paper mainly stem from novels (fiction) and from newspaper language (see the ARCHER study), which raises the question of whether they are in any way restricted to or specific of these text types. To answer this question further corpus studies are certainly needed which compare the occurrence of identifying noun modifiers in different text types/ registers. As for example argued by Biber (2003), noun modifiers are structures that help to compress NP structure and as such they are particularly apt for use in registers where considerations of economy, i.e. the efficient (= short) coding of complex information, plays an important role. It is therefore not surprising to find noun modifiers increasing most forcefully in newspaper language in Biber & Clark's (2002) diachronic corpus study, followed by medical language. For fiction, Biber & Clark (2002) only found a very slight increase in the use of noun modifiers over time, however. If we consider the emergence of identifying noun modifiers as the emergence of a marked structure made possible by the general extension of noun modifiers (both in quantity and in contexts), their predominance in registers which show the highest frequency of noun

modifiers is to be expected. Although I have not studied the issue of text type/ register systematically, my impression indeed is that identifying proper-noun modifiers are most typically found in newspapers. Note, however, that it is difficult to evoke arguments of economy in this case. The competing structure of an identifying noun modifier is – usually – a determiner genitive, which, however, is shorter than a corresponding noun modifier as the definite article is not expressed (*the Bush administration* vs. *Bush's administration*).

6. *Are identifying noun modifiers a unique feature of the English language, or do they also show in other languages ?*

The identifying use of noun modifiers is certainly not an idiosyncratic feature of English but can also be found in other languages. In German, for example, it is perfectly possible to say *die Merkel-Regierung* ('the Merkel administration'), where the proper name *Merkel* is the first part of a nominal compound with identifying function. Nominal compounding is very common in German and therefore provides the structural frame for identifying (proper-name) modifiers. While structurally possible, German would however typically use a postmodifying structure (*die Regierung Merkel*, 'the administration Merkel') to express the same relation. As recently suggested by Zifonun (2008), the premodifying structure (*die Merkel-Regierung*) may be on the increase in German due to English influence, i.e. it might constitute a structural anglicism in German, as it is more frequently observed with equivalent expressions translated from English (*die Bush-Regierung*, 'the Bush administration') than with non-translated, German expressions (*die Kohl-Regierung*, 'the Kohl administration'). They also appear to be used most frequently in newspaper language, although any systematic corpus studies are still missing for German. Similarly to German, Swedish has compounds with an identifying proper-name modifier which can compete with adnominal possessive constructions (*Mozartsonaten* 'the Mozart sonata' vs. *Mozarts sonat* 'Mozart's sonata'); see further Koptjevskaja-Tamm (2008) for the structure and semantics of Swedish proper-name nominal compounds and Koptjevskaja-Tamm & Rosenbach (2005) for focussing more closely on identifying uses, contrasting English and Swedish.

In general, it is not clear whether various (Germanic) languages are independently expanding the possibilities of existing premodifying (or compounding) constructions, or whether the pervasive influence of English as a global language these days helps to promote these constructions in other languages. Another option is that there is a kind of 'universal newspaper style' emerging and that identifying noun modifiers are characteristic of this style (again, presumably under English influence). Certainly more cross-linguistic work on

identifying noun modifiers is in order. Moreover, diachronic corpus studies will help us decide the question of possible English influence. Recall that the construction type ‘the Bush administration’ (i.e. proper-name premodifiers with identifying function) is a rather recent innovation in English (not before 20th century). If other (Germanic) languages have adopted this construction from English this predicts that they should not occur in these languages before the 20th century, either.

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