

# Fuzzy categories in syntax: The case of possessives and compounds in English

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In this paper, I explore the possibility that syntactic constructions may exhibit the kinds of properties that have been associated with the prototype categories of lexical semantics. Just as, say, a prototypical 'cup' is quite distinct from a prototypical 'bowl', so, on any syntactic theory, pronominal possessives in English (e.g. *John's aunt*) would be distinguished from nominal compounds (of the kind *letter box*). Yet, as Labov showed, the category of 'cup' merges into the category of 'bowl'. I shall show that, in a similar fashion, the category of pronominal possessives merges into that of nominal compounds. Special attention will be paid to the intermediate category of 'possessive compounds' (*woman's magazine, boys' school*, etc.). The conclusion is that the notion of prototype (and attendant phenomena, such as marginal membership in a category, fuzzy boundaries to a category, and the overlap of categories at their fuzzy edges) is valid, not only with respect to the referential possibilities of lexical units, but also for the categories of syntax.

## 1. Introduction.

Research on prototype categorisation (Rosch 1978; Geeraerts 1989; Taylor 1989a) has been concerned, first and foremost, with the referential possibilities of selected, and usually nominal, lexical units. A consistent finding has been that the extensions of many words, such as *red* (Heider 1971), *bird* (Rosch 1975), *cup* (Labov 1973), comprise items of different degrees of representativity in the respective categories. Some colours are judged better examples of 'red' than others, some birds are 'birdier' than others, some cups come closer to our notion of a 'typical cup' than others. Secondly, for many of the words that have been studied, the boundaries of their extensions turn out to be fuzzy. Whereas a 'good red' is unequivocally distinguishable from a 'good orange', and a 'prototypical cup' is a quite different kind of entity than a 'prototypical bowl', the extensions of *red* and *orange*, *cup* and *bowl*, in fact merge into each other, with some entities having uncertain status with respect to their category membership.

While the prototype structure of (many) extensional categories is empirically well documented, the significance of prototype categorisation for general linguistic theory is less apparent. For it by no means follows that the fuzzy boundaries and different degrees of representativity that characterise word extensions should necessarily have any consequences for 'core' areas of linguistic enquiry, such as syntax, morphology, and phonology. These components of the grammar could still conform to 'classical' models of categorisation, in which categories are defined by a conjunction of necessary and sufficient conditions for category membership, category boundaries are sharp, and members have equal status within the category. Even with respect to lexical semantics, it has been suggested that fuzzy boundaries and degrees of representativity may simply be reflexes of verification procedures applied to word intensions, whereby intensions may continue to be defined in classical terms (Osherson & Smith 1981; Leech 1981). For the notion of prototype to have any substantial impact on general linguistic theory, it would be necessary to show that the very categories of linguistic description, such as the categories of syntax, themselves exhibit prototype structure.

In this paper, I want to argue for the existence of prototype categories in syntax. I focus on two nominal constructions in English: prenominal possessives (of the kind *John's aunt*) and a sub-category of compound nouns, namely possessive compounds (*woman's magazine, girls' school*). The data show that while the construction prototypes may be readily identified and distinguished, many expressions have marginal status vis-à-vis the prototypes, and testify to a merging of the two constructions, in a manner reminiscent of Labov's cups and bowls.

## 2. Prenominal possessives and possessive compounds in comparison.

Let us begin by considering the nominal expressions in (1).

- (1) a. the woman's magazine  
 b. the girls' school  
 c. the boy's shirt  
 d. the driver's licence

These expressions are structurally - and semantically - ambiguous. The two structural possibilities are illustrated in (2) on the example of *the woman's magazine*.

- (2) a. [the woman]'s magazine  
 b. the [woman's magazine]

I shall refer to expressions with the structure in (2a) as *prenominal possessives* (or 'possessives', for short). In contrast, (2b) exemplifies a

kind of nominal compound, namely a *possessive compound*. In this section, I examine in greater detail the structural and semantic properties of these constructions.

On the possessive reading of *the woman's magazine, the woman* constitutes an NP, which, in association with the possessive morpheme POSS, functions as a kind of definite determiner to *magazine*. The possessor NP can be internally quite complex; also the construction's headnoun, i.e. the possessee nominal, may readily be pre- and postmodified.

- (3) a. [NP<sub>i</sub>the woman sitting opposite]<sub>j</sub>'s [N<sub>i</sub>magazine]  
 [NP<sub>i</sub>the boy]<sub>j</sub>'s [N<sub>i</sub>dark blue shirt that his mother had bought him]

On the basis of these considerations, we may propose the following schematic structure for prenominal possessives.

- (4) [NP<sub>i</sub>[DETNP POSS] [N<sub>i</sub>']]

The semantics of prenominal possessives are discussed in Langacker (1991) and Taylor (1994). A crucial aspect is that prenominal possessives nearly always have specific - and usually also definite - reference. In using a possessive expression, the speaker refers to a specific instance of the kind of entity denoted by the nominal head of the construction (or specific instances, should the head noun be plural). The speaker presumes that the hearer, too, is able to uniquely identify the intended referent(s). The import of the possessor nominal is, precisely, to facilitate the hearer's identification of the instance, by mention of a 'reference point' entity (Langacker 1991:170), i.e. an entity that is cognitively accessible to the hearer (and which is therefore high in 'topicworthiness'), and from whose perspective the referent of the possessee nominal may be located. On its possessive reading, *the woman's magazine* thus denotes a specific magazine, uniquely identifiable given the prior identification of the possessor. Note, by the way, that the nature of the semantic relation between possessor and possessee is not inherent to the possessive construction *per se*, but is, rather, determined by semantic-pragmatic considerations. Nevertheless, the relation of 'possession', in the everyday, quasi-legalistic sense of the term, does emerge as the default interpretation, in many cases (Taylor 1989b). Pragmatically plausible interpretations of *the woman's magazine* include, not only 'the magazine that the woman has in her possession', but also 'the magazine that she is reading', 'the magazine that she edits', 'the magazine that she writes for', etc.

On the alternative reading of *the woman's magazine* (2b), *woman's magazine* constitutes a kind of compound noun, which is headed by *magazine*, and in which *woman's* serves as a kind of restrictive modifier. The modifier nominal would appear to be an N'. Limited

premodification of the modifier is permitted (5a), but postnominal elements are not (5b). And, of course, the modifier nominal may not contain a determiner (5c).

- (5) a. a [gifted children]'s school  
 an [old people]'s home  
 b. \*a [children who are gifted]'s school  
 c. \*a [the gifted children]'s school  
 d. an [old people]'s [retirement home]  
 a boys' [grammar school]  
 e. a famous [deaf children]'s school  
 an expensive [boy's school]  
 f. \*a [deaf children's [famous school]]  
 \*a [boys' [expensive school]]

The head of the possessive compound would appear to be an N. While the compound may itself be headed by a compound noun (5d), adjectival modification of the headnoun would appear not to be possible; compare (5e) and (5f).<sup>1</sup> These considerations suggest the following schematic structure for possessive compounds.

(6) [N[N' POSS] [N]]

The semantics of possessive compounds follows from their status as nouns, not noun phrases. Hence, a possessive compound denotes a kind of entity, rather than an instance of a kind. In general, the kind denoted by the compound is a sub-category of the kind denoted by the headnoun, whereby the modifying nominal suggests how the referential possibilities of the headnoun are to be circumscribed. As with prenominal possessives, the nature of the semantic relation between headnoun and modifier is not inherent to the construction itself, but is open to pragmatic interpretation.

Unlike with prenominal possessives, however, compound expressions tend to have conventionalised status in the lexicon, with semantic values which are more specific than compositionally determined values, or which even diverge radically from the compositionally determined values. Whereas, on its possessive reading, [*the woman's magazine*] could invoke any one of an open-ended set of pragmatically plausible relations between the magazine and the woman, the compound

<sup>1</sup> The first example below might appear to be a counterexample to this claim. On the other hand, the placement of primary stress suggests that *private school* has acquired the status of a conventionalised adjective-noun compound. In this respect, the behaviour of *private school* exactly parallels *grammar school*.

- (i) a boys' private school  
 (ii) a boys' public school

See also note 3.

[*woman's magazine*] conventionally denotes just one special sub-category of magazine, namely, the category of magazines intended for an adult female readership, rather than, say, magazines that are edited by women. And, as mentioned, the conventionalised senses of some possessive compounds may be quite unpredictable. *Car's eyes* ("glass reflectors separating traffic lanes") are not a sub-category of eyes.

There are some further points of contrast between prenominal possessives and possessive compounds:

(i) In the prenominal construction, an initial determiner is construed with the possessor nominal. A determiner before a possessive compound, on the other hand, must be construed with the maximal nominal constituent. The possibility arises, therefore, that number agreement of an initial determiner may serve to disambiguate the two constructions. A compound reading of *this woman's magazines* is excluded, since singular *this* cannot be construed with plural [*woman's magazines*]; likewise, a possessive reading of *these woman's magazines* is excluded, since plural *these* cannot be construed with singular *woman*. The two expressions, therefore, can only have the structures in (7).

- (7) a. [this woman]'s magazines  
 b. these [woman's magazines]

(ii) A comparable state of affairs holds for the construal of an initial adjective. In a possessive, an initial adjective can modify only the possessor, not the possessee. With a compound, an initial adjective may modify either the possessor: *a [young girls] school*, i.e. "a school for young girls", or the entire compound: *an expensive [girls' school]*, i.e. "a girls' school which is expensive". Whereas *the young woman's magazine* could have either the possessive or the compound reading, *the woman's torn magazine* - given the general impossibility of adjectival modification of the head of a compound - can only have a possessive reading. On the other hand - given that *torn* is a semantically inappropriate modifier of *woman* - *the torn woman's magazine* can only have a compound reading.

(iii) A crucial point of contrast concerns the referential status of the initial nominal. In a prenominal possessive, the possessor nominal is referential, i.e. it denotes an individual, or individuals. Since the possessor is referential, there is the possibility of co-reference (8a). It is also possible for a hearer to request clarification regarding the reference of the possessor nominal (8b). With the compound construction, these possibilities are not available (9). The initial nominal is non-referential, i.e. *woman*, in *woman's magazine*, names a category of entity, not an individual.

- (8) a. I found [that woman<sub>i</sub>]'s magazines, but as far as I know, she<sub>i</sub> has not read them.  
 b. A: I found [that woman<sub>i</sub>]'s magazines.  
 B: Whose<sub>i</sub> magazines did you say you had found?
- (9) a. \*I found those [woman<sub>i</sub>'s magazines], but as far as I know, she<sub>i</sub> has not read them.  
 b. A: I found those [woman<sub>i</sub>'s magazines].  
 B: \*Whose magazines did you say you had found?

Symptomatic of its non-referential status is the fact that the modifier nominal in a compound may often lack the plural marker, even though a phrasal paraphrase might well contain a plural - a "woman's magazine" is a "magazine for women".

(iv) There is a potential phonetic contrast between the two constructions.<sup>2</sup> Possessive compounds, like most nominal compounds, tend to have primary stress on the initial, i.e. modifying element: *a [wɒmən's məɡəzɪn]*, *a [draɪvəz' lɪsəns]*. Prenominal possessives, like most noun phrases, tend to have primary stress on the final constituent, i.e. on the possessee: *[ðə wɒmən]'s məɡəzɪn*, *[ðə trʌk draɪvə]'s lɪsəns*.

### 3. The fudging of possessives and compounds.

There appear, then, to be good grounds for drawing a clean line between prenominal possessives and possessive compounds. So far, however, our discussion has dealt only with 'good examples' of the two constructions. I now turn to some examples which diverge from the prototypes. These testify to a blurring of the distinction between prenominal possessives and possessive compounds.

- (i) Consider the following expressions.
- (10) Halley's comet, Parkinson's disease, Hobson's choice, Ockham's razor, St. Valentine's day, Zeno's paradox, etc.

In terms of our preceding account, these expressions would have to be analysed as possessives, with the structure [NP NP POSS N]. Note, for example, that the initial nominal names a specific individual, indicative of its status as a referring NP. Furthermore, the expressions may be used without an initial determiner, which shows that they, too, have the status of NPs.

<sup>2</sup> The contrast is only potential, since stress placement may be influenced by many factors besides constituent structure, such as givenness, contrastivity, informativity, and the like.

- (11) a. We watched in vain for [NP Halley's comet].  
 b. Some progress has been made in treating [NP Parkinson's disease].  
 c. We were faced by [NP Hobson's choice].

Yet, semantically, the expressions in (10) diverge markedly from our earlier characterisation of possessives. In a prototypical possessive, the possessor nominal names a cognitively accessible, i.e. topicworthy entity, which serves as a reference point for the identification of the possessee referent. In order to identify the intended referent of *John's aunt*, a hearer must first be able to identify the referent of *John*; indeed, the referent of *John* would normally have 'given' status, in virtue of its already having been introduced into the discourse (Taylor 1994).

But prior acquaintance with the astronomer and mathematician Edmund Halley is not a prerequisite for fixing the reference of *Halley's comet*, and the expression is certainly not restricted to contexts which have rendered Edmund Halley topical. In other words, *Halley*, while it undoubtedly does name a historical individual, is not fully referential, in the manner of *John*, in *John's aunt*.

In other respects, too, the expressions in (10) resemble compounds, rather than possessives. Observe that the expressions have conventionalised unit status in the lexicon, and are usually listed as such in English dictionaries. If it were a genuine possessive, *Parkinson's disease* would be open to a range of pragmatically plausible interpretations. The expression could denote, for example, any ailment that a certain Parkinson happens to be suffering from. These are the kinds of readings that could be assigned to *James Parkinson's illness*, or *Dr. Parkinson's debilitating disease*.

Furthermore, in certain contexts, the expressions in (10) have the status of Ns, not NPs, as shown in the following examples by the presence of a determiner and by the construal of the adjective.

- (12) a. We watched in vain for the much-talked-about [NP Halley's comet].  
 b. Some progress has been made in treating the debilitating [NP Parkinson's disease].  
 c. We were faced by the usual [NP Hobson's choice].

Genuine possessives do not permit this kind of premodification.

- (13) a. \*the much-talked-about [John's aunt]  
 b. \*the debilitating [Dr. Parkinson's illness]  
 c. \*the sprained [Jill's ankle]

In view of these facts, one might be tempted to assign expressions like those in (10) to a special sub-category of possessives. Members of this category would have the status of definite NPs; the NPs refer to a unique entity, or unique kind of entity, named after its inventor,

discoverer, founder, etc., whereby the inventor etc. is named by the possessor nominal; a further characteristic would be that the expressions have conventionalised unit status, with respect to both their form and meaning. The structures in (12) could be derived by the more general principle according to which uniquely referring article-less NPs can also be used as count nouns (*the much-talked-about John Smith*).

The proposed sub-category would share some features of both prenominal possessives and possessive compounds. This fact suggests a more insightful approach. This is to identify prenominal possessives and possessive compounds as ends on a continuum, and to situate the expressions in (10) at an intermediate point on the continuum. The continuum would reflect such aspects as (a) the status of an expression as NP or N; (b) its reference (definite, unique, etc.); (c) the referential status of the possessor nominal; (d) the requirement for the possessor nominal to be topical; (e) the conventionalised unit status of the expression.

This proposal entails that expressions like those in (10) need not be located at exactly the same point on the continuum. This prediction seems to be correct. In virtue of their status as NPs and the referentiality of the possessor nominals, the expressions in (14a) stand towards the possessive end of the continuum, whilst the superficially parallel expressions in (14b) stand towards the compound end.

- (14) a. Beethoven's Ninth, Schubert's Unfinished, Dante's Inferno  
b. Achilles' heel, Adam's apple

Use of the expressions in (14b) does not entail reference to the individuals 'Achilles' and 'Adam'. Furthermore, these expressions invariably have the status of Ns, rather than definite NPs. As such, they are preceded by a determiner.

- (15) a. Status is the businessman's Achilles' heel.  
b. \*Status is Achilles' heel for the businessman.  
(16) a. Fred has a protruding Adam's apple.  
b. \*Adam's apple is protruding.

If it correct that different expressions occupy different regions of the continuum, it ought to be possible for an expression to move along the continuum, in the process of conventionalisation, for example. We can observe this very process in Chomsky's Preface to his *Knowledge of Language* (1986). When Chomsky first introduces the terms *Plato's problem* and *Orwell's problem* as labels for "two problems concerning human nature" (p. xxv), the expressions have the character of true possessives, in that they denote problems which the individuals, Plato and Orwell, grappled with. A few pages later, however, the expressions

have begun to take on the character of compounds. Consider the following.

- (17) Plato's problem, then, is to explain how we know so much, given that the evidence available to us is so sparse. (Chomsky 1986:xxvii)

The present tense, as well as references to *we* and *us*, suggest that it is not Plato who has the problem that is under discussion (cf. *My problem is to explain...*); rather, *Plato's problem* has become the conventionalised name for a kind of problem, which is no longer characterised with reference to the individual, Plato. An even clearer example is found a couple of paragraphs later (p. xxvii), where Chomsky talks about a *case of Orwell's problem*. This construction is not possible with genuine possessives (cf. \**a case of my problem*). In fact, Chomsky explicitly states that the "case of Orwell's problem" that he is discussing goes beyond the specific problem that George Orwell himself addressed.

(ii) A text-based study (Taylor 1991) showed that the overwhelming majority of possessive expressions have, as their possessor, a nominal with definite reference (see also Brown 1983: 326).

Definiteness accords well with the required topicworthiness of the possessor. This is not to say that possessives with indefinite or even non-specific possessors are ungrammatical. But since these kinds of nominals are likely to be low in topicality, possessives with indefinite or non-specific possessors will constitute somewhat marginal examples of the construction. It is, in fact, precisely these non-central examples of possessives that again point to a fudging of the distinction between possessives and compounds.

Consider the following examples.

- (18) a. I spent an hour reading a student's essays.  
b. Reading a student's essays is something I hate doing.  
c. I hate reading students' essays.

Number agreement of the initial determiner shows that the expressions in (18a) and (18b) must be analysed as possessives: [*a student's essays*, \**a student's essays*]. But whereas in (18a) *a student* would probably have specific reference, i.e. the speaker is referring to the essays of a specific student, in (18b) *a student* could well have non-specific reference, i.e. the speaker could be referring to the essays of any student. In (18c), *students* has generic reference, i.e. the entire class of students is meant.

Now, in virtue of its generic reference, the possessor in (18c) comes very close, semantically, to the modifier nominal in a compound expression, which, as noted in section 2, denotes a kind of entity, rather than an instance, or instances, of a kind. In fact, *students' essays* could be

analysed equally well both as a possessive and as a compound. Consider the following possibilities of adjective placement.

- (19) a. I hate reading handwritten [students' essays].  
b. I hate reading students' [handwritten essays].

Both of these are equally grammatical. Moreover, the sentences appear, to all intents and purposes, to be semantically equivalent. Consider another example of the same phenomenon.

- (20) The archaeologists discovered fragments of a man's skull.

In the context of (20), a specific reading of *a man* would be highly implausible. On a non-specific reading of *a man*, *a man's skull* denotes a skull characterised with respect to its relation to some (non-specific) member of the category 'man'. But essentially the same interpretation results if we analyse *man's skull* as a compound. What was discovered were fragments of a specific exemplar of a sub-category of skull, namely '(male) human skull'. In the last analysis, a [man's skull] is much the same kind of thing as [a man]'s [skull].

Let us pursue the question whether there might nevertheless be grounds for preferring the one structural analysis over the other. Consider, first, adjective insertion. Taking *forty-year-old* as a modifier of *man*, both (21a) and (21b) are possible parsings.

- (21) a. [a forty-year-old man]'s skull  
b. a [[forty-year-old man]'s [skull]]

On the other hand, the oddness of (22b) could suggest that we are, in fact, dealing with a compound, not a possessive.

- (22) a. a forty thousand-year-old [man's skull]  
b. ? [a man]'s [forty thousand-year-old skull]

Yet the possessor nominal can licence a coreferential pronoun - a property, as we have seen, of possessives, not of compounds.

- (23) The archaeologists found a forty thousand-year-old man's skull. It is not known how old he; was when he; died.

Another property of *a man's skull* which would align the expression more with possessives than with compounds, is the fact that if *skull* is pluralised, *man* would tend to be pluralised, also. Note the oddity of (24a).

- (24) a. ? several man's skulls  
b. several men's skulls

'Number concord' between *skull* and *man* does not, of itself, rule out a compound interpretation. Both (25a) and (25b) are possible parsings.

- (25) a. [several men]'s skulls  
b. several [men's skulls]

Nevertheless, the need for a plural modifier does point to the weak referentiality of the modifying noun. Each man has only one skull (in the inalienable sense of 'have'). If there were several skulls, there were also, perforce, several men. To speaker of men's skulls is still to evoke the conception of a number of men, corresponding to the number of skulls. The possessor nominal does not therefore merely denote a kind of entity (cf. the earlier discussion of *woman's magazine*), but evokes the conception of a number of instances of the kind.

With respect to the plural expressions in (25), adjective insertion again points in the opposite direction, i.e. towards a compound interpretation.

- (26) a. several forty thousand-year-old [men's skulls]  
b. \*several men's [forty thousand-year-old skulls]

And, a final twist: The neutral location of primary stress in *a man's skull*, *several men's skulls*, is on the final nominal, suggesting an analysis of the expressions as pronominal possessives!

On both semantic and structural grounds, therefore, there seem to be no compelling reasons for opting conclusively either for a possessive or for a compound analysis of *a man's skull*. Rather, the expression turns out to be marginal with respect to both categories. It is marginal vis-à-vis prototypical possessives in that the possessor is indefinite and non-specific, and the possessee may not be freely modified (the expression, therefore, has something of unit status). It is marginal vis-à-vis compounds in that the modifying noun preserves traces of referentiality. Again, it seems reasonable to locate *a man's skull* on a continuum ranging from prototypical possessives to prototypical compounds. The expression is analogous to a hue mid-way between a good green and a good blue, which may be appropriately described, now as a *bluish green*, now as a *greenish blue*.

(iii) Some scholars have claimed that pronominal possessives invariably have definite reference, irrespective of the definiteness of the possessor nominal, and have even attempted to derive this property of the construction from more general configurational principles (Woisetschlaeger 1983; Lyons 1986). The semantic characterisation of

the construction given in section 2 also associated prenominal possessives with definiteness.

The following example is from Jackendoff (1968). Jackendoff wanted to show that possessives need not have definite reference, and cited, as evidence, the occurrence of a possessive in a context reserved for indefinites, i.e. existential sentences.

- (27) Once upon a time there was a farmer's daughter.

The adjective test, however, clearly shows that *a farmer's daughter* is here more correctly analysed as a compound, rather than as a prenominal possessive.

- (28) a. Once upon a time there was a beautiful [farmer's daughter].  
b. ? Once upon a time there was a farmer's [beautiful daughter].

These examples could suggest that genuine possessives are indeed incompatible with indefiniteness. The situation, however, is far from clear-cut, especially if we consider the kinds of border-line examples we discussed earlier in this section.

Jackendoff, in his paper, does not distinguish between definiteness and specificity of reference. Whatever the correct structural analysis of (27), it is clear that *a farmer's daughter* does have specific reference, i.e. the speaker does wish to refer to a specific member of a class (whether this be the class of 'daughters', or the class of 'farmer's daughters'). A crucial question, therefore, is whether prenominal possessives can have, not only indefinite, but also non-specific reference.

A test for specificity of reference is coreferentiality with specific pronouns, such as *it, them, vs.* coreferentiality with non-specific pronouns, such as *one, some*. With respect to *a man's shirt* (a less lugubrious example than *a man's skull!*), both possibilities exist.

- (29) a. I was looking for a man's shirt, but I couldn't find it.  
b. I was looking for a man's shirt, but I couldn't find one.

The two sentences suggest different kinds of situation. The first might be spoken by a person who has done the laundry, and has noticed that one specific item, namely 'a man's shirt', is missing. The second might be said by a shopper, who wishes to buy an article of a certain kind, namely 'a man's shirt'. The examples show that *a man's shirt* is compatible both with specific reference (29a) and with non-specific reference (29b).

Consider now (30) and (31), where adjective insertion forces a possessive vs. compound reading.

- (30) a. I was looking for a very expensive [man's shirt], but I couldn't find it.  
b. I was looking for [a man]'s very expensive shirt, but I couldn't find it.  
(31) a. I was looking for a reasonably priced [man's shirt], but I couldn't find one.  
b. I was looking for [a man]'s reasonably priced shirt, but I couldn't find one.

The crucial example is (31b), where a possessive parsing is paired with an indefinite pronoun. Intuitions concerning (30) and (31) are somewhat unclear - this in itself may be symptomatic of the fuzziness of the categories we are investigating. Even though the (a) sentences seem slightly better than the (b) versions, none of the sentences in (30) and (31), it seems to me, warrants an ungrammaticality asterisk.<sup>3</sup>

We conclude that possessives may, if somewhat exceptionally, have non-specific, indefinite reference.

The absence of clear grammaticality contrasts between the (a) and (b) sentences in (30) and (31) - as well as the rough semantic equivalence of the (a) and (b) versions - points once again to the fudging of the distinction between syntactic constructions that, in section 2, we found it necessary, on both structural and semantic grounds, to keep strictly apart.

<sup>3</sup> The test for non-specificity relies crucially on the assumption that in a compound, the headnoun may not be pre-modified by an intervening adjective. The grounds for this restriction was the ungrammaticality of (5f): \**a boys' expensive school*, \**a deaf children's famous school*. However, certain kinds of adjective may be inserted into what look like nominal compounds, especially those that are names of article of clothing.

- (i) a. a pair of [dark blue men's pants]  
b. a pair of [nmen's dark blue pants]

A possible explanation of (ib) is that *men's pants* is no longer construed as a possessive compound, but rather as an adjective + noun combination. Note the possibility of *men's* being used predicatively.

- (ii) Are these pants men's or boys'?

Regular possessive compounds, including those with *man's*, do not allow this use.

- (iii) a. \*This school is boys'.  
b. \*This magazine is woman's.  
c. \*This shirt is man's.

If this account is correct, it testifies to a further syntactic squish, i.e. between a nominal modifier, and an adjectival modifier.



#### 4. Possessive and non-possessive compounds.

I suggested in section 2 that possessive compounds are to be assimilated to the more general category of noun-noun compounds. The question now arises: What motivates the presence of the possessive morpheme in possessive compounds? Concretely: If a *woman's magazine* is a kind of magazine, and a *letter box* is a kind of box, why does the former display possessive morphology, whereas the latter does not?

Three factors seem to be involved. They each point to the fact that the possessive morpheme is used just in case a compound displays properties that are typical of pronominal possessives. This situation suggests, again, that the distinction between pronominal possessives and nominal compounds is essentially fuzzy.

(i) The first of these factors is the animacy of modifier. Possessive compounds and non-possessive compounds are in roughly complementary distribution. If the modifier noun is human, the possessive morpheme is generally obligatory (*woman's magazine* vs. \**woman magazine*). With an inanimate modifier, the converse is true (*letter box* vs. \**letters' box*). With an animate, but non-human modifier, considerable variation exists (*bird's nest* vs. *dog kennel*, *hen's egg* vs. *ostrich egg*, *duck's egg* alongside *duck egg*).

This characteristic of nominal compounds recalls a well-known feature of the pronominal construction. A text-based study (Taylor 1991) showed that about 75% of pronominal possessives have, as their possessor, a human nominal. This aspect of the construction - frequently commented upon, especially in pedagogically oriented grammars<sup>4</sup> - is plausibly a reflex of the requirement that the possessor nominal be high in topicality.

(ii) A second factor licensing the possessive morpheme is the degree of 'possessiveness' of the semantic relation between modifier and modified. As argued in Taylor (1989b), some semantic relations can be regarded as being 'closer' to a prototypical possession relation (legalistically defined) than can other relations. It seems plausible to maintain that the relation between a magazine and its readers displays a greater degree of possessiveness than, say, the relation between a magazine and the persons depicted on its pages. Considerations of this nature help explain some exceptions to the above generalisation concerning the animacy of the modifier noun. Compare, for example, *woman's magazine* and *girlie magazine*. In both cases the modifier noun is human. Yet in the first case the possessive morpheme is obligatory, in the second case it is absent.

<sup>4</sup> Cf. the "gender hierarchy" of Quirk et al. (1985:322).

(iii) A third factor is the degree of referentiality of the modifier noun. Again, exceptions to the animacy hierarchy are quite revealing in this respect. Compare *driver's seat* with *passenger seat*. The difference is plausibly attributed to the fact that a driver's seat is meant for a uniquely identifiable individual (within the discourse context), i.e. the driver (of a vehicle), whereas a passenger seat could be occupied by just about anybody. Similar considerations may be brought to bear on the contrast between *children's room* and *guest room*. Compare also the following minimal contrast.

- (32) We now bring you a disturbing (insider report / insider's report) on what is happening in the country.

Adjective construal points to the compound status of *insider's report*. Arguably, however, *insider* preserves some degree of referentiality, in that an *insider's report* is a report which has come from a particular individual. The non-possessive compound *insider report* lacks this element of referentiality. An *insider report* is merely a report, of the kind that only insiders can come up with. Compare the (perhaps marginal) acceptability of coreferential *he* in (33a) with the total impossibility of coreference in (33b).

- (33) a. (?) We now bring you a disturbing insider<sub>i</sub>'s report, in which he<sub>i</sub> describes the latest happenings in the country.  
b. \*We now bring you a disturbing insider<sub>i</sub> report, in which he<sub>i</sub> describes the latest happenings in the country.

A further aspect is that *insider report* has the flavour of an innovation vis-à-vis *insider's report*. Other examples of the same trend can be cited. *Doll's house* (the form recorded in OED and COBUILD) appears to be giving way to *doll house*. The OED cites *dog's ear* "turned-down corner of a page" (and even the verb *to dog's ear*) as the principal form, while a more modern dictionary (Collins) gives *dog-ear* as the main entry. One even hears *driver licence* and *collector item* instead of the more usual *driver's licence*, *collector's item*.

The move to a fully non-referential modifying noun, and the associated loss of the possessive marker, reflects increasing conventionalisation of an expression. In fact, one might plausibly propose a continuum of conventionalisation, from a true pronominal possessive, though a possessive compound, to a non-possessive compound. The earlier discussion of *Plato's problem* illustrated the beginning of this process. (The end-point would be reached with the non-possessive compound *the Plato problem*). The phenomenon may also be illustrated on the following example, from an eye-witness account of the Soviet invasion of Finland. The passage dates from 1940, at which time Molotov, the Soviet foreign minister, was a highly topical



individual, and the 'cocktails' thrown at the Soviet tanks could be named after him.

... we were regaled with stories about the damage which had been done by 'Molotov's bombs'. Everyone apparently speaks of them in this fashion, and when the aeroplanes are heard to be dropping their deadly cargoes, the people say 'Molotov is barking again'. Similarly, when the soldiers attack the Russian tanks, they call their rudely-made hand grenades 'Molotov's cocktails'. (Citrine 1940: 41)

In this passage, *Molotov's cocktails* is very close to the possessive end of the continuum. But now, more than half a century later, as awareness of the historical individual, Molotov, has faded, so too the possessive construction has fallen into disuse. Home-made petrol bombs are now universally referred to by the conventionalised, non-possessive compound, *Molotov cocktails*.

### 5. Conclusions.

I started by showing the necessity to distinguish, on both semantic and structural grounds, between prenominal possessives and possessive compounds. The distinction turned out to be anything but clear-cut, with many kinds of expression having uncertain status between the two constructions.

Then, focusing on nominal compounds, I suggested that the possessive marker is licensed just in case the nominal compound exhibits properties characteristic of a prototypical prenominal possessive: the modifier shows some degree of referentiality; the semantic relation between modifier and modified is one that can be assimilated to the relation of possession; and, above all, the modifier is human, or at least animate.

The facts suggest a continuum from prenominal possessives, through possessive compounds, to non-possessive compounds.

This state of affairs creates serious problems for most theories of syntax, which presuppose clear-cut categories, with membership in the categories a simple matter of either/or. Whilst it might be feasible to claim that an expression has two different readings, as determined by the alternative parsings [X Y] [Z] and [X] [Y Z], it is scarcely possible, within 'classical' theories of syntax, to claim that an expression *simultaneously* exhibits properties of both [X Y] [Z] and [X] [Y Z]. Yet some of the examples we have discussed point to the need for precisely this kind of solution.

One conclusion could be that syntactic theory needs to give increased attention to *syntactic constructions*, and to their characterisation in terms of clusters of properties, pertaining to syntactic, semantic, and also phonological and pragmatic aspects, which together define the construction prototype (Fig. 1).

prenominal possessives	possessive compounds	non-possessive compounds
referential (usually definite)	non-referential	non-referential
possessor nominal referential (usually definite and topical)	possessor nominal referential or weakly referential	modifier nominal non-referential
possessor nominal often human	possessor nominal typically human	modifier nominal typically non-human
possessee and possessor may be freely pre- and postmodified	little possibility of modification of headnoun or modifier	little possibility of modification of headnoun or modifier
pragmatic interpretation (though 'possession' may dominate)	conventional interpretation (though may be compatible with 'possession')	conventionalised interpretation (no link to 'possession')
final stress	initial stress	initial stress

Fig. 1. Some characteristics of prenominal possessives, possessive compounds, and non-possessive compounds.

Just as cups may diverge, in different ways, and to differing degrees, from the 'cup prototype', so a complex syntactic expression may diverge from the construction prototype. And just as a particular vessel may be hard to categorise conclusively as either a cup or a bowl, so an expression may have an unclear status between two contrasting constructions, having characteristics of both, but being a good example of neither.

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