English Language and Linguistics 10.1: 77–118. © Cambridge University Press 2006
doi:10.1017/S1360674306001894 Printed in the United Kingdom

Descriptive genitives in English: a case study on constructional gradience[1]

ANETTE ROSENBACH
Heinrich-Heine Universität, Düsseldorf
(Received 12 May 2005; revised 26 September 2005)

This article offers an in-depth treatment of a 'nonprototypical' *s*-genitive, i.e. the descriptive genitive (e.g. *women's magazine*), which has so far received little attention in the grammars of English. Various types of descriptive genitives are distinguished, i.e. classifying, metaphorical, and generic genitives. In addition, the article raises a number of theoretical issues of a more general nature, such as the delimitation of syntactic phrases from compounds. Most importantly, it is argued that descriptive genitives provide evidence for constructional gradience in the English noun phrase in two ways: (1) gradience between determiner genitives and descriptive genitives, and (2) gradience between *s*-genitives and noun + noun sequences. A central claim is made that semantic overlaps may give rise to constructional gradience. In this respect the present article complements earlier accounts of gradience that have emphasized the importance of structural criteria only. The article concludes with a brief consideration of measure genitives, which are in many ways similar to descriptive genitives.

1 Introduction

When talking about *s*-genitives in English, we usually have constructions such as *John's book* in mind. However, besides such 'prototypical' *s*-genitives, there are also other *s*-genitives, such as *women's magazine*. The grammars of English classify these two types of genitives according to the syntactic function of the dependent as follows.[2]

[1] I'm grateful to Laurel Brinton, Gerhard Jäger, Maria Koptjevskaja-Tamm, Dieter Stein, and Letizia Vezzosi for their comments on an earlier version of this article and/or discussions on the topic. I also thank the two anonymous reviewers of *English Language and Linguistics* and the editor Bas Aarts for various valuable suggestions. Any remaining errors are of course my own. This work was supported by the Deutsche Forschungsgemeinschaft (grant Ro 2408/2-1).

[2] All grammars agree on the basic distinction between these two types of genitives, no matter how they are labelled. However, they differ in how many types of genitives they distinguish in the first place (according to the syntactic function of the dependent) and in terminology: while Quirk et al. (1985) only distinguish between 'genitive as determiner' and 'genitive as modifier', Biber et al. (1999) also give 'genitives of time' (*yesterday's job*) and 'genitives of measure' (*a minute's hesitation*) as separate categories. Huddleston & Pullum (2002) regard descriptive genitives as a subgroup of 'attributive genitives' (besides measure genitives). Outside the English grammars yet another terminology can be found: Koptjevskaja-Tamm (2002, 2004) distinguishes between 'anchoring' and 'nonanchoring' possessive constructions, though in her account the latter include *any* formal means of expressing a nonanchoring function (such as periphrastic constructions, or noun + noun sequences), i.e. she proceeds from the basic function of possessives, and not their form. In the formal literature, descriptive genitives sometimes also go under the name 'modificational possessives' (e.g. Munn, 1995; Gatt, 2004). Note also that in some accounts, descriptive genitives are not regarded as syntactic phrases but as 'possessive compounds' (cf. e.g. Barker, 1995; Taylor, 1996). Finally, sometimes the term 'descriptive genitive' is used in historical linguistics to refer more broadly to genitives with a describing function, including qualifying

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Table 1. *Two types of English* s-*genitives*

English *s*-genitives	Quirk et al. (1985: 326–7)	Biber et al. (1999: 294–5)	Huddleston & Pullum (2002: 467–70)
John's book	genitive as determiner	specifying genitive	subject-determiner
women's magazine	genitive as modifier (or 'descriptive genitive')	classifying genitive	attributive genitive (descriptive genitive)[a]

[a] As a subgroup of 'attributive genitives', besides measure genitives.

For convenience, I will use the terms 'determiner genitives' and 'descriptive genitives' to refer to these two types of *s*-genitives throughout the article, roughly following Quirk et al.'s (1985) terminology. While the former have attracted considerable attention in the grammars of English (as in the literature in general), descriptive genitives have only been treated marginally so far. This is presumably linked to the fact that they are often considered as fixed expressions. Quirk et al., for example, observe that 'the descriptive genitive tends to have an idiomatic connection with the head noun' (1985: 328, note a), and Huddleston & Pullum consider it as 'a somewhat unproductive category' (2002: 470). That is, they have a kind of lexicalized 'flavour', which as such makes them relatively uninteresting for grammars, or any kind of morphosyntactic approach.

The goal of this article is to give a more comprehensive treatment of descriptive genitives in English. I will show that they are not as unproductive as usually assumed – they are not just some uninteresting fossils but in fact highly interesting and multifaceted constructions relating to current debates in linguistics, such as e.g. the question of delineating syntactic phrases from compounds. More importantly, they provide evidence for constructional gradience in the domain of the noun phrase. It will be shown that there is gradience within *s*-genitives (between determiner and descriptive genitives), as well as gradience between the constructions of *s*-genitives and noun + noun (N + N) sequences. In this respect, this article will relate to current approaches to gradience (e.g. Denison, 2001; Aarts, 2004a, b). Note from the outset that the present approach to descriptive genitives is intended to be as theory-independent as possible and that I will neither use nor argue for a specific theoretical framework in this article.

In the following, I first discuss the formal and semantic diagnostics for identifying descriptive genitives (section 2). Section 2 also includes a discussion as to the theoretical status of descriptive genitives, touching, among other things, on the question whether they are syntactic phrases or (possessive) compounds. I then move on to present

genitives (e.g. equivalents to PDE *a man of honour*): see e.g. Mustanoja (1960) or Mitchell (1985); Rosenbach (2002, 2004) or Rosenbach & Vezzosi (2000).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

various types of descriptive genitives (section 3). In section 4, I address the issue of gradience, showing how the borderline between descriptive genitives, on the one hand, and determiner genitives and N + N sequences, on the other, may be considerably blurred and shifting. In so doing, I stress the importance of semantic overlaps for constructional gradience. Section 5 concludes and gives a brief outlook on measure genitives, which are in various ways similar to descriptive genitives.

2 Characterizing descriptive genitives

In this section I will characterize descriptive genitives vis-à-vis determiner genitives, with regard to three guiding questions:

1. How do descriptive genitives differ from determiner genitives (section 2.1)?
2. Are descriptive genitives syntactic phrases or compounds (section 2.2)?
3. How do descriptive genitives differ from N + N sequences (section 2.3)?

Before I continue, some notes on terminology: throughout this article I will be using the terms 'determiner genitive' and 'descriptive genitive' to refer to the whole construction, i.e. the whole possessive NP, while the grammars of English reserve the term for the genitive-marked dependent only. I will refer to the genitive-marked dependent as the 'possessor' in clear cases of determiner genitives, but otherwise use the more neutral term 'dependent' to refer both to the genitive-marked dependent in descriptive genitives and the noun modifier in noun + noun sequences.[3] The notion of 'constructions' will be used in a general sense to refer to either morphological or syntactic units. Note further that the term 'determiner' is used in the literature to refer either to a category, a function, or a position. In the present article I will be using 'determiner' somewhat interchangeably to refer to either function or position as the two happen to go together in the case of English determiner genitives.

2.1 How do descriptive genitives differ from determiner genitives?

Determiner genitives (as in (1)) differ formally as well semantically from descriptive genitives (as in (2)) in various ways.

(1) (a) John's book
(b) the old man's book
(c) the man I saw yesterday's book

[3] In so doing I will stay somewhat agnostic about the theoretical status of the *'s* in descriptive genitives, which is quite controversially discussed in the literature but is not the topic of the present article. The *'s* in descriptive genitives is sometimes considered as a (morphological) linking element comparable to the German linking *-s*, as in *Weihnachtsgans* 'Christmas-LNK-goose' (e.g. Bergsten, 1911: 114ff.; Johansson, 1980: section 6.10; Taylor, 1996: 307), sometimes as a derivational affix turning nouns into adjectives (Zribi-Hertz, 1997). The former approach proceeds from the assumption that descriptive genitives are necessarily morphological compounds, a view that is challenged in this article. The latter approach considers the genitive-marked dependent in descriptive genitives as an adjective (cf. also Ike-uchi, 1991; Spencer, 2003), but see Shimamura (2000: section 4.2) for critically arguing against such an adjective analysis.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(2) (a) a women's magazine
(b) a bird's nest
(c) an old man's belly

As said above, the possessor in determiner genitives (1) has determiner function in that it expands nominals into noun phrases (Huddleston & Pullum, 2002: 354–5), and structural accounts of the English genitives usually assume it to occupy determiner position (e.g. C. Lyons, 1986; Quirk et al., 1985: section 5.1.2.1). Note that I'm following the traditional concept of NP rather than the concept of DP as employed in recent formal approaches. Semantically, determiners specify (in)definiteness and establish reference within the NP. In English, the possessor in a determiner genitive renders the whole possessive NP definite, even if the possessor itself is indefinite, as in (3), where *a teacher's book* translates into ***the*** *book of a teacher* (3a).[4] An indefinite possessive NP, such as *a book of a teacher*, can only be expressed by an *of*-genitive but not by a corresponding *s*-genitive (3b).

(3) (a) **a** teacher's book > **the** book of a teacher
(b) **a** book of a teacher > *__a__ teacher's book

English is a language in which definiteness is only marked once within an *s*-genitive (cf. e.g. C. Lyons, 1986) and a possessor with determiner function cannot co-occur with any other determinative. That is, the head cannot be separately determined by a definite article (4a) or by other reference tracking devices as in (4b):

(4) (a) *the John's book
(b) *this the man's book

Semantically, determiners establish reference in the NP. Accordingly, the possessor in a determiner genitive functions like the definite article, specifying the referent of the NP, as in (1a), where *John* specifies whose book it is, namely John's. From a cognitive-pragmatic and semantic point of view the possessor can be viewed as an 'anchor' that narrows down the referent of the NP (cf. e.g. Taylor, 1996; see also section 4.1 below).

In determiner genitives, the possessor can be pre- as well as postmodified and can be headed by an initial determiner. It is therefore an NP, as is evident from examples (1b) and (1c), repeated below as (5) and (6).

(5) [the old man]$_{NP}$'s book
(6) [the man I saw yesterday]$_{NP}$'s book

Genitive constructions in which the possessor functions as a determiner also have NP status and they denote a specific entity (cf. Taylor, 1996), which is why Strauss (2004) labels them 'individual-denoting' possessives. That is, in *John's book* the book is a specific book.

[4] This presupposes a specific reading of *a teacher*. If however we have a concept of *a [teacher's book],* this NP is clearly indefinite (cf. also C. Lyons, 1999: 23). The issue of definiteness in such cases is controversial though. I will return to this question in section 4.2.3. At this point it will suffice to posit the standard situation as to which determiner genitives are usually definite NPs.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

In contrast, the dependent in descriptive genitives is not an NP but usually a noun. Note that in (2a) the indefinite article *a* can only belong to the (singular) head *magazine* and not to the (plural) dependent *women*, hence *a [women's magazine]*. However, the dependent can be further premodified, as in (2c); cf. also Huddleston & Pullum (2002: 469) or Taylor (1996: 288). That the dependent is a nominal rather than a full NP in such cases can be seen from the ungrammaticality of (7), which shows that the dependent cannot have a determiner of its own; cf. Taylor (1996: 289).

(7) *a [the old people]'s home

That is, an initial determiner goes with the head (and not the dependent). Therefore, descriptive genitives are themselves not full NPs but nouns or nominals and, in contrast to determiner genitives, they denote properties and not specific entities (cf. Taylor, 1996; Strauss, 2004). As nominals, descriptive genitives – unlike determiner genitives – are also neutral as to the definiteness of the whole genitive NP. In (2a), repeated here as (8a), the indefinite article clearly refers to the head noun (and not to the plural dependent *women*), which shows that the whole genitive construction can be indefinite. Also, other reference tracking devices can be used. In (8b), for example, the singular demonstrative unambiguously refers to the head noun *magazine*.

(8) (a) a [women's magazine]
(b) this [women's magazine]

Semantically, the dependent in descriptive genitives contributes to the denotation of the head noun, not specifying in (8a) *whose* magazine it is (as in a corresponding determiner genitive) but rather *what type of* magazine. As such, the dependent has a classifying function in such genitives (note also the term 'classifying genitives' used by Biber et al., 1999, for these genitives). As a classifier, the dependent is not referential and does not refer to a specific referent. Note that in *women's magazine* reference is not made to specific women but to women in general.

The semantic differences between determiner genitives and descriptive genitives as discussed above are reflected in different positions in the English noun phrase. Word order in the noun phrase is iconically determined in that any element contributing to the denotation of the head noun is positioned adjacent to the head, while anything contributing to the reference of the noun phrase will be most distantly located away from the head noun (see e.g. Seiler, 1978). In the English noun phrase, where reference is established at the left edge of the NP, this may be illustrated as in table 2 below. For the sake of illustration I'm using Quirk et al.'s (1985) flat NP structure, adapting the scheme of English noun premodifiers suggested by Adamson (2000: 55–60).[5] Following Adamson (2000: 55) I shall be using the distinction between 'reference' and 'denotation' in the sense of J. Lyons (1977: section 7, 1991: 141). Under this

[5] Adamson (2000: 56), in turn, draws on earlier insights on subjectivity and word order by J. Lyons (1977, 1991), as well as the correspondence between function and word order of premodifiers pointed out by Teyssier (1968) and Quirk et al. (1985: section 17.113–14).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Table 2. *Form–function correspondences with* s*-genitives in the English noun phrase*

DET	(pre-)modification		
identifying function	characterizing function	classifying function	head
the	*old*		*book*
the old man's			*book*
the man's	*old*		*book*
an	*old*	*women's*	*magazine*
definiteness & reference		denotation	

view, nouns specify the class (e.g. BOOK), i.e. they have denotation, while reference is established only at the level of NP when a determinative expands the noun (or a nominal) into an NP.

Table 2 illustrates that the possessor in a determiner genitive is located at the left edge of the noun phrase. This corresponds to its function of establishing definiteness and reference in the noun phrase. In contrast, the dependent in a descriptive genitive is adjacent to the head in prehead position, which corresponds to its classifying function of contributing to the denotation of the head. That is, although overtly the two genitives look alike, structurally they are different constructions with different functions of the possessor/dependent, which in turn goes with different positions of the possessor/dependent, as is evident from adjective insertion. Any adjective preceding the possessor in a determiner genitive modifies the possessor (and not the head). That is, in *the old man's book* it is the man who is old and not the book. If *book* is to be modified, the adjective has to follow the possessor (*the man's old book*), as structurally the adjective position is still available for modification of the head. In contrast, any adjective preceding the dependent in a descriptive genitive will (usually) modify the head noun. That is, in the *old women's magazine* it is the magazine that is old and not the women. Exceptions are possible, as in (2c) above, where *old* modifies the dependent in *an [[old man]'s belly]*. Crucially, however, in contrast to determiner genitives, no adjective can intervene between the dependent and the head noun, hence the ungrammaticality of **a women's old magazine*. This is the standard situation. As the discussion in the following section (2.2) will show (and also in section 3 below), however, descriptive genitives may diverge from the typical properties outlined in this section.

2.2 Are descriptive genitives syntactic phrases or compounds?

There is an ongoing debate in (mainly formal) linguistics whether to regard the constructions in (2) as syntactic phrases or as compounds (see e.g. Ike-uchi, 1991; Barker, 1995; Munn, 1995; Shimamura, 2000; Strauss, 2004). That is, is the dependent *women* in *a women's magazine* a modifier (similar to *old* in *an old college*) or the first

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

element of a compound (as in *icecream*)? The problem of deciding whether *s*-genitives such as *a women's magazine* are generated by the syntax or the morphology essentially mirrors the same classificational problem with noun + noun (N + N) sequences: should e.g. *cat* in *cat food* be regarded as a modifier or as the first part of a compound?[6] Note that all previous treatments of descriptive genitives have tried to classify them (at least the nonlexicalized ones) as either compounds or phrases and squeeze them into one of these categories. Taylor (1996) treats all descriptive genitives as (possessive) compounds, so do Barker (1995) and Shimamura (2000). According to Shimamura (2000) they result from the lexicalization of phrasal genitives. In his formal account lexicalization is to be understood as the synchronic reanalysis (or conversion) of phrases into lexemes in the grammar. Munn (1995) distinguishes between idiomatic and nonidiomatic uses, regarding the former as compounds and the latter as phrases (cf. also Ike-uchi, 1991; Strauss, 2004). Note, however, that sheer idiomaticity is not a criterion to distinguish compounds from phrases, since compounds can also be compositional and productive. Booij (2005: 83) has recently argued that descriptive genitives are 'constructional idioms', analysing them as phrases (because they have an internal inflectional suffix *'s*) which however function like compounds. Note, that from a functional point of view the answer doesn't make a lot of difference: no matter whether they are conceived of as phrases or as compounds, the basic function of the first element is to *classify* the head noun. Also, structurally the two cannot be distinguished easily, since both noun modifiers and the first elements of compounds are typically adjacent to the head (though there are exceptions; see below), and English does not have a specific compound morphology. The grammars of English are not explicit on the topic, but as they discuss the dependents in descriptive genitives as 'modifiers' (Quirk et al., 1985), 'classifiers' (Biber et al., 1999) and 'attributes' (Huddleston & Pullum, 2002) in the respective chapters on genitives, it seems that they regard them first and foremost as syntactic in nature, with a propensity for achieving compound status (cf. e.g. Quirk et al., 1985: 328, note a). In this article I am adopting the view expressed by Huddleston & Pullum (2002) for N + N sequences, i.e. that they can be either syntactic phrases or N + N sequences, and I will regard any of the three syntactic criteria mentioned below as sufficient evidence for the phrasal status of a descriptive genitive (as Huddleston & Pullum do for N + N sequences). In Huddleston & Pullum (2002: 449) it is the syntactic availability of the elements within an N + N construction that serves as the main diagnostic to distinguish between phrases and compounds in the case of N + N sequences.

[6] Theoretically, this question is relevant for deciding whether compounding is a morphological or a syntactic process (which is also the reason why the question of whether N + N sequences are compounds or phrases is so theory-laden and theory-dependent and thus not resolvable without adopting a specific framework). For a good summary and discussion see e.g. Bauer (1998), Plag (2003: section 6), or Giegerich (2004). Note also that asking this question means that we allow nouns to be attributes in the first place, as in Huddleston & Pullum (2002) and Radford (1988), as also observed by Giegerich (2004: 4).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(a) Coordination test

First, coordinated modifiers (9) or heads (10) speak for a syntactic construction, while the ungrammaticality of such coordination, as in (11) and (12), points to compound status (examples from Huddleston & Pullum, 2002: 449).

(9) various [London and Oxford] colleges
(10) various London [schools and colleges]
(11) *[ice-and custard-]creams
(12) *ice-[lollies and creams]

Coordination of the dependent is certainly common with descriptive genitives; see the examples in (13):[7]

(13) (a) . . . they've found **kids' and women's clothing** in a hidey-hole in Fox's bus. (M. Walters, *Fox evil*, 524)
(b) **Men's and boys' overalls** and corduroy shirts speak of a household without a woman. (A. Shreve, *Last time they met*, 278)
(c) We try not to involve our clients in expensive **consultant's or lawyer's fees (**www.vanameyde.com/content.cfm?page=877)

This indicates that at least in these cases descriptive genitives are syntactic phrases and not compounds. Note, however, that Bauer (1998: section 2.5) is quite critical of the use of such coordination tests as a diagnostic for the phrasal vs. compound status of N + N sequences. In his view, such coordination is heavily determined by semantic and lexical matters rather than grammar proper. Likewise, Giegerich (2004: 9) doubts that the deletion of identical elements in co-ordination is a test for lexical status, referring to work by Booij (1985) and Wiese (1996: 69ff.), who have argued that it is a phonological rather than a syntactic operation.

(b) Modification of the dependent

Modification of the first noun is another test to determine the status of N + N sequences (cf. Huddleston & Pullum, 2002: 449). If an N + N construction is a compound, then it should not be possible to separately modify the first noun (examples (14a, b) are again taken from Huddleston & Pullum, 2002: 449). Accordingly, the ungrammaticality of (14a) provides evidence for the compound status of *icecream*, while the modification of *London* in (14b) indicates that *London college* is a syntactic phrase.

(14) (a) * [crushed ice-] cream
(b) two [south London] colleges

It is not difficult to find descriptive genitives with a premodified dependent, see the examples in (15):

(15) (a) . . .Thursday-night meetings with her **Older Women's group** . . . (J. Franzen, *The corrections*, 349)

[7] Throughout this article, the descriptive genitives in such text passages are printed in bold, emphasis always mine.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(b) He was only talking about marrying this latest Margaret-and-Joanna because she was eighteen years old and she wanted him and he liked what this did for his **old man's ego** (E. George, *A place of hiding*, 410)

It has been noted before in the literature that the dependent in descriptive genitives can be premodified, though resulting in different interpretations. Taylor (1996) considers such genitives as 'possessive compounds'. As he notes, only simple premodification is possible in such expressions, and he regards *a [very old people]'s home* as ungrammatical (288–9). Note, however, that other scholars take even simple premodification of the first element as evidence for the phrasal status of such expressions (cf. e.g. Huddleston & Pullum, 2002; Spencer, 2003). Note also that Munn (1995) gives *a very tall man's jacket* as evidence for complex, phrasal premodification of the dependent; obviously grammaticality judgements in this area of grammar are rather unreliable (cf. also Strauss, 2004), which indicates that things are not particularly clear-cut in this area of grammar.

(c) Modification of the head

The strongest test for phrasehood is the ability of a modifier to intervene between the dependent and the head noun (Huddleston & Pullum, 2002: 449), as in (16b). This is not possible in compounds (16a).

(16) (a) *ice- [Italian cream]
(b) two London [theological colleges]

Taylor (1996: 300) gives the single example of (17) for a descriptive genitive, where the head is immediately premodified.

(17) a pair of [men's dark blue pants]

He speculates, however, that in this case *men's* might be construed as an adjective rather than a noun, noting the (marginal) acceptability of ?*These pants are men's*. However, the examples in (18) show that the example in (17) is not a one-off (and see also Jespersen, 1942 [1961]: 280 for other illustrative examples):

(18) (a) He folded his hands over his **old man's soft belly** and nodded benignly at Martha . . . (K. Atkinson, *Emotionally weird*, 56)
(b) Their confrontation that morning in the breakfast room had taken care of that, with the real woman smoked out from beneath the guise of dutiful hostess and **professor's perfect wife.** (E. George, *For the sake of Elena*, 330)
(c) And reached for his pipe and a copy of Punch which he'd long ago decided was appropriate **gentleman's Sunday afternoon reading.** (E. George, *For the sake of Elena*, 87)

In all these constructions an adjectival (in (18a–b)) or noun modifier (18c) can follow the dependent and immediately premodify the head noun, which rules out compound status in these cases. Admittedly, such clear and creative examples are only rarely attested; in my collection of descriptive genitives they certainly form a minority, and

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

it is not surprising to find them in literary writing rather than in everyday speech. The web, however, offers a huge data pool to search for further examples: see (19)–(26).[8]

(19) **men's suit**
  (a) recognizable as a genuine **men's formal suit**
  (http://www.scholars.nus.edu.sg/writing/uwc2101n/pillaipaper1.html)
  (b) Katherine Hepburn, with her California-style **men's slack suit**
  (http://www.pipeline.com/~jordinyc/ccnews01/nypost.html)

(20) **women's magazine**
  (a) standard mix for a typical **women's glossy magazine**
  (http://www.jrn.columbia.edu/studentwork/cns/2002-07-07/703.asp)
  (b) as Britain's best-selling **women's monthly magazine**
  (http://www.buzzle.com/editorials/8-15-2002-24511.asp)
  (c) Women's Way is Ireland's leading **women's weekly magazine** for the 35–55 age group
  (http://home.eircom.net/html/women/directory/magazines.html)

(21) **driver's licence**
  A valid **driver's UK licence** is a must.
  (http://www.kentjobs.net/site/job_details.asp?jid=75562&ref=1)

(22) **smoker's cough**
  (a) (But as smokers sleep, the cilia partly recover and move some accumulated mucus and impurities out of the lungs to produce the morning **smoker's hacking cough**)
  (www.healthsciences.columbia.edu/texts/guide/hmg06_0002.html –)
  (b) This is referred to as **'smoker's morning cough'.** Prolonged exposure to smoke permanently affects the cilia's ability to clean out the lungs, exacerbating the . . .
  (www.whealth.org/teachers/guide/smoking/-)
  (c) Also reiterate what others have said about getting **smoker's withdrawal cough**/wheezing. Ironic isn't it?
  (www.mumsnet.com/Talk?topicid=1375&threadid=12572&stamp=031015000000)

(23) **fool's gold**
  Oil price spike is **fool's (black) gold**
  (www.archive.wn.com/2004/05/17/1400/cranes)

(24) **fool's errand**
  (a) . . . Quixote not as mad, but as merely foolish – arguing vigorously that the pursuit of justice which Quixote symbolizes may be essentially a **fool's blessed errand** . . .
  (www.h-net.org/~cervantes/csa/artics91/gaston.htm)

[8] We should keep in mind, however, that the web does not constitute a corpus in which texts or spoken discourse were carefully selected, and it is essential to keep apart the 'garbage' from real usage, though this may sometimes be difficult to tell: one person's garbage may well turn out to be another person's usage. Also, the majority of webpages in English seem to originate from non-native English speakers (cf. Meyer et al., 2003: 243, citing Pleasants, 2001). To keep at least to some extent control of the latter factor, throughout this article I tried to focus on domains which have a certain likelihood for representing native usage (e.g. .uk, .edu, .au., .nz, .ie, .za, and to a lesser extent .com) and I checked each individual website, though of course it's still perfectly possible that non-native uses are among the examples. Caution should also be exercised in the use of frequency data drawn from Google (see e.g. Rosenbach, 2004b), though there is also evidence that shows a close correspondence of web frequencies and the frequencies drawn from large corpora (Keller & Lapata, 2003).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(b) He withheld intelligence information that had they known, would have caused them not to volunteer for what turned out to be a **fool's deadly errand** – . . . (www.peterbrown.tv/mostdeadlygame.html)

(25) **heart's content**
(a) That said, having a Tablet PC does give the gadget freak a few cool things to enjoy. For example, scratch on a pad to your **heart's full content**. Not enough? (www.growinglifestyle.com.au/prod/B00007H4LM.html/-)
(b) I didn't know what my **heart's truest content** could be; I hated my job . . . (/lynx.neu.edu/m/mwalsh/ij/ij0145.htm)

(26) **mechanic's overall**
Wearing uniform was taking sides. I had a grey civil defence chemical weapons suit and found a discarded **mechanic's khaki overall**.
(media.guardian.co.uk/mediaguardian/story/0,7558,882812,00.html)

These expressions demonstrate that having a modifier in between the dependent and the head is certainly not an isolated phenomenon for descriptive genitives. Note that these expressions clearly remain descriptive genitives despite the intervening adjective, as e.g. evident from the examples in (19)–(21) where the adjectives preceding the dependents clearly refer to the head nouns and not the dependents.[9] Note further that most of these descriptive genitives are lexicalized or at least very common, unlike those in (18) above. Usually, there seems to be agreement among linguists that such lexicalized expressions do have compound status and are syntactically opaque, so it is all the more interesting to see that even an idiomatic expression such as *fool's errand* can be split, though this is a rather exceptional example (searching for 'fool's * errand' on Google only reveals about 550 cases, of which approximately one-eighth have an intervening adjective, while a search for 'fool's errand' gives about 181,000 hits on Google, 15/09/2005). In general, the less semantically transparent an expression is, the less likely it is to be syntactically split. It is also striking to find cases like (22) with variation in the placement of the modifier (*morning*), as in *the morning smoker's hacking cough* (22a) and *smoker's morning cough*, as in (22b).

A further syntactic diagnostic for the phrasal status of N + N sequences put forward by Bauer (1998) is the replaceability of the head by *one*, as in (27); examples from Bauer (1998: 76–7, emphasis added).

(27) (a) I told you to bring me a **steel bar** but you have brought me an **iron one**.
(b) ? I asked for a **buttercup**, but you brought me a **margarine one**.

For genitives, the situation is more complicated though. In determiner genitives (as in (28)), the head noun – when omitted – is not replaced by *one* but remains elliptic. The

[9] Alternatively, one could conceive of the modifiers as forming a compound with the head noun, and of the whole construction as a possessive compound headed itself by a nominal compound, e.g. *smoker's [morning cough]*; cf. Taylor (1996: 289) for suggesting such an analysis for some descriptive genitives (e.g. *a men's [shoe shop]*). One might argue here that qua its position the modifier forces a classifying (rather than a qualifying) reading on the head noun, thus not necessarily contradicting a compound analysis. However, the following example at least seems to rule out such an analysis: *He was wearing a **butcher's long blue and white striped overall** in which he seemed perfectly at ease*. (P. D. James, *Death of an expert witness*, 176).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

head in descriptive genitives may, however, be either ellipted (29) or substituted by *one* (30); cf. also Ike-uchi (1991).

(28) This book is Kim's.
(29) I estimated the size as similar to mine, **a woman's** six or eight (K. Reichs, *Grave secrets*, 88)
(30) The festival is originally a **children's one**. (Yasui & Nakamura, 1984: 104, as cited in Ike-uchi, 1991)

The very fact that the dependent in descriptive genitives can be ellipted or be substituted by *one* shows that these genitives are phrasal in nature.

The discussion in this section has shown that there is evidence for the phrasal status of at least some descriptive genitives. This shows that they are not necessarily compounds.

Note, however, that the focus has been on syntactic tests only. Traditionally, stress has been regarded as the major criterion for delineating compounds from phrases, with phrases having final stress (*a black BIRD*) and compounds exhibiting initial stress (*a BLACKbird*); see e.g. Bloomfield (1933) or Marchand (1969). However, it has been repeatedly argued that stress cannot sufficiently distinguish phrases from compounds, since there are phrases which can have initial (compound) stress, and compounds which can have final (phrasal) stress (cf. e.g. Jespersen, 1942 [1961]: section 8; Levi, 1978: 41–2; Bauer, 1998; Olsen, 2000; Spencer, 2003, and see discussion in Plag, 2003: 137–41 and Giegerich, 2004: 2).[10] And the same can be observed for descriptive genitives. They usually have initial stress (as in (31)), as is typical of compounds, but they can also have final stress (as in (32)), as is typical of phrases (examples from Spencer, 2003: section 3).

(31) MEN's room; BROca's aphasia
(32) Foucault's PENdulum; Hodgkin's lymPHOma

It is interesting to note that the semantic relations usually attracting rightward (i.e. phrasal) stress in N + N sequences (cf. Plag, 2003: 139), i.e. authorship/origin (e.g. *a Mahler sýmphony*), temporal or locative relations (e.g. *a summer níght*, *the Boston márathon*), are relations that can also be expressed by a corresponding *s*-genitive; cp. *Mahler's sýmphony*, *a summer's níght*, or *Boston's márathon*. While it is an interesting fact itself that these expressions co-vary between N + N sequences and *s*-genitives, showing that these two construction types are related, the type of semantic relation cannot however account for the differences in stress assignment in (31) and (32) above. It remains to be seen whether such cases can be accounted for in terms of analogy to existing expressions, similar to N + N sequences involving *street* as a right member, which apparently all trigger leftward stress (e.g. *Óxford Street*) in contrast to

[10] Giegerich (2004) is bringing stress back into the picture. He accounts for counterexamples of the stress rule in terms of diachronic lexicalization. Plag (2003: 137–42) also regards stress as a reliable criterion to distinguish between words and phrases, regarding the exceptions (i.e. N + N sequences with rightward stress) as 'systematic exceptions that correlate with certain types of semantic interpretation or that are based on the analogy to existing compounds' (139).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

the semantically similar case of constructions with *avenue*, which consistently have rightward stress (e.g. *Madison Ávenue*), as recently argued by Plag (2003: 139, 2005).

2.3 How do descriptive genitives differ from N + N sequences?

Structurally, descriptive genitives are like N + N sequences, as illustrated below.

Determination	Premodification	Head
a	*women's*	*magazine*
some	*cat*	*food*

In both constructions, the dependent is (usually) in prehead position in the premodifying string.[11] Essentially, descriptive genitives only differ from N + N sequences in containing the marker *'s*. The question then is: why use a descriptive genitive in some cases (*women's magazine*) but not in others (**cat's food*)?

According to Taylor (1996: 308–10), there are two main factors determining the presence or absence of *'s* in N + N sequences (given that both allow for a possessive construal), i.e. the animacy and the referentiality of the dependent. In his view, expressions with an *'s* (i.e. descriptive genitives in our terminology) still contain some degree of referentiality, in any case more than in expressions without the *'s*. For this reason, *a disturbing [insider's report]* is more likely to refer to a specific insider than *a disturbing [insider report]* (Taylor, 1996: 309).

Furthermore, Taylor (1996: 303–4) observes that human dependents are usually realized with the *'s* (e.g. *woman's magazine* vs. **woman magazine*), while inanimate dependents prefer the *s*-less construction (*car engine* vs. **car's engine*); see also Bergsten (1911: 117–18); Jespersen (1942 [1961]: section 16.9), Marchand (1969: 66) or Huddleston & Pullum (2002: 470) on the role of animacy. Taylor notes some exceptions (e.g. *passenger seat* rather than *passenger's seat*), but essentially in his account expressions are barely ever variable in occurring with or without the *'s*. Only for some animal dependents, which are in between human and inanimate referents on the animacy scale, does he observe some variation (*dog hairs*, *dog's hairs*). In a recent study Rosenbach (forthcoming) investigated the empirical validity of this claim, collecting the frequencies of ten pairs of collocations with human dependents (e.g. *driver's licence* vs. *driver licence*) and ten collocations with inanimate dependents (e.g. *museum's shop* vs. *museum shop*) on the web via the WebCorp software (http://www.webcorp.org.uk/).[12] The results clearly confirmed Taylor's hypothesis that animacy is a decisive factor here; for illustration of the results see figure 1 for .uk domains, collapsed for all collocations.

[11] For exceptions to this generalization, see the discussion and examples in the previous sections. Essentially, however, the same kind of variable word order can be found with N + N sequences (e.g. *London theological colleges*). In the scheme above I'm referring to the 'typical' situation in which the dependent is adjacent to the head.

[12] The WebCorp software conducts searches of the web on the basis of search engines like Google, though accessing only samples of their output. Its great advantage, in contrast to Google, lies in the fact that its output is organized in linguistic concordances, which makes linguistic analysis much easier than going manually through all the Google hits; see also Renouf (2003) for a further description of this tool.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

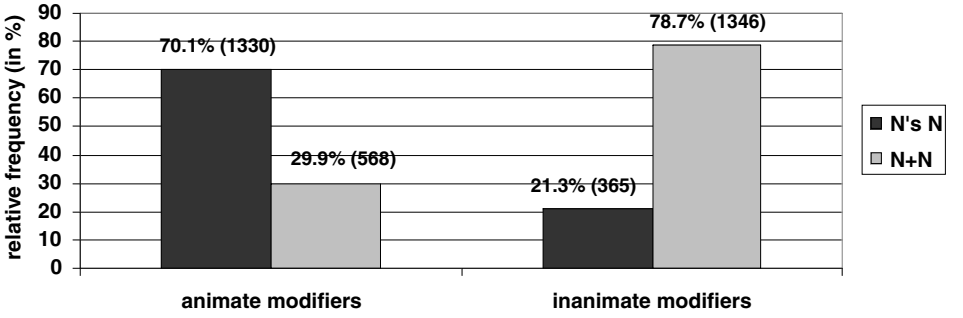


Figure 1. Relative frequency of descriptive genitives (N's N) and N + N sequences (N + N) according to animacy in web data (cf. Rosenbach, forthcoming)

While animate modifiers had a strong preference for the genitive (70.1%, z, $p > 0.001$), inanimate modifiers had a strong preference for the N + N sequence (78.7%, z, $p > 0.001$). In contrast to Taylor's prediction, however, most collocations showed variation between the two constructions, if to varying degrees. That is, in many cases animacy does not determine categorically whether a genitive or an N + N sequence is used, but rather the statistical preference (i.e. frequency) of the two constructions.

What slightly complicates things is that besides the singular variants (*lawyer's fees* vs. *lawyer fees*) there are also plural variants (*lawyers fees, lawyers' fees*) and these are homophonous with a (singular) descriptive genitive (*lawyer's fees*). As shown by Rosenbach (forthcoming), plural genitive variants (*lawyers' fees*) are very rare, while the plural N + N variants (*lawyers fees*) are quite frequent. Interestingly, the plural N + N variants (*lawyers fees*) patterned like the genitives in that they were significantly more frequent with animate modifiers than with inanimate ones. This might indicate that in cases such as *lawyers fees* the apostrophe is simply omitted, as one of the reviewers remarked. This is a possibility indeed, especially with web data, where such cases of 'sloppy orthography' are particularly common. However, these N + N variants could also form genuine plural forms or even categorial 'hybrids'. Note that semantically genericity (or nonspecificity) and plurality are very close. Semantically, it therefore makes little difference whether we are dealing with a genuine plural form or just a 'sloppy' genitive singular (instead of *lawyer's fees*) or genitive plural (instead of *lawyers' fees*), and in spoken language the forms are indistinguishable anyway. In this way, then, N + N sequences such as *lawyers fees* may provide an important bridging construction between genitives and N + N sequences. Formally (at least in written language), they are N + N sequences, but they are homophonous with descriptive genitives and share their restriction as to the referentiality and animacy of the dependent.[13]

[13] The reviewer also remarked that typical plural N + N sequences such as *systems analysts* and *careers teachers* are never convertible into a genitive (**systems' analyst*, **careers' teachers*) and therefore doubted any signs

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Table 3. *Formal and semantic properties of descriptive genitives vis-à-vis determiner genitives*[a]

	determiner genitive	descriptive genitive
construction	• NP • [+referential/specific] • [+definite]	• N (as a compound), a nominal (in an *[[old people]'s home]* or in *a [women's glossy magazine]*) • [−referential/specific] • whole possessive NP = neutral as to definiteness
dependent	• NP • [+referential/specific] • [± definite] • referential anchor: referent identification	• N (as a compound), or a nominal (as a phrase) • [−referential/specific] • nonreferential anchor: property (type) identification
premodification of head	• follows dependent, precedes head	• precedes dependent
co-occurrence with determiners	• no	• yes
position in NP	• determiner position	• adjacent to head

[a]Note, that for the purposes of exposition referentiality and specificity are used synonymously here, although strictly speaking these terms do not mean the same. The differences will become important in section 3.3 though.

2.4 Summary: properties of descriptive genitives

Table 3 summarizes the most important criteria to distinguish (typical) determiner genitives and descriptive genitives.

Note that the properties described in table 3 refer to the prototypical cases of descriptive genitives, i.e. classifying genitives. As argued below, there are also other types of descriptive genitives (i.e. metaphorical and generic genitives), which diverge from classifying genitives and will be shown to resemble determiner genitives in various aspects. In this respect, then, the prototypical properties of descriptive genitives (in the sense of classifying genitives) will serve as the point of departure for describing the similarities with as well as differences from the other types of descriptive genitives introduced in the next section.

of gradience here. See, however, Johansson (1980: section 2.1; section 6.10) for pointing out that descriptive genitives and plural attributives sometimes overlap. The issue is subtle, however, and future research will have to clarify the precise status of forms such as *lawyers fees*.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

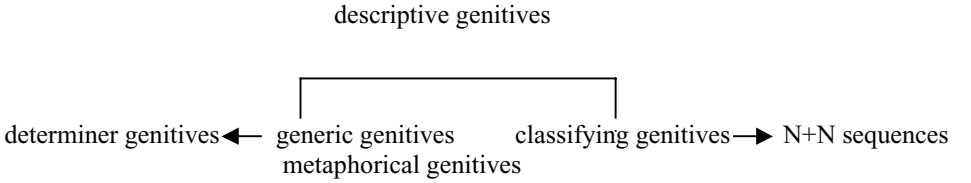


Figure 2. Types of descriptive genitives (with their respective affinities to determiner genitives and N + N sequences).

3 Types of descriptive genitives

Descriptive genitives are usually treated as one homogeneous semantic class in the literature. However, in the following I will argue that we can distinguish three different functions of descriptive genitives (i.e. naming, comparison, and description), which correspond to different types of descriptive genitives, i.e. classifying genitives (section 3.1), metaphorical genitives (section 3.2), and generic genitives (section 3.3). These, in turn, show different affinities to determiner genitives and to N + N sequences, as illustrated in figure 2 above.[14]

3.1 Naming: classifying genitives

Classifying genitives are the ones usually referred to in the literature as 'descriptive genitives' in a narrow sense (cf. e.g. Quirk et al., 1985: 322, or Huddleston & Pullum, 2002: 470). These genitives are used to *name* certain objects and they can convey various degrees of lexicalization, from completely opaque expressions, as in (33a), to fully semantically transparent ones, as in (33f–g).

(33) (a) **idiomatic**: *fool's gold, baby's head* (slang, a steak and kidney pudding), *bull's eye*
(b) **plant names**: *daisy (*from *day's eye), dog's cabbage, baby's breath, cat's-claw, cockscomb, devil's brushes, fool's parsley, dog's tongue*
(c) **insect names**: *devil's horse, devil's cow, devil's fingers*
(d) **other idiomatic expressions**: *a dog's breakfast, widow's walks*
(e) **named after persons**: *St Valentine's day, Jehovah's Witness, Marsh's test, Faraday's law, Wilson's disease, Raynaud's phenomenon, Down's syndrome*

[14] See also Koptjevskaja-Tamm (2003: 537) for arguing that descriptive genitives in Swedish (in her terminology 'inserted genitives') do not form a homogeneous group but fall into several semantic types. Her classification is based on whether the constructions are semantically endocentric ('non-metaphorical genitives') or not ('metaphorical genitives'), while the present classification focuses on their function. Note also that she uses the term 'metaphorical genitive' somewhat differently than I do, i.e. for semantically exocentric genitives such as those in (33a–d) below. I will also argue below that such genitives are used metaphorically, but as their basic function is still the designation of objects I regard them as 'classifying'. In contrast, the examples in my 'metaphorical genitives' category discussed in section 3.2 do not name but compare, and are fully semantically transparent.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(f) **product names**: *women's underwear, engineer's chair, mechanic's overall, florist's clay, electrician's tape, baby's sleepers, bomber's jacket, painter's canvas, butcher's knife, men's suit*
(g) **others (transparent)**: *mother's milk, girls' school, women's magazine, driver's licence, smoker's cough, spider's web, squatter's rights, writer's block, pensioner's flat, lawyer's fees*

In this naming function descriptive genitives are those that most clearly correspond to the term 'classifying genitives' (cf. e.g. Biber et al., 1999), as their basic function is type restriction. However, this only holds for semantically endocentric cases, where the dependent clearly restricts the denotation of the head noun, as in (33e–g) above. In these cases the meaning of the head is the meaning of the whole genitive NP, i.e. *St Valentine's day* designates a certain day, *women's underwear* a certain type of underwear, and *smoker's cough* a certain type of cough, while *a baby's head* is not a type of head but a steak and kidney pudding. Similarly in (33d) the meaning of the whole genitive construction is not deducible compositionally from the meaning of the head and the dependent attribute. Rather, in these cases the descriptive genitive refers to a complete mess (*dog's breakfast*) or to a specific type of balcony (*widow's walks*). While they are not as such transparent, knowledge of the etymology of these idiomatic expressions makes them fully compositional in the figurative world, so to speak. For example, the term *widow's walks* (for porches on the roof) goes back to the fact (or rather legend?) that the wives of seafarers used to climb up there to watch out for the return of their husbands. Note, however, that even in the transparent cases (33e–g) the meaning of classifying genitives is much more restrictive than in a corresponding determiner genitive. *Electrician's tape*, for example, describes a specific type of tape, while a corresponding determiner genitive (*[the electrician's] tape*) could mean various things: the tape the electrician possesses, uses, wants to have, dreams of, or whatever. It is in the nature of possession to allow for all these meanings. As the function of the classifying genitives in (33) is to uniquely designate a specific object, it is clear that not all these possessive meanings carry over and that, so to speak, one possessive meaning gets 'frozen' in these cases. It is this 'freezing' of meaning which makes them so prone to undergo lexicalization and acquire lexeme status. It is presumably for this reason that Huddleston & Pullum (2002: 470) regard this type of genitive as 'a somewhat unproductive category'. They note, for example, that while we can have *a summer's day* and *a winter's day*, *a spring's day* or *an autumn's day* are very questionable (they mark the latter two with a *?*). It is true that the last two expressions are far less common than the first two (see the results of a Google search on 15/09/05, for the four expressions in 34).[15]

(34) (a) *a summer's day*: 300,000 hits
(b) *a winter's day*: 78,100 hits

[15] As one of the reviewers remarked, the infrequent use of *autumn's/spring's day* may be linked to the concepts of autumn and spring being more transitory and hence less prototypical seasons, as compared to summer and winter.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(c) *a spring's day*: 191 hits
(d) *an autumn's day*: 358 hits

This raises the question of how to define 'productivity'. Syntactic processes are by definition productive; it is usually only in the domain of word formation that the notion of productivity is evoked at all. As argued in section 2.2 above, descriptive genitives (in the sense of the classifying genitive discussed here) can be syntactic phrases, and as such they should also be 'productive'. However, even when perceiving classifying genitives as being formed by the rules of word formation, productivity is usually defined as the ability of a form to coin new expressions (cf. Huddleston & Pullum, 2002: 1629). That is, what matters is not *how often* a particular collocation is used, but whether it is possible to coin it in the first place.[16] In the examples above, it is the actual frequency of use that makes the difference. Thus, notice that both *a spring's day* (35) and *an autumn's day* (36) can be used perfectly well to refer to a certain type of day; it is just that for some reason they don't happen to be particularly frequent in English. While frequency of use may give us an indication as to the degree of lexicalization, it doesn't tell us anything about the productivity of the form/construction.

(35) She was transported back to **a spring's day** long ago when life was sweet and young, full of hope and love. A day filled with tulips and daffodils and . . .
(www.cnetwork.co.uk/lessons%20in%20love.htm –)
(36) **An autumn's day** in Helsinki, hung out with my partner in the downtown area, browsing at the unique scandinavian design shops.
(www.rcicommunity.co.uk/planning/journal.asp?JournalID=9647)

Note that, in general, new classifying genitives can be easily formed on the spot whenever we perceive something as defining a type. We could, for example, felicitously coin the term *linguist's joke*, if we perceive this as a type of joke. Their productivity is only conceptually restricted in the sense that our conception of perceiving something as defining a class/type is restricted. Otherwise, classifying genitives are fully productive. Note also that it is mainly classifying genitives (at least endocentric ones, such as those in (33e–g)) that can often be expressed by a corresponding N + N sequence (e.g. *St Valentine's day* vs. *St Valentine day*, *bomber's jacket* vs. *bomber jacket*, *a summer's day* vs. *a summer day*), and see also section 2.3 above. I will get back to this variation in section 4 below.

3.2 Metaphorical genitives

Another type of descriptive genitives is used to describe an object, experience, state etc. in terms of another one. In the examples in (37), the descriptive genitive serves as a vehicle to transport a certain meaning from its conceptual domain to the contextual one, i.e. it is used metaphorically, and its basic function is comparison.

[16] This is admittedly somewhat simplified. Arguably, productivity in word formation is a gradient notion, ranging from more to less productive cases. The important point for the present argumentation however is that, given the right context, there's nothing that prevents the coinage of *a spring's day* or *an autumn's day*.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(37) (a) Light as **a swan's feather** in my claw you are. (J. R. R. Tolkien, *Lord of the rings* II, 123)
(b) . . . but the anonymous voice, distorted electronically, rasped on the listener's nerves like **a dentist's drill**. (M. Walters, *Fox evil*, 106)
(c) . . . a gust of wind shot like **a prize fighter's blow**. (E. George, *A place of hiding*, 64)
(d) The word is a song note he thought he might never hear again. It lifts him up, makes him as buoyant as **a child's inflatable toy** in a pool. (A. Shreve, *Eden Close*, 213)
(e) An old, old face, . . . stared up at her with unblinking, unseeing eyes. It was covered with fine surface-wrinkles, like a hand sodden with soapy water, but all the great lines carved by experience had been smoothed out with the relaxing of the helpless muscles. It was both puffed and crumpled. It reminded Miss Climpson of **a child's pink balloon**, from which nearly all the air has leaked away. (D. Sayers, *Strong poison*, 214)

In (37a) the weight of a swan's feather is used to describe the (light) weight of a person. In (37b) the well-known sound of a dentist's drill characterizes the (ghastly) sound of a person's voice. The strength/intensity of the wind is compared in (37c) to a prize fighter's blow. In (37d) the inner state of a person is described by means of the image of a child's inflatable toy. Note that in this last example the whole context is already in the metaphorical world: a word cannot lift a person literally. Rather, what is meant is that the word raises the person's spirits/mood, and the way to get this image to the reader is to stay in this 'lifting'-metaphor and compare it with an inflatable toy (which can easily be lifted). The face in (37e) is compared to a child's pink balloon from which most of the air has escaped, i.e. this image reinforces the description of the face as puffed and crumpled, and the colour of the balloon (pink) resembles the colour of the face. While in the examples in (37) the comparison is always made explicitly, most typically by expressions such as *as*, *like*, *it reminded X of*, in the examples in (38) the metaphorical comparison is made implicitly.[17]

(38) (a) . . . he jumped with the shock of it and gave **a cat's yowl** (E. George, *Missing Joseph*, 241)
(b) He had **a puppy's lush eyelashes**, a head that invited stroking. (J. Franzen, *The corrections*, 366)
(c) She had arranged three stools in a row, while she herself jammed her rump into an ancient baby's high-chair – a bohemian touch that gave her **a tennis umpire's advantage of height**. (I. McEwan, *Atonement*, 10–11)

In (38a) the person gives a yowl typical of cats. The person in (38b) does not of course literally have a puppy's eyelashes, but eyelashes that look like those of a puppy. And in (38c) the child described is not a tennis umpire. In fact, the whole settting is not a tennis setting, but it describes the setting of a play rehearsal by children, with the

[17] Strictly speaking, the cases of explicit comparison in (37a–e) are similes rather than true metaphors, as one of the reviewers remarked. This is true. I still discuss them as metaphorical genitives as I regard them as the first step towards the implicit and hence metaphorical expression, and as similes and metaphors pattern alike in these genitives.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

'stage director' being physically located above her cast. That is, she does not literally have a tennis umpire's advantage of height but only metaphorically – *like* a tennis umpire.

Note also that these metaphorical genitives can often be found in elliptical constructions, both with explicit uses (39) and with implicit comparisons (40).

(39) (a) Her eyes were bloodshot, her forehead as red as **a newborn's**. (J. Franzen, *The corrections*, 632)
(b) His hair was white and thick and sleek, like **a polar bear's**. (J. Franzen, *The corrections*, 19)
(c) . . . impish eyes like **a knowing Siamese cat's**. (M. Walters, *Fox evil*, 245)

(40) His posture, she noticed, was **a frog's**. (J. Franzen, *The corrections*, 425)

In all these constructions the head of the genitive construction is omitted and refers back to a previously mentioned noun. This indicates that such metaphorical genitives are phrases and not words. In many cases it is not clear whether the initial article (usually the indefinite article) belongs to the dependent or to the whole genitive NP; however, examples (39a and c) show that (at least in these cases) the singular article goes with the (singular) dependent and not with the (plural) head. That is, structurally these genitives behave like determiner genitives. So, what – if anything – justifies their classification as descriptive genitives?

Note that in all the examples above the dependent is very clearly not specific. In fact, it cannot be, since the whole possessive NP is not specific – as said, it serves as the vehicle to transport a certain image into the (specific) context. Semantically, therefore, these constructions are like descriptive genitives. They do not have the function of a typical determiner, i.e. the referential anchoring of a referent, since the whole possessive NP as such is not specific. Rather, they evoke a certain typical property (hence, they are akin to what Strauss, 2004, calls 'property-denoting possessives'). Interestingly, Taylor evokes the notion of mental space for nonspecific genitives:

> The notion of mental space is important here, too. A non-specific entity in a subordinate mental space may well facilitate reference to a target entity, also in this subordinate mental space. (Taylor, 1996: 193)

Under this view, we may regard these metaphorical uses of genitives as a type of determiner genitive operating in a 'subordinate mental space', facilitating the identification of the referent of the (fictional) source domain. In this scenario we would first construe the image of a fictional referent, i.e. a puppy, and then connect it to its eyelashes. In this case we might argue that within this fictional context, i.e. this subordinate mental space, a referent exists. That is, the dependent is specific in some irreal, fictitious world, but clearly unspecific in the 'real' world of discourse. Alternatively, however, we may also view them as a special case of classifying genitive which is already akin to – but not identical with – determiner genitives. Under this view, then, the unspecific dependent would not help to identify a (fictional) referent but a property. In this scenario, we construe eyelashes that are typical of puppies (in general),

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

resulting in a nonspecific interpretation of the dependent. Empirically, it is very difficult to decide which of the two conceptualization routes language users take (and see also section 4.1 on such constructional ambiguity). In any case, such metaphorical uses are very common. Not surprisingly, they are most often found in fictional texts, such as novels, where metaphor is a common device to get across certain imaginative images or ideas. Metaphorical genitives are productive in the same way that determiner genitives are, since they are modelled on them.

Interestingly, Levi (1978: section 4.1.4) discusses a subgroup of complex nominals which is very similar to the class of metaphorical genitives discussed above, e.g. *imperial bearing* or *family problems*. In these nominals, a relationship of 'like-ness' is expressed. Levi shows that these expressions have both a 'basic meaning' (e.g. 'bearing of an emperor') as well as an 'extended meaning' ('bearing like the bearing [which is typical] of an emperor'). She suggests that the extended (metaphorical) meaning is 'parasitic or piggiback' (112) on the basic meaning. Levi notes that such (metaphorical) extensions are very productive: 'virtually all linguistic forms can slide in actual discourse from requiring the most concrete or literal interpretation possible to permitting the most metaphorical, without any overt marking of just how extended or metaphorical the reading is intended to be' (114). The cases of metaphorical genitives discussed here are very similar to the cases discussed by Levi (1978) – they also 'piggyback' on determiner genitives.

3.3 Generic genitives

So far, we have only looked at the specificity of the dependent as a typical property distinguishing determiner and descriptive genitives. Under this view, the dependent in a descriptive genitive is unspecific in its naming function (e.g. *women's magazine*) and in its comparing function (e.g. *a puppy's lush eyelashes*), while it is specific in a determiner genitive (e.g. *John's book*). However, specificity alone cannot account for all the referential properties genitive-marked dependents can have in English. In this section I argue that it is important to distinguish, within the class of nonspecific dependents, nonreferring dependents from referring (generic) dependents.

Nonspecificity and genericity are often treated alike, but they are different notions with different properties. While specificity is a notion used to capture the referential properties of indefinite NPs, 'generic noun phrases are those in which reference is made to an entire class' (C. Lyons, 1999: 179). While specificity is a term usually only applied to indefinite NPs,[18] generic NPs can also be expressed by definite NPs (***The** lion is a dangerous animal*). Genericity is a concept that can apply to both sentences

[18] C. Lyons (1999: 185–6) even argues that for the (nonreferential) indefinite singular a distinction between specificity and genericness is not necessary (though see Burton-Roberts, 1976, and Krifka et al., 1995, for a different view). That is, under C. Lyons' view there wouldn't be any need to decide whether the indefinite singular dependent in *a swan's feather* is nonspecific or generic.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

and NPs. On the NP level, generic NPs have been considered as 'kind-referring' NPs by Krifka et al. (1995), as opposed to 'object-referring' NPs, which denote a specific object/individual. A crucial difference between generic and nonspecific entities then is that generics refer (to kinds), while nongeneric, nonspecific NPs do not refer at all.

Now, how does all this relate to descriptive genitives? In (41) the dependent (*a testator*) is clearly not referring to a specific testator. However, it does refer, as is evident from the subsequent anaphor *his* which refers back to the dependent (*a testator*). In contrast to determiner genitives this is not reference to a specific testator but reference to the kind 'testator', i.e. the dependent is 'kind-referring', i.e. generic.

(41) Under family-provision legislation **a testator's moral responsibility to provide for his dependants** had become a legal obligation in 1938. (M. Walters, *Fox evil*, 319)

The examples in (42) illustrate those cases in which the dependent is kind-referring, and where, at the same time, there is also a potential referent in the context matching that kind-reference.[19]

(42) (a) 'I'm so starving,' she said. It was **a thin woman's apology** for being corporeal. (J. Franzen, *The corrections*, 241)
(b) And finally he allowed himself to weep. It was **a man's horrible, humilitating sobbing,** one hand covering his eyes, the other clutching his spectacles. (E. George, *For the sake of Elena*, 80)

In contrast to metaphorical genitives, these genitives are not used to compare a referent in terms of another referent (or the referent's properties) but to describe a specific referent by setting it in relation to its kind. Note again that in the examples in (42) there is a specific referent in the context that matches the generic possessor, a woman in (42a) and a man in (42b). In all these cases the possessor abstracts away from the specific individuals, transcending them as exemplars of a kind. Sometimes, this affinity of a specific referent in the context to its kind is even made explicit, in a kind of mocking way, as in (43), or as describing the kind first and then finally identifying the matching (and co-present) referent, as in (44).

(43) So. What you're about, Mr C. Shepherd. You here as the hopeful answer to **a maiden's prayers**? Myself being **the maiden**, of course. (E. George, *Missing Joseph*, 300)
(44) He was wanting **a woman** with **a woman's ways** and **a woman's knowledge**, one who'd be as necessary to him as he was to **her**. **And you're that kind of woman, Val**. (E. George, *A place of hiding*, 444)

The cases discussed above all exemplify what Krifka et al. (1995: 86) describe as the ambiguity between the 'object-oriented mode of speaking' and the 'kind-oriented mode of speaking'. They point out an inherent problem in deciding between the two readings: it is always possible to talk about kinds instead of their realizations since,

[19] Note also that these genitives often occur in predicative position (as in 42) and as such are prone to receive a generic interpretation (and therefore so do their dependents).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

after all, objects are always instantiations of the kinds (86). Likewise, Gundel et al. (2005: 354) argue that 'the generic kind is necessarily activated when a specific entity is processed', following from the fact that 'processing the referent of an NP always involves processing of the lower levels of syntactic representation of that NP' (355). This is precisely what we find in these generic genitives.

There are other cases where the whole context is generic, and where therefore no potential specific referent is co-present and hence no ambiguity between the two modes of speaking arises; see the examples in (45). These examples illustrate again the ability of generic dependents to be accessible for anaphora, i.e. to refer.

(45) (a) And now, to wring dollars out of the one demographic that it doesn't yet dominate, it's running a campaign that exploits **a woman's fear of breast cancer** and **her** sympathy with its victims. (J. Franzen, *The corrections*, 49)
(b) . . . that vital knowingness about the ways of the world which compels **a reader's respect** (I. McEwan, *Atonement*, 6)
(c) – there's a girl goes before the priest; and, certainly, **a woman's thought** runs before **her** actions. (W. Shakespeare, *As you like it*, IV.I, p. 632)

In all these examples the genitive NP receives a generic interpretation via the overall generic 'scripts' or 'frames' of the contexts (see e.g. Behrens, 2000: 29–35, 2005: 317–23, for the notion of generic scripts). That is, the overall context is generic and it is because of this overall generic setting that the genitive therein is generic, too. However, within this generic context the abstract referents get individualized.

Note that we can also find generic dependents which are definite, while it was typical of the metaphorical genitives discussed in section 3.2 to have indefinite dependents. In fact, the definite singular is often regarded as *the* prototypical generic expression (e.g. Krifka et al., 1995).

In the examples in (46) the definite dependent is not specific but kind-referring; example (47) illustrates that such generic definite dependents can also occur in elliptic constructions.

(46) (a) She had **the bad child's impulse to cry** when caught red-handed . . . (J. Franzen, *The corrections*, 482)
(b) . . . he had **the oversleeper's panicked sense of having fallen behind**, of lacking information . . . (J. Franzen, *The corrections*, 521)
(c) . . . he had **the optimistic Victorian's deep faith in progress** . . . (R. Quirk, *Grammatical and lexical variance in English*, 64)

(47) And he could do nothing about his complexion, swarthier than **the average Englishman's.** (E. George, *A place of hiding*, 181)

Like metaphorical genitives, generic genitives behave structurally like determiner genitives, but semantically like descriptive genitives (with respect to their nonspecific dependent). Like metaphorical genitives, generic genitives are as productive as determiner genitives, as every individualized referent can be conceived of as a representative of its kind. In the following section I will further specify how far such

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

generic genitives provide an excellent 'bridging context' between determiner genitives and classifying genitives.

4 Gradience

The term 'gradience' is used in various ways in linguistics; for a good overview of notions and approaches to gradience, see e.g. Aarts (2004b). In the present article I distinguish two possible sources for gradience, i.e. gradience as a mismatch in the meaning–form mapping (section 4.1) and gradience of the semantic features underlying the feature analysis (section 4.2).

4.1 Gradience as a mismatch in the meaning–form mapping

As a first approximation I define gradience here as the mismatch in the mapping of meaning (in the sense of function) to form, and vice versa. I will argue that there is gradience within *s*-genitives, i.e. between determiner and descriptive genitives, as well as between *s*-genitives and N + N sequences.

The claim that there is gradience between *s*-genitives and N + N sequences is not a new one. Within the framework of cognitive grammar, Taylor (1996) has already made a case for such gradience in terms of syntactic prototypicality. While I am adopting his principal claim that both determiner genitives and descriptive genitives are anchoring constructions (or in his terminology 'reference point constructions'; see also below), I will pursue a different approach to gradience here in breaking the properties of these constructions down into more primitive features. I propose three semantic features, i.e. the animacy of the dependent, the referentiality of the dependent, and the restrictiveness of the dependent, which map to the surface construction (absence or presence of possessive *'s*). Accordingly, we can, in a first step, define *s*-genitives and N + N sequences as outlined in table 4 below (for a more precise specification including metaphorical and generic genitives, see section 4.3 below). Note that this specification only holds for prototypical descriptive genitives, i.e. classifying genitives. Likewise, only endocentric N + N sequences with classifying function are meant here.

In determiner genitives the possessor is both referential and restrictive, i.e. it restricts the reference of the NP ('token restriction'). In contrast, in classifying genitives and N + N sequences the dependent is not referential, though still restrictive, i.e. it restricts the denotational class of the head noun ('type restriction'). The distinction between token and type restriction is compatible with Taylor's (1996) analysis of *s*-genitives as reference point constructions in which the dependent functions as the reference point, or 'anchor', to narrow down the referent of the NP.[20] Taylor argues that *'s* has basically

[20] Essentially the same idea of possessors as referential anchors is found in the work by Löbner (1985), Barker (1995), Haspelmath (1999), and Koptjevskaja-Tamm (2001, 2002, 2004). However, usually this anchoring function of possessives is restricted to *referential* anchors in the literature. Under this view, the dependent in the

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Table 4. S-*genitives and N + N constructions – feature analysis*

	s-genitives		
	determiner genitives (*John's book*)	descriptive (classifying) genitives (*women's magazine*)	N + N sequences (*hotel lobby*)
restrictiveness (i.e. anchoring function) of dependent	+	+	+
animacy of dependent	+	+	–
referentiality of dependent	+	–	–
	'token' restriction	'type' restriction	

the same semantic value in both determiner and descriptive genitives, representing one single, more schematic meaning, namely that of the reference point (i.e. anchoring) relation. Crucially, however, both constructions share a restrictive function of the dependent, only differing in the locus of restriction (reference vs. denotation). In other words, while in *John's book* the dependent specifies *whose* book it is, in *women's magazine* it specifies *what type of* magazine it is.

With respect to the referentiality of the dependent, classifying genitives pattern like N + N sequences. However, despite the different semantic function of their dependents, determiner genitives and descriptive genitives share the relational marker *'s*, while N + N sequences lack it. Classifying genitives pattern like determiner genitives with respect to animacy, preferring animate dependents, while N + N sequences typically occur with inanimate dependents (see also section 2.3 above).[21] In this respect then, classifying genitives can be considered as a 'bridging construction' between determiner genitives and N + N sequences: they share formally the relational marker *'s* with determiner genitives and semantically the animacy restriction, but are otherwise like N + N sequences. Note that such 'bridging constructions', which are 'mixed constructions' sharing properties of two constructions, are crucial for any gradience account of constructions, as they constitute the 'missing link' (or overlap) between two construction types.

However, as argued above, descriptive genitives go beyond classifying genitives, comprising also metaphorical and generic genitives. While classifying genitives are

determiner genitive is an anchor but the dependent in the descriptive genitive is not (cf. e.g. Koptjevskaja-Tamm, 2002, who explicitly labels the latter as 'nonanchoring possessives').

[21] There are no empirical studies which have looked at the distribution of noun modifiers according to animacy. The analysis of the first 1,000 tokens of the N + N sequences in the *Switchboard* corpus, however, indicates that inanimate modifiers are the norm for N + N sequences (83%), though human modifiers do occur, too, if at a relatively low rate of frequency (5%). Thanks to Tom Wasow for providing me with a list of all N + N sequences from the *Switchboard* corpus.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

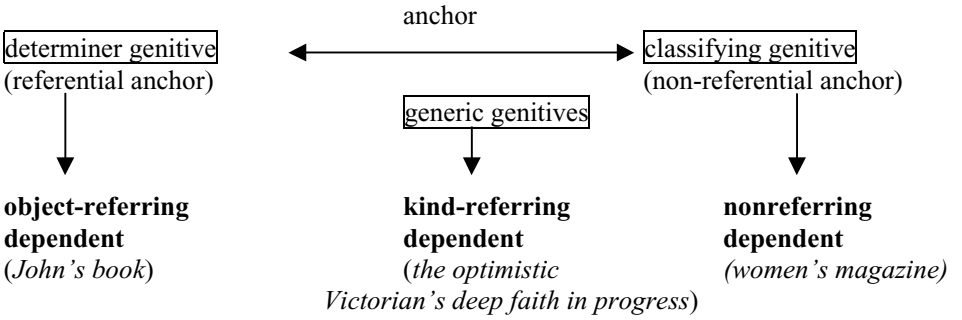


Figure 3. Gradience between determiner genitives and classifying genitives: generic genitives as a bridging construction

close to N + N sequences, metaphorical and generic genitives are close to determiner genitives. More precisely, generic and metaphorical genitives are semantically 'in-between' determiner genitives and classifying genitives. The 'medial' position of generic dependents becomes apparent, if we adopt a more subtle classification of referring expressions for possessors/dependents. Following Krifka et al. (1995), I will distinguish between 'kind-referring' (generic) and 'object-referring' (specific) dependents, which in turn contrast with nonreferring dependents (nonspecific), see figure 3.

Semantically, generic genitives are like determiner genitives in that they have a referring dependent, but the dependents in these two *s*-genitives differ in the precise locus of reference. While the possessor in a determiner genitive refers to a specific referent (as in *John's book*), i.e. is object-referring and hence anchoring a specific discourse referent, the dependent in a generic genitive is kind-referring and hence anchoring a kind. Kind-referring dependents are thus semantically in-between object-referring and nonreferrring expressions: they do refer, but to kinds, which in turn are always nonspecific in the discourse and thus akin to nonreferring expressions. The referential status of the dependent in metaphorical genitives is similar to that in generic genitives, just that typically no reference is made to kinds but to fictitious referents (see the discussion in section 3.2 above). No matter, however, whether we are referring to a generic kind or to a fictitious referent, in practice there is little conceptual difference to a nonspecific, nonreferring expression. In this sense, then, generic genitives and metaphorical genitives form a third kind of genitive, with semantic affinities to both determiner and classifying genitives. Structurally, however, they are like determiner genitives, because they are modelled on them. Note that the categories of 'metaphorical genitives' and 'generic genitives' are classified purely on semantic grounds as descriptive genitives in this article, in contrast to the categories of 'determiner genitives' and 'classifying genitives', where the semantic criteria go hand in hand with the corresponding structural properties.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

The cases discussed so far constitute gradience at the system level in the sense that such overlaps exist between the two construction types of genitives and N + N sequences. However, there is also gradience at the level of usage in specific expressions. Here, a mismatch in the mapping from function to form (and vice versa) can be observed if there is more than one interpretation for a given expression (i.e. ambiguity) or more than one expression to encode a certain function (i.e. variation). Examples are easily found.

(a) One function → two constructions: variation between s-genitives and N + N sequences

Classification can very often be expressed by both an *s*-genitive and an N + N construction. As shown by Rosenbach (forthcoming), descriptive genitives such as *lawyer's fees* or *master's degree* vary with corresponding N + N sequences (*lawyer fees, master degree*) (see also section 2.3). While there is certainly a preference for animate modifiers to take the genitive variant and for inanimate modifiers to prefer the N + N construction, the important point for the present argument is that we do find *lawyer's fees* alongside *lawyer fees*, and *museum's shop* alongside *museum shop* (if in different frequencies). That is, there are areas of overlap between the two constructions.

(b) One construction → two interpretations: ambiguity between determiner and classifying genitives

Crucially here are *s*-genitives headed by an indefinite article, which are inherently ambiguous between a specific and a nonspecific interpretation. Expressions such as *a solicitor's office* can entail both a specific solicitor or solicitors in general. In what C. Lyons (1999: section 4.2) calls 'opacity-creating expressions', the immediate context will usually force either a specific or an unspecific interpretation of the dependent cf. (48):[22]

(48) I went to **a solicitor's office**,
  (a) but he wasn't in. (> specific reading)
  (b) they are always so overcrowded. (> nonspecific reading)

The different interpretations of the indefinite dependent result in different constructional types: while the specific interpretation in (48a) corresponds to a determiner genitive (*[a solicitor]'s office*), the interpretation in (48b) forces a classifying reading (*a[solicitor's office]*). And indeed, in many cases, the context allows for only one interpretation, as in (49).

(49) I was **a beggar's assistant** and Victor was my own assistant. Rafferty was the beggar's name. (R. Doyle, A star called Henry, 64)

In (49) the specificity of the dependent is evident both from the parallelism to *my own assistant*, and from the explicit mention of the beggar in the next sentence.

[22] According to C. Lyons (1999), such cases are vague between a specific and nonspecific reading rather than semantically ambiguous (in the sense of having two different semantic representations), with vagueness being solved pragmatically within the context.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

However, very often the ambiguity persists and cannot be solved pragmatically in the context, as in (50).

(50) (a) He entered **a solicitor's office**, did well, and finally became a partner in the firm. (D. Sayers, *Strong poison*, 124)
(b) that by. . . volunteering as **a physical therapist's assistant** at Children's Hospital, she succeeded in working through her grief . . . (J. Franzen, *The corrections*, 349)

In these cases there is nothing in the immediate context which clearly indicates whether the indefinite dependent is to be interpreted as a specific or nonspecific entity, and these contexts are therefore truly ambiguous. Note however that this doesn't matter: if we enter a type of office that is typical of solicitors, we usually also enter the office of a specific solicitor (50a). If a person volunteers as a certain type of assistant, i.e. *a [physical therapist's assistant]*, then he/she is usually also the assistant of a specific physical therapist (50b). That is, in practice (i.e. in communication), for indefinite dependents the difference between a specific and a nonspecific reading very often is rather unimportant (cf. also Huddleston, 1984: 258; Koptjevskaja-Tamm, 2004: section 2.1). While usually ambiguity is regarded as something threatening communication, causing misunderstanding, the cases discussed here show that there are also cases of ambiguity, which – although resulting in very different structural configurations – are virtually without any consequence for communication. It is precisely this property, I suppose, which makes them so apt for linguistic gradience to sneak in.

Notice that the constructional ambiguity discussed above holds for any *s*-genitive headed by an indefinite article, including cases of metaphorical and generic genitives. Although I have shown in sections 3.2–3.3 above that metaphorical and generic genitives typically behave morphosyntactically like determiner genitives, there are many instances where such genitives are structurally ambiguous between determiner and classifying genitive status. For example, the metaphorical genitive *light as a swan's feather* in (37a) could be perceived of as both the feather of a (hypothetical) specific swan or as a feather which is typical of swans. As in the example of *a solicitor's office*, these two interpretations correspond then to two different structural assignments, namely that of a determiner genitive or a classifying genitive, respectively.

Evidence that the ambiguity of indefinite dependents is first and foremost conceptual in nature comes from Old English. In contrast to Present-day English, in Old English there was still agreement within the NP, which (at least in the majority of cases) clearly indicated whether an initial article belonged to the dependent or the head, as in examples (51a, b) below. In (51a) the article *se* goes clearly with the head noun *hlaford*, indicating that *win-geardes hlaford* is treated as a classifying genitive, while in the later Hatton MS (51b) the article *þas* agrees with the dependent noun *wingeardes* in the genitive case, indicating that in this case it is treated by the scribe as a determiner genitive (data from Thomas, 1931: 112).

(51) (a) se [win-geardes hlaford] (Math. 20: 8, Corpus MS)
the-NOM vineyard-GEN lord-NOM

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

(b) [þas wingeardes] hlaford (Ibid., Hat. MS)
the-GEN vineyard-GEN lord-NOM
'the vineyard's lord'

And even within the same manuscript such variable usage can be observed; see the example from Orosius (MS Lauderdale) in (52), also given in Thomas (1931: 112). Such variation is also noticed by Mitchell (1985: 555).

(52) (a) on [þaes garsecges] earm (Orosius 14, 30)
on the-GEN sea-GEN arm-DAT
(b) on þam [saes earm] (Orosius 26, 30)
on the-DAT sea-GEN arm-DAT
'on the sea's arm'

This suggests that the ambiguity between determiner genitives and classifying genitives is not necessarily due to the structural makeup of Modern English, where it is often unclear what the (uninflected) indefinite article in constructions such as *a solicitor's office* refers to. Rather, the Old English data indicate that the ambiguity is of a *conceptual* type, as apparently it does not matter in many cases whether to conceive of *the vineyard's lord* or *the sea's arm* as a determiner genitive (with a specific dependent) or a classifying *s*-genitive (with an unspecific, type-restricting dependent), although the language still had the structural means to differentiate the two meanings at this time.

Notice that in both cases of variation and ambiguity discussed in this section we are dealing with a kind of gradience which is not characterized by any in-between or 'mixed' status of the constructions at hand, but by the fact that meaning doesn't map deterministically to form (in the case of variation) and form doesn't map deterministically to meaning (in the case of ambiguity). That is, this is a type of gradience defined by the mapping process itself and not by its endproduct (a construction or an interpretation).

4.2 Gradience of semantic features

Another source of gradience in the present case is that the semantic features characterizing the constructions are not categorical but gradient in nature.

4.2.1 Animacy

The binary specification of referents into [±animate] referents is a very rough classification which does not do justice to all the linguistically relevant animacy categories of referents. It is well known from research into English genitives that the choice of genitive construction is sensitive to (at least) the following tiers of animacy (in the sense that the *s*-genitive is more likely the higher in animacy the dependent is); for a general coding scheme for animacy see e.g. Zaenen et al. (2004).

(53) human > animal > collective > inanimate
(*girl*) (*dog*) (*family, church*) (*chair*)

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Rather than the mere biological distinction between living and nonliving entities, animacy as a linguistic factor is dependent on how language users conceptualize referents as being more or less close to their own species. This is the reason why human beings are treated linguistically as being higher in animacy than animals, although the latter are no less animate in the world (see also Rosenbach, 2002: 42–3 for discussion). But even these categories are not absolute and fixed. As for example shown by Dabrowska (1998), computer nouns occur quite frequently with the *s*-genitive although they are inanimate (e.g. *the PC's function keys*). She attributes this to the fact that computers are often associated with human attributes and activities. That is, rather than being human, these nouns can be conceptualized as being human and therefore also linguistically treated as human. In this sense then, the semantic feature of animacy is gradient (and fluid) to the same extent that human conceptualization is.

4.2.2 Referentiality

The binary categorization of [± referential] appears to be too gross, too. Evidence for the graded nature of referentiality comes from anaphor tests. For example, Watt (1975) proposes 'a cline of decreasingly acceptable sentences' from (54a) to (54d).

(54) (a) **All those who follow Nixon** say they approve of **his** annexing Mackenzie Territory as the fifty-fifth State.
(b) **All followers of Nixon** say they approve of **his** annexing Baffin Island as the fifty-sixth State.
(c) All **Nixon**-followers say they approve of **his** annexing the Bahamas as the fifty-seventh State.
(d) All **Nixonites** say they approve of **his** annexing British Honduras as the fifty-seventh State.

What is crucial for the present argument is that these sentences have the antecedent (*Nixon*) of a subsequent anaphor (*his*) encoded in different types of NP. The very fact that some antecedents which are traditionally assumed to be not accessible for anaphora (as in 57c–d) can still be referentially 'penetrated', as well as the general graded nature of the acceptability of such constructions, points to the gradience of referentiality. Note that a graded interpretation of referentiality fits in with the view that reference is 'a relation between language and discourse entities' (Ward et al., 1991: 443) rather than a direct relation between *linguistic* objects.

There is also psycholinguistic evidence indicating that referentiality is a matter of degree and dependent on syntactic position. Gordon et al. (1999) showed in reaction time (i.e. online) experiments that the reading time for a subsequent anaphor was significantly lower when it referred back to the head in an *s*-genitive (*aunt*) than when it referred back to the dependent (*Bill*) in examples such as (55).

(55) **Bill$_i$'s aunt$_j$** owns a lake house where **she$_j$/he$_i$** likes to go swimming.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

This indicates that the head is more referentially accessible than the dependent in the *s*-genitive.[23] Moreover, Taylor (1996: 309) argues that the presence of possessive *'s* implies at least some degree of referentiality, hence accounting for his intuition that descriptive genitives such as *a disturbing [insider's report]* more likely imply the existence of a specific insider than the corresponding N + N construction *a disturbing [insider report]*. Note that in a corresponding determiner genitive (*[an insider's] disturbing report*) the dependent is even higher in referentiality than that in the descriptive genitive. All this indicates that (at least) two factors determine the degree of referentiality of dependents, namely the syntactic position within an NP and the construction type (possessive vs. nonpossessive).

4.2.3 Definiteness

So far, definiteness has not been evoked in the feature analysis proposed above. However, the definiteness of the whole possessive NP is apparently one of the core diagnostics by which Huddleston & Pullum (2002) distinguish between determiner and attributive uses of dependents. In the following I will briefly outline the somewhat problematic status of this criterion, and then move on to venture a tentative assessment of definiteness with respect to the classification of *s*-genitives introduced in this article, finally suggesting that definiteness is another semantic feature that is gradient in nature.

According to the standard view expressed by Huddleston & Pullum (2002), a determiner genitive is definite, even if the possessor itself is indefinite. That is, *a friend's dog* corresponds to 'the dog of a friend' and not 'a dog of a friend'. Huddleston & Pullum (2002) seem to be following Woisetschlaeger (1983), who made a case for the inherent definiteness of such determiner genitives with indefinite dependents, pace Jackendoff (1968), who argued that possessives inherit the definiteness of their dependents.[24] Thus, in Jackendoff's account *a friend's dog* is indefinite. Similarly to Jackendoff's approach, recent minimalist approaches (e.g. Longobardi, 1996, as cited in Alexiadou, 2005) claim, on the basis of the phenomenon of definiteness agreement between dependents and heads in Hebrew construct state constructions, that this is a universal phenomenon, i.e. also holding for English (for discussion, see e.g. Alexiadou, 2005; Zamparelli, 2005). However, as argued by Alexiadou (2005), the facts about Hebrew possessives cannot be generalized to English, as the possessive constructions in the two languages are not comparable. It is also not clear what are hard-and-fast diagnostics for assessing the definiteness of these constructions. The usual test for (in)definiteness of *there* insertion (an NP is indefinite if it can occur in a

[23] Note that these examples are usually treated in the literature as cases showing the different referential *accessibility* of anaphoric expressions. I argue that the very fact that certain antecedents are referentially more or less accessible by anaphora, depending on the syntactic position they occur in, indicates that referentiality in language usage is a matter of degree.

[24] However, Taylor (1996: section 7) demonstrates that Woisetschlaeger's arguments in favour of the inherent definiteness of determiner genitives are not without problems.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

there-existential) has been shown to be fairly unreliable (cf. e.g. Woisetschlaeger, 1983: 142). A more useful test for (in)definiteness is the ability of NPs to occur in partitive constructions. Under this test, only those NPs are definite that can occur in a partitive. Applying this test, Taylor (1996: 191–2) shows that *s*-genitives with indefinite dependents (*a person's friend*) can indeed occur in such partitives while indefinite NPs (*some men*) cannot, as illustrated in (56), adapted from Taylor (1996: 191).

(56) three of John's friends/a person's friends/ *some men

Taylor (1996) argues, however, against the view that such *s*-genitives are *necessarily* definite; instead he argues that they are *compatible with* definiteness, and he proposes 'a gradience of definiteness, with indefinite specifics standing between definites on the one hand, and nonspecifics on the other' (192). Taylor's account is compatible with Haspelmath's (1999) observation that statistically possessives in general (no matter what the morphosyntactic form is) are highly likely to be definite, due to their referential anchoring function. This is confirmed by a recent corpus study of English genitives by Jäger & Rosenbach (2003). They found that both prenominal *s*-genitives and postnominal *of*-genitives were significantly more likely to be definite than indefinite. The question whether definiteness is a categorical property or a matter of degree is of course closely connected to the question whether we regard definiteness as a grammatical or a semantic property. Semantically, definiteness may be defined in terms of 'knownness' (Bolinger, 1977: 90–123) or accessibility and cognitive states (e.g. Gundel et al., 1993), i.e. concepts which are inherently gradient. Grammatically, definiteness is defined over syntactic configurations (e.g. C. Lyons, 1999), which naturally lends itself to a categorical view on definiteness. Defined semantically (or even conceptually), we may argue that the definiteness of a determiner genitive depends on the identifiability of its referent. As argued by Taylor (1996), this in turn depends on the accessibility of its possessor (or, in Taylor's terms, its 'topicworthiness'): the more accessible the possessor's referent, the more easily the referent of the whole possessive NP can be identified (cf. also Kay & Zimmer, 1976). Under this view we can regard indefinite dependents as less accessible referential anchors, and hence determiner genitives with indefinite (specific) dependents (such as *[a solicitor]'s office*) as less definite than those with a definite dependent (e.g. *[the solicitor]'s office*). For the purpose of the present article I will refer to such 'less definite' determiner genitives as 'weak definites', following Barker's (2004) terminology.[25]

[25] Note that Barker is following up on a proposal made by Poesio (1994), who introduced the notion of 'weak definites'. Barker (2004) shows that definite descriptions with relational nominal predicates, such as *the student of a famous linguist*, allow weak interpretations in that they require neither familiarity nor uniqueness. Famous linguists typically have more than one student (see also Löbner, 1985, for arguing for a class of 'relational nouns' with a possible one-to-many relation between noun and argument, and the implications for definiteness). Barker only refers to *of*-genitives in his article and not to determiner genitives (in Barker's approach *s*-genitives do not fall under 'definite descriptions' but under 'possessive descriptions'), but I see no reason why his

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

The picture is even more complicated for generic dependents. While Woisetschlaeger (1983) defends the view that generic dependents impose definiteness on the NP, Taylor (1996) argues that 'the notions of definiteness and specificity do not strictly apply to generics'.[26] Likewise, the definiteness status of metaphorical genitives, which typically occur with indefinite dependents, is difficult to assess. As argued above, *a swan's feather* can be read as either 'the feather of a swan' [+definite] or 'a feather as is typical of swans' [−definite]. So, depending on which conceptualization route language users take, they could be either definite or indefinite. There is also no use in applying syntactic tests such as the ability to occur in a partitive, since these *s*-genitives cannot be evaluated out of context (as would be the case in such tests): it is precisely the context that forces a metaphorical or generic interpretation on these constructions. I conclude that the issue of definiteness, particularly for generic and metaphorical genitives, is a highly complex, context- and theory-dependent one that cannot be resolved in this article. For all other genitives, we may assume the following – gradient – definiteness values:

- determiner genitives with [+def./+ spec.] possessor (*[the man]'s book*): definite NP
- determiner genitive with [−def./+spec.] dependent (*[a friend]'s dog*): weak definite NP
- classifying genitives and N+N sequences [−spec.] dependent (*a/this [women's magazine], a/this [hotel lobby]*): neutral as to definiteness

4.3 Synthesis

Table 5 is a synthesis of the discussion of gradience so far, making the feature analysis proposed in table 4 more precise. Applying such a feature analysis of *s*-genitives and N+N sequences, we can observe both gradience within *s*-genitives and between *s*-genitives and N+N sequences. What all the constructions in table 5 have in common is the restrictiveness (or anchoring function) of the dependent, but otherwise they differ according to the construction type (*s*-genitive vs. N+N sequence) and, more subtly, in the semantic features of animacy, referentiality, specificity, and definiteness. Overall, gradience can be assumed from left to right, i.e. from *John's book* (i.e. determiner genitives with a definite dependent) to *hotel lobby* (i.e. N+N sequences). Not captured in table 5 is the fact that the semantic features themselves (apart from restrictiveness) are gradient in nature, as well as the fact that especially the feature of animacy reflects statistical preferences of the constructions (with '+' implying 'preferred' and '−' implying 'dispreferred') rather than categorical assignments. In this respect, the [±] specifications in table 5 should be interpreted as simplifications for the sake of exposition. Crucial for the gradience account as proposed in this article are so-called 'bridging constructions', which mediate between construction

approach should not be transferable to the discussion of the definiteness of *s*-genitives. Interestingly, Barker notes that such weak definites typically have indefinite dependents and often a 'generic flavor' (113).

[26] In formal semantics, generics are usually considered as quantifiers. From such a perspective, a determiner analysis of these constructions is justified, though such an analysis obscures the fact that generic dependents are not specific discourse entities (unlike in determiner genitives). See also Taylor (1996: section 7.2.1) for arguing against a quantifier analysis of such genitives.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Table 5. S-*genitives and N + N sequences – modified feature analysis*

	s-genitives					N + N sequences
	determiner genitive (*John's book*)	determiner genitive (*a friend's dog*)	generic genitive (*the optimistic Victorian's deep faith in progress*)	metaphorical genitive (*like a swan's feather*)	classifying genitive (*women's magazine*)	N + N sequence (*hotel lobby*)
restrictiveness (i.e. anchoring function) of dependent	+	+	+	+	+	+
animacy of dependent	+	+	+	+	+	–
referentiality of dependent	+ (object-referring)	+	+ (kind-referring)	–	–	–
specificity of dependent	+	+	–	–	–	–
definiteness of dependent	+	–	+/–	–	not applicable	not applicable
definiteness of whole NP	+	+ ('weak definite')	?	?	neutral [+/–]	neutral [+/–]

types. Classifying genitives appear to be the crucial bridging construction between *s*-genitives and N + N sequences. They are overtly *s*-genitives, but otherwise share all properties with (endocentric) N + N sequences. Within *s*-genitives, determiner genitives with indefinite dependents and generic and metaphorical genitives can be regarded as bridging constructions between typical determiner genitives and classifying genitives.

While all this concerns the construction types at the level of the language system, gradience has also been shown to exist at the usage level. Here, mismatches in the form/meaning mapping have been identified in the ambiguity and variation of specific expressions. Particularly interesting are indefinite dependents (*a solicitor's office*) which are often inherently ambiguous between a specific and unspecific reading, and hence between determiner-genitive and classifying-genitive status, although for the language user this makes little difference. Important for gradience on the usage level are also cases of variation where a specific meaning or function can be interchangeably expressed by two constructions, e.g. the variation between classifying genitives and N + N sequences (*lawyer's fees* vs. *lawyer fees*) to express nominal classification.

4.4 Implications for approaches to gradience

Recently, Bas Aarts has made a distinction between 'subsective gradience', i.e. the gradience within one form class, and 'intersective gradience', i.e. the gradience between two form classes (cf. Denison, 2001; Aarts, 2004a, b). Under this view, the gradience between *s*-genitives and N + N sequences constitutes gradience between two construction types and hence falls under the notion of 'intersective gradience', while the gradience between determiner genitives and descriptive genitives is a case of gradience within the construction type of genitives, i.e. 'subsective gradience'. Note that usually intersective gradience is considered as relatively rare compared to subsective gradience (cf. Aarts, 2004a). The results of the present study raise the question whether gradience should be primarily determined on the basis of *structural* properties or whether it can also be defined in terms of *semantic* properties.[27] Defined solely in structural terms, generic and metaphorical genitives would have to be classed as determiner genitives since they fulfill the structural properties of determiner genitives. My approach to gradience differs from Aarts' approach in that I regard clashes in the form/meaning mapping as the major source of gradience, while Aarts advocates an approach that defines gradience in terms of the partial fulfillment of certain diagnostic (morphosyntactic!) tests, together with the idea of a turning-point at which constructions are classed as either *a* or *b*. Considering constructions not only in terms of their structural properties, but also in terms of a mapping from meaning to form (and *vice versa*), semantic aspects need to be considered, too. The feature analysis proposed in table 5 above clearly shows, I think, how the various genitives differ from each other semantically. That is,

[27] Semantic resemblance is considered by Aarts as a case of 'weak convergence', in contrast to syntactic overlaps which lead to what he calls 'strong convergence'. Only the latter are considered as true cases of intersective gradience (Aarts, 2004a: 30–1).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

they do not form a homogeneous class. Focusing only on morphosyntactic properties would obscure the differences as well as overlaps between the constructions. Note also that morphosyntax as such is more fixed than semantics: for example, an element either is adjacent to the head or it isn't. However, on the semantic-conceptual level things are more fluid. It may even be argued that there is a contextual/pragmatic dimension involved, as one reviewer suggested. Certainly, the example of *a solicitor's office* discussed in section 4.1 shows that the context may disambiguate (or not) the constructional category.

What slightly complicates things further in the present case is the fact that the semantic features characterizing the constructions are not categorical but gradient in nature. So, in general, the question arises as to how to model gradience properly if even the features/properties used to define the constructions can themselves be noncategorical in nature. Presumably, formally this can only be captured by probabilistic models (see e.g. Bod et al., 2003).

In general, several questions arise with respect to defining and modelling gradience. First, is the observed gradience genuine in nature or simply an artefact of the fact that we are not applying the right categories or mechanism to describe the constructions at hand properly? (See also Aarts, 2004a: 18–19, for raising this question.) Introducing, for example, the separate categories of 'generic genitives' and 'metaphorical genitives' would eliminate some of the subsective gradience found within *s*-genitives, though indefinite specific dependents would remain a problem, as well as the cases of ambiguity and variation between determiner and classifier genitives discussed in section 4.1. Note also that the categorization into determiner genitives on the one hand, and classifying genitives on the other, proceeds from a clear-cut distinction of syntactic functions in the noun phrase, such as determination, modification, and classification. However, as argued by Rosenbach (2003), these are not syntactic primitives, but are more adequately captured by way of a feature analysis, where semantic features such as those proposed above (i.e. referentiality and restrictiveness of the dependent) map to certain formal properties (such as e.g. position in the NP).[28]

Moreover, can a distinction between subsective and intersective gradience, useful as it is as a heuristic, really be strictly maintained? This presupposes that we can clearly delineate two categories/constructions in the first place. In the present case, for instance, the question arises as to what constitutes a 'genitive construction'. Is it simply the presence or absence of a possessive *'s*? If we apply structural tests (e.g. the position of the dependent in the NP), then classifying genitives (*women's magazine*) at least would not belong to this construction type. It is only due to their genitive marking that they 'deserve' to be classed as genitives at all. Otherwise, however, they fail to fulfil any of the structural properties typical of genitives. And, even if we admit both

[28] See also Seiler (1978) for pointing out that it is very difficult to define nominal determination in a crosslinguistically valid way. For evidence on the indeterminacy of nominal determination based on an analysis of *s*-genitives and N + N sequences in English and Swedish, see also recently Koptjevskaja-Tamm & Rosenbach (2005).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

formal *and* semantic criteria: how are we to rank the criteria in such cases? Note that even if we rely on purely structural tests, this is a problem. Are all structural properties equally important, or are some more important than others? That is, is it possible that the violation of the most important criterion matters more for the categorization of a construction than the violation of several minor criteria? (See also Aarts, 2004a: 38 for addressing this problem.)

This again relates to the question as to whether structural or semantic properties should have priority in such classification. The approach advocated in the present article has placed a stronger emphasis on semantic and functional aspects, and has considered the interaction of meaning–form mapping, as formal criteria alone would largely mask the overlaps between the constructions.

5 Conclusion and further considerations

In this article I have presented data illustrating the diversity of descriptive genitives, suggesting a typology that is based on their function, i.e. classifying genitives (naming function), metaphorical genitives (comparison), and generic genitives (description). I have also argued that descriptive genitives are more productive than is usually assumed in English grammars. In this respect, the findings of the present study correspond to those of Koptjevskaja-Tamm (2003: 553), who has argued that descriptive genitives in Swedish (in her terminology 'inserted genitives') have wrongly been assumed to be marginal and fossilized constructions and who has shown instead that they are 'a very fashionable construction nowadays and appear in virtually any newspaper issue'. Theoretically, descriptive genitives are interesting because they appear to waver between phrasal and compound status, as N + N sequences do. More importantly, it has been argued in this article that there is evidence for gradience within *s*-genitives ('subsective gradience') and between *s*-genitives and N + N sequences ('intersective gradience'), with descriptive genitives providing an important 'bridging construction' between the constructions in various ways, and that this gradience only becomes apparent when allowing for the inclusion of semantic overlaps when defining gradience.

Finally, I would like to briefly draw attention to yet another class of *s*-genitives not addressed so far, which also display signs of gradience, i.e. measure genitives, as in (57). Huddleston & Pullum (2002: 470) class them, besides descriptive genitives, as 'attributive genitives', though they note that they exhibit properties which are consistent with both a determiner and an attributive analysis (examples from Huddleston & Pullum, 2002: 470).

(57) (a) [an hour's] delay, [one week's] holiday
(b) this [hour's delay], a second [one hour's delay], the [one dollar's worth of chocolate]

While the dependents in some measure genitives can occupy determiner position as in (57a), others are clearly attributive as in (57b), as is evident from the fact that they are preceded by a determiner. However, as Huddleston & Pullum (2002: 470) argue,

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

even when in determiner position, such genitives do not render the NP definite: *an hour's delay* translates into 'delay of an hour' and not 'the delay of an hour'. It is this property (i.e. not conferring definiteness on the NP) that makes Huddleston & Pullum (2002) classify all measure genitives uniformly as 'attributive genitives', hence closer to descriptive than to determiner genitives. Such measure genitives have so far not received an in-depth analysis, at least not for English, though Koptjevskaja-Tamm (2003: section 2.3) provides a detailed analysis of Swedish measure genitives, which she shows to exhibit categorial features that are in between determiner genitives and adjectives. It is striking that apart from their mixed categorical status in English, they also exhibit the same kind of variation between an *s*-genitive and N + N sequences observed for descriptive genitives. Example (58) is taken from a Minette Walters novel and illustrates that, within the same novel, the N + N sequence *the 10-month layoff* (58a) varies with the measure genitive *the ten months' layoff* (58b).

(58) (a) Fox numbers have doubled in **the 10-month layoff** (M. Walters, *Fox evil*, 37)
(b) The Boxing Day meet had been well publicized and, after **the ten months' layoff** because of foot-and-mouth, both sides were spoiling for a fight. (M. Walters, *Fox evil*, 56)

Like descriptive genitives, measure genitives appear be very multifaceted constructions. Future research will have to look in more detail at the structural properties of measure genitives, how they evolved historically, how precisely they tie into the category of *s*-genitives, and how they overlap constructionally with N + N sequences.

Author's address:
Dept of English Language & Linguistics (Anglistik III)
Heinrich-Heine Universität
Universitätsstr. 1
40225 Düsseldorf
GERMANY
ar@phil-fak.uni-duesseldorf.de

References

Aarts, B. (2004a). Modelling linguistic gradience. *Studies in Language* **28**: 1–49.
Aarts, B. (2004b). Conceptions of gradience in the history of linguistics. *Language Sciences* **26**: 343–89.
Abbot, B. (2004). Definiteness and indefiniteness. In Horn, L. R. & G. Ward (eds.), *The handbook of pragmatics*. London: Blackwell. 121–49.
Adamson, S. (2000). A lovely little example: category shift in the noun phrase. In Fischer, O., A. Rosenbach & D. Stein (eds.), *Pathways of change: grammaticalization in English*. Amsterdam: Benjamins. 39–66.
Alexiadou, A. (2005). Dependents and (in)definiteness. *Lingua* **115**: 787–819.
Barker, C. (1995). *Possessive descriptions*. Stanford: CSLI Publications.
Barker, C. (2004). Relational weak definites. In Kim, J.-y., Y. Lander & B. H. Partee (eds.), *Possessives and beyond: semantics and syntax*. Amherst, MA: GLSA Publications. 99–123.
Bauer, L. (1988). *Introducing linguistic morphology*. Edinburgh: Edinburgh University Press (paperback edition, corrected 1992, reprinted 1994).

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Bauer, L. (1998). When is a sequence of two nouns a compound in English? *English Language and Linguistics* **2**: 65–86.
Behrens, L. (2000). *Typological parameters of genericity*. Arbeitspapier Nr. 37 (Neue Folge). Institut für Sprachwissenschaft, Universität zu Köln.
Behrens, L. (2005). Genericity from a cross-linguistic perspective. *Linguistics* **43**: 275–344.
Bergsten, N. (1911). *A study of compound substantives in English*. Uppsala: Almqvist & Wiksell.
Biber, D., S. Johansson, G. Leech, S. Conrad & E. Finegan (1999). *Longman grammar of spoken and written English*. London and New York: Longman.
Bloomfield, L. (1933). *Language*. New York: Holt & Co.
Bod, R., J. Hay & S. Jannedy (eds.) (2003). *Probabilistic linguistics*. Cambridge, MA: MIT Press.
Bolinger, D. (1977). *Meaning and form*. London: Longman.
Booij, G. (1985). Coordination reduction in complex words: a case for prosodic phonology. In van der Hulst, H. & N. Smith (eds.), *Advances in non-linear phonology*. Dordrecht: Foris. 143–60.
Booij, G. (2005). *The grammar of words*. Oxford: Oxford University Press.
Burton-Roberts, N. (1976). On the generic indefinite article. *Language* **52**: 427–48.
Dabrowska, E. (1998). How metaphors affect grammatical coding: the Saxon genitive in computer manuals. *English Language and Linguistics* **2**: 121–7.
Denison, D. (2001). Gradience and linguistic change. In Brinton, L. J. (ed.), *Historical linguistics 1999*. Amsterdam: John Benjamins. 119–44.
Gatt, A. (2004). Regular and generic possessives in Maltese. In Kim, J.-y., Y. Lander & B. H. Partee (eds.), *Possessives and beyond: semantics and syntax*. Amherst, MA: GLSA Publications. 199–215.
Giegerich, H. (2004). Compound or phrase? English noun-plus-noun constructions and the stress criterion. *English Language and Linguistics* **8**: 1–24.
Gordon, P. C., R. Hendrick, K. Ledoux & C. L. Yang (1999). Processing of reference and the structure of language: an analysis of complex noun phrases. *Language and Cognitive Processes* **14**: 353–79.
Gundel, J. K., N. Hedberg & R. Zacharski (1993). Cognitive status and the form of referring expressions in discourse. *Language* **69**: 274–307.
Gundel, J. K., N. Hedberg & R. Zacharski (2005). Pronoun without antecedents: how do we know when a pronoun is referential? In Branco, A., T. McEnery & R. Mitkov (eds.), *Anaphora processing: linguistic, cognitive and computational modelling*. Amsterdam and Philadelphia, John Benjamins. 351–64.
Haspelmath, M. (1999). Explaining article-dependent complementarity: economic motivation in noun phrase syntax. *Language* **75**: 227–43.
Huddleston, R. (1984). *Introduction to the grammar of English*. Cambridge: Cambridge University Press.
Huddleston, R. & G. K. Pullum (2002). *The Cambridge grammar of the English language*. Cambridge: Cambridge University Press.
Ike-uchi, M. (1991). An analysis of English descriptive genitives in the dynamic theory of syntax. In Nakajima, H. (ed.), *Current English linguistics in Japan*. Berlin: de Gruyter. 95–138.
Jackendoff, R. (1968). Possessives in English. In Anderson, S. R., R. S. Jackendoff & S. J. Keyer (eds.), *Studies in transformational grammar and related topics*. Waltham, MA: Brandeis University, Department of English. 25–51.
Jäger, G. & A. Rosenbach (2003). Evolutionary OT and the emergence of possession splits. Paper presented at the Workshop *Logic, Neural Networks, and OT,* ZAS Berlin, July 2003.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Jespersen, O. (1942). *A modern English grammar on historical principles,* vol. 6: *Morphology*. Reprinted 1961. London: Allen & Unwin.
Johansson, S. (1980). *Plural attributive nouns in present-day English*. Malmö: C. W. K. Gleerup.
Kay, P. & K. Zimmer (1976). On the semantics of compounds and genitives in English. *Sixth California Linguistics Association Conference Proceedings*. San Diego, State University. 29–35.
Keller, F. & M. Lapata (2003). Using the web to obtain frequencies for unseen bigrams. Special issue on 'The web as corpus', *Computational Linguistics* **29**: 459–84.
Koptjevskaja-Tamm, M. (2001). Adnominal possession. In Haspelmath, M., E. König, W. Oesterreicher & W. Raible (eds.), *Language typology and language universals,* vol. 2 (Handbooks of Linguistics and Communication Science 20.1, 2). Berlin and New York: Mouton de Gruyter. 960–70.
Koptjevskaja-Tamm, M. (2002). Adnominal possession in the European languages: form and function. *Sprachtypologie und Universalienforschung* **55**: 141–72.
Koptjevskaja-Tamm, M. (2003). *A woman of sin, a man of duty, and a hell of a mess:* nondeterminer genitives in Swedish. In Plank, F. (ed.), *The noun phrase in the languages of Europe*. Berlin and New York: Mouton de Gruyter. 515–58.
Koptjevskaja-Tamm, M. (2004). *Maria's ring of gold:* adnominal possession and nonanchoring relations in European languages. In Kim, J.-y., Y. Lander & B. H. Partee (eds.), *Possessives and beyond: semantics and syntax*. Amherst, MA: GLSA Publications. 155–81.
Koptjevskaja-Tamm, M. & A. Rosenbach (2005). On the indeterminate nature of nominal determination. Manuscript, University of Stockholm and University of Düsseldorf.
Krifka, M., F. J. Pelletier, G. N. Carlson, A. ter Meulen, G. Chierchia & G. Link (1995). Genericity: an introduction. In Carlson, G. N. & F. J. Pelletier (eds.), *The generic book.* Chicago: University of Chicago Press. 1–124.
Levi, J. (1978). *The syntax and semantics of complex nominals*. New York: Academic Press.
Löbner, S. (1985). Definites. *Journal of Semantics* **4**: 279–326.
Longobardi, G. (1996). The syntax of N-raising: a minimalist theory. Manuscript, University of Venice.
Lyons, C. (1986). The syntax of English genitive constructions. *Journal of Linguistics* **22**: 123–43.
Lyons, C. (1999). *Definiteness*. Cambridge: Cambridge University Press.
Lyons, J. (1977). *Semantics*, vol. 1. Cambridge: Cambridge University Press.
Lyons, J. (1991). *Natural language and universal grammar: essays in linguistic theory*. Cambridge: Cambridge University Press.
Marchand, H. (1969). *The categories and types of present-day English word-formation*. Munich: C. H. Beck.
Meyer, C. F., R. Grabowski, H.-Y. Han, K. Mantzouranis & S. Moses (2003). The world wide web as linguistic corpus. In Leistyna, P. & C. F. Meyer (eds.), *Corpus analysis: language structure and language use*. Amsterdam and New York: Rodopi. 241–54.
Mitchell, B. (1985). *Old English syntax*, vol. 1. Oxford: Clarendon.
Munn, A. (1995). The possessor that stayed close to home. In Samiian, V. & J. Schaeffer (eds.), *Proceedings of Western Conference on Linguistics (WECOL)* **24**. 181–95.
Mustanoja, T. (1960). *A Middle English syntax*. Helsinki: Société Néophilologique.
Olsen, S. (2000). Compounding and stress in English: a closer look at the boundary between morphology and syntax. *Linguistische Berichte* **18**: 55–69.
Plag, I. (2003). *Word-formation in English*. Cambridge: Cambridge University Press.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Plag, I. (2005). Which is the rule and which is the exception, and why would we want to know? Variable stress assignment in English compounds. Paper presented at the 27th Annual Meeting of the Deutsche Gesellschaft für Sprachwissenschaft (DGfS), 23–25 February 2005, Cologne.
Pleasants, N. (2001). Languages of the web. ClickZ Today, 11 May, 2001. (http://www.clickz.com/int_mkt/global_mkt/article.php/841721)
Poesio, M. (1994). Weak definites. *Proceedings of the fourth Conference on Semantics and Linguistic Theory (SALT-4)*. Ithaca: Cornell University Press.
Quirk, R., S. Greenbaum, G. Leech & J. Svartvik (1985). *A comprehensive grammar of the English language*. London and New York: Longman.
Radford, A. (1988). *Transformational grammar*. Cambridge: Cambridge University Press.
Renouf, A. (2003). WebCorp: providing a renewable data source for corpus linguists. In Granger, S. & S. Petch-Tyson (eds.), *Extending the scope of corpus-based research*. New York: Rodopi. 39–58.
Rosenbach, A. (2002). *Genitive variation in English: conceptual factors in synchronic and diachronic studies*. Berlin and New York: Mouton de Gruyter.
Rosenbach, A. (2003). On the squishy borderline between determination and modification in English. Paper presented at the 'Symposium on Syntactic Functions – Focus on the Periphery', Helsinki, 14–15 November 2003.
Rosenbach, A. (2004). The English *s*-genitive: a case of degrammaticalization? In Fischer, O., M. Norde & H. Perridon (eds.). *Up and down the cline – the nature of grammaticalization*. Amsterdam and Philadelphia: Benjamins. 73–96.
Rosenbach, A. (forthcoming). Exploring constructions on the web: a case study. In Hundt, M., N. Nesselhauf & C. Biewer (eds.), *Corpus linguistics and the web.* Amsterdam: Rodopi.
Rosenbach, A. & L. Vezzosi (2000). Genitive constructions in Early Modern English: new evidence from a corpus analysis. In Sornicola, R., E. Poppe & A. Shisha-Halevy (eds.), *Stability, variation and change of word-order patterns over time*. Amsterdam/Philadelphia: John Benjamins. 285–307.
Seiler, H. J. (1978). Determination: a functional dimension for interlanguage comparison. *Language universals: papers from the conference held at Gummersbach/Cologne, Germany, October 3–8, 1976*. Tübingen: Gunter Narr. 301–28.
Shimamura, R. (2000). Lexicalization of syntactic phrases: the case of genitive compounds. Manuscript, Tsuda College. (http://coe-sun.kuis.ac.jp/coe/public/paper/outside/shimamura2.pdf)
Spencer, A. (2003). Does English have productive compounding? In Booij, G., J. De Cesaris, A. Ralli & S. Scalise (eds.), *Topics in morphology: selected papers from the third Mediterranean morphology meeting (Barcelona, September 20–22, 2001)*. Barcelona: Institut Universitari de Lingüística Applicada, Universitat Pompeu Fabra. 2003. 329–41.
Strauss, U. (2004). Individual-denoting and property-denoting possessives. In Kim, J.-y., Y. Lander & B. H. Partee (eds.), *Possessives and beyond: Semantics and syntax*. Amherst, MA: GLSA Publications. 183–98.
Taylor, J. (1996). *Possessives in English*. Oxford: Clarendon.
Teyssier, J. (1968). Notes on the syntax of the adjective in Modern English. *Lingua* **20**: 225–49.
Thomas, R. (1931). Syntactical processes involved in the development of the adnominal periphrastic genitive in the English language. Unpublished PhD dissertation, University of Michigan.
Ward, G., R. Sproat & G. McKoon (1991). A pragmatic analysis of so-called anaphoric islands. *Language* **67**: 439–74.
Watt, W. C. (1975). The indiscreteness with which impenetrables are penetrated. *Lingua* **37**: 95–128.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press

Wiese, R. (1996). *The phonology of German*. Oxford: Clarendon Press.
Woisetschlaeger, E. (1983). On the question of definiteness in 'an old man's book'. *Linguistic Inquiry* **14**: 137–54.
Zaenen, A., J. Carlette, G. Garretson, J. Bresnan, A. Koontz-Garboden, T. Nikitina, C. O'Connor & T. Wasow (2004). Animacy encoding in English: why and how. In Byron, D. & B. Webber (eds.), *Proceedings of the 2004 ACL workshop on discourse annotation, Barcelona, July 2004*. 118–25.
Zamparelli, R. (2005). Introduction: some questions about (in)definiteness. *Lingua* **115**: 759–66.
Zribi-Hertz, Anne (1997). On the dual nature of the 'possessive' marker in modern English. *Journal of Linguistics* **33**: 511–37.

https://doi.org/10.1017/S1360674306001894 Published online by Cambridge University Press