

The English “Group Genitive” is a Special Clitic

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This paper discusses the analysis of some important features of the English possessive construction, a topic that has long interested linguists from many traditions. At least since the work of Jespersen 1894, the properties of English possessives have served as examples and justification for a variety of theories of grammatical organization, and their analysis is certainly a matter of interest in its own right. It is also of interest more generally, because a correct account has implications for the treatment of a somewhat wider range of issues in linguistic theory.

I will primarily be concerned here with the formal expression of possessive marking, a superficially simple matter that nonetheless can serve to distinguish theories that differ in rather subtle ways. In the course of the discussion, however, I will for some broader claims about the morphosyntactic context in which possessive marking occurs.

I Introduction: The English "Group Genitive"

In nearly all cases (except those involving pronouns, which will be discussed below in section 3), the overt marker of possession is the ending *'s* whose phonology, parallel to that of the regular plural, the regular third person singular present ending of verbs, and the contracted forms of *is* and *has* will be mentioned below in section 4. This ending appears on the possessor, and (as an instance of “Genitive” marking) might appear quite unremarkable. What has attracted the attention of scholars, however, is the fact that the marker appears on a single word at the right periphery of the possessor DP. Since English DPs can be quite complex, and most of that complexity is elaborated on the right side of the head noun, the word which actually bears possessive marking may appear to have little or no specific connection to the possessive relation expressed. This aspect of the construction led to Jespersen’s calling it the “Group Genitive,” and it has been referred to in that way in much subsequent discussion (cf. Allen 1997, among others). Some examples are given in (1).

- (1) a. Fred’s taste in wallpaper is appalling.
- b. The man in the hall’s taste in wallpaper is appalling.
- c. Every man I know’s taste in wallpaper is appalling.
- d. That brother-in-law of mine that I was telling you about’s taste in wallpaper is appalling.
- e. Even that attractive young man who is trying to flirt with you’s taste in wallpaper is appalling.

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Although this sort of marking is not common, English is not alone in having the “Group Genitive”: Swedish too, as well as some forms of Norwegian display possessive constructions that are quite similar. Some Swedish examples are provided in (2).

- (2) a. [[Professorn i tyska]_{DPS} fru]_{DP} är berusad
 professor.DEF in German.GEN wife is drunk
 The wife of the professor of German is drunk.
- b. i [[nån som jag tycker om]_{DPS} hem]_{DP}
 in someone that I care about.GEN home
 in the home of someone I like
- c. [[en vän till mig]_{DPS} företag]_{DP}
 a friend of me.GEN company
 a friend of mine’s company

The history of this construction has been the subject of fairly close scrutiny over the years, and especially recently because it bears on the validity of so-called “Grammaticalization Theory” (cf. Norde 2001 and related discussion, for example). I will return to that point below in section 5; for now, what is important is the synchronic analysis of the possessive construction.

The key feature of the “Group Genitive” is the fact that the formal marker (3) occurs once, at the right periphery of the phrasal constituent (the possessor DP) which it characterizes. This is a canonical instance of what I have called a “Phrasal” property in previous work (Anderson 1985, 1988). Essentially, these are properties (which we could identify with some feature [+F]) that are meaningfully assigned not to some individual word but rather to an entire phrase (XP), despite the fact that they are realized in a more local fashion.

In some languages, phrasal properties are realized by discrete markers, as in the marking of case by phrase-final particles in Japanese. In others, they are realized by the inflected forms of specific words, as with case in Latin or German. Analyses often skip over these details as having little theoretical interest, but it is important to ask just how the properties of XPs are expressed, such that both of these mechanisms are possible and more or less equivalent.

The expression of phrasal properties does not occur just anywhere, and we can give a substantive descriptive typology of the possibilities. Marking may be on the head of the phrase, or on all of the words of the phrase. The latter can be treated as derived from head-marking by phrase-internal agreement. Marking may also be at the left or right edge of the phrase; as a variant of left-edge marking, we can also find properties marked immediately following the leftmost element (word or sub-phrase) of a phrase — that is, in second position. Interestingly, these are the same possibilities that exist for morphological marking of properties within words, as I have argued in various places, including Anderson 1992, suggesting that we are dealing with the analog at the phrase level of morphology at the word level.

The English possessive is clearly an instance of a phrasal property, since it marks the relation of possession between the entire DP representing the possessor and the nominal expression representing the possessum. Adopting the DP analysis of Abney 1987, the possessor phrase appears in the position of Specifier within the larger DP.¹ I assume that the Determiner in such a phrase is itself phonologically empty, and that the formal expression of the relation of possession is implemented through the assignment of a feature [+Poss] to the possessed phrase in the Spec(DP)

¹This is based on apparent analogies between the structures of DP and IP. In Anderson 2005 and elsewhere, I assumed possessors were located in the D position; while I think a case can be made for that analysis, the differences from the ‘standard’ account adopted here are not relevant to the issues addressed in this paper.

position.² On this analysis, the morphosyntax of the possessive construction in English consists of the configurational feature assignment rule in (3).

(3) English possessive (**Morphosyntax**):

$$DP \rightarrow [+Poss] / [{}_{DP} [_] D X]$$

The rule in (3) could also be expressed by saying that [+Poss] is a feature freely assigned to DPs, and ‘checked’ by an appropriate functional category in D. The differences between that analysis and the present one do not bear on the points to be made below. What matters is simply the claim that [+Poss] is a feature assigned to DPs, representing a phrasal property assigned to possessive phrases.

2 Two Theories of the Realization of [+Poss]

The “Group Genitive” character of the English possessive suggests that from a morphosyntactic point of view, it is a property of (entire) DPs. That is represented here as the assignment of the feature [+Poss] to a DP. This aspect of the analysis tells us nothing, however, about how [+Poss] is realized formally. The literature contains two distinct proposals about how this might come about, and neither of these can be excluded on *a priori* theoretical grounds.

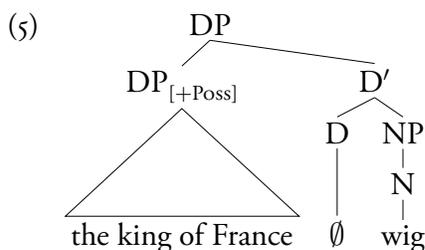
One way such a phrasal property might be realized is through the introduction of a particle, or clitic. As detailed in Anderson 2005, the class of clitics that appear in specific positions within a phrase can be related to what Zwicky long ago called “special clitics,” and the best account of these is given by rules that modify the phonological shape of the phrase — typically, though not always, by introducing a distinct piece (usually called a clitic or a particle) at some determinate point in the phrase. These rules constitute quite an exact analog at the phrasal level to the rules of Word Formation that realize the morphological properties of words at that level.

One possible account of the English Group Genitive, then, is to regard it as a special clitic introduced at the right edge of a [+Poss] DP. This can be described by the rule of phrasal morphology in (4), applying at PF (or perhaps at the end of the smallest Phase including the entire DP within which [+Poss]-marking by rule (3) occurs).

(4) English [Poss] realization:

Phrasal Morphology: Adjoin /z/ to the final syllable of a DP bearing the feature [+Poss]

To be explicit, suppose we wish to provide an account of a phrase such as *the king of France’s wig*. Within the syntax, *the king of France* occupies the position of Spec(DP) within a DP whose D position is phonologically null (or perhaps an appropriate functional category with no independent phonological manifestation), taking as complement an NP consisting of the Noun *wig*. The rule in (3) applies to the possessor DP, resulting in a structure like that in (5).



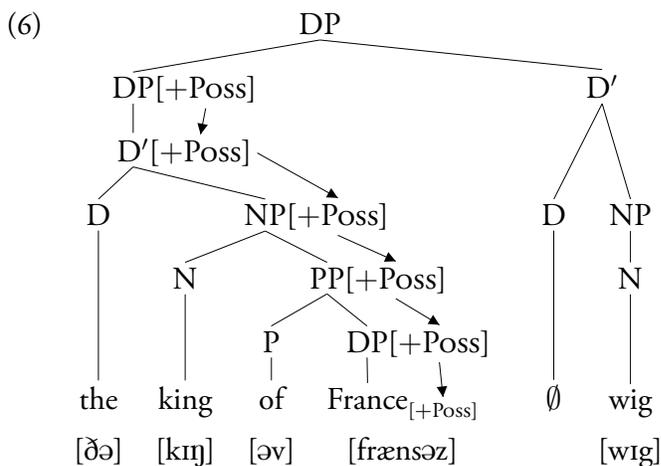
²The common assumption that D in possessive constructions is filled by the possessive marker *'s* itself will be addressed below in section 3.

Phonologically, the possessor phrase is realized as [ðə kɪŋ əv fræns], within the scope of a DP with the feature [+Poss]. As a consequence of the phrasal property of this DP, the rule in (4) applies, adjoining /z/ to the final syllable ([fræns]) of the possessor phrase. Later, at the post-lexical level the phonology will restructure this with the introduction of an epenthetic vocalic transition, resulting in [(fræn)_σ(sɪz)_σ]. Since the rule of phrasal morphology that adds the phrasal affix /z/ does not care about any relation between the specific word on whose final syllable the affix lands and the thing that is possessed, we get the “promiscuous” kind of attachment that is characteristic of the English — and Swedish — Group Genitive.

This approach is fairly straightforward, and corresponds well to our intuitions about the construction. But there is an alternative way of looking at it, one which is in principle quite different. In work that originates in proposals of Arnold Zwicky and his student Joel Nevis (cf. Nevis 1986, Zwicky 1987), and which is continued within the frameworks of GPSG and HPSG (Lapointe 1990, 1992; Miller 1991), it was proposed that the group genitive is actually a special kind of word-level inflection called “Edge inflection.”

On this view, certain features are identified as (right or left) “Edge features.” A feature with this property is transmitted, by convention, to the left or rightmost daughter of the phrase with which it is associated, and from there to the left or rightmost daughter of that phrase, and so on until it lands on the left or rightmost word within the domain phrase, from where it can go no further. It is then realized through the inflectional morphology of that word, just as any other word level property.

Given a phrase with some internal structure, which is assigned a Right Edge feature [+F], this feature then propagates down to the rightmost word, where it is realized in the inflection of that word. This is illustrated in (6), where the arrows represent the spread of the feature [+Poss] from the locus of its assignment (the DP in Spec(DP)) to the right edges of successive layers of embedded structure.



On this view, the morphosyntax of the possessive remains the same, as described by the rule in (3), but the realization rule in (4) is replaced by the feature specification in (7a), with the marker introduced by the rule of word-level possessive marking in (7b).

- (7) a. English possessive specification:
Type: [EDGE:LAST]
Value: [POSS]
- b. **Word-level Morphology:** /X_[+Poss]/ → /X+z/

So how might we distinguish between these two accounts? The essential difference is that one treats [Poss] as a clitic, or phrase-level affix, while the other treats its realization as that of a word-level affix. Now in fact, there are a number of symptoms of the difference between clitics and affixes that we could explore. Some of these have gained a kind of definitional status in the literature since the work of Zwicky in the early 1980s, and especially Zwicky & Pullum 1983, but in that tradition they have something of the status of unexplained, stipulative postulates. Anderson 2005 attempts to show that these differences follow, to the extent they are real, from the difference between phrasal and word-level affixation.

Three important properties from this set relate to differences in specific vs. general behavior of affixes vs. clitic. First, clitics in general attach to anything in the right position, while affixes generally characterize specific classes of words. Secondly, affixed words, as lexical items, may or may not be present in the lexicon of a language, and so can sometimes present paradigmatic gaps where an expected combination does not exist. Clitics do not display such gaps, since the combination of a clitic and its host arises outside of the lexicon. And finally, the form of an affixed word, being lexical, may be idiosyncratic, while clitics have the same shape regardless of the host they happen to attach to (apart from purely phonological modifications, of course). We can ask whether properties such as these can help us in distinguishing between the proposed analyses of the English possessive.

First, however, let us make the point that both potential accounts (as a special clitic and as edge-inflection) are in fact theoretically viable, in the sense that phenomena of the appropriate sort do exist. As an example of real special clitics, consider the determiner clitics in Heiltsuk, or Bella Bella, a Wakashan language of British Columbia. Illustrative sentences (from Rath 1981) are given in (8).

- (8) a. p'ála wísm=á=xí la ux^wλiás=a=xí
 work man-DET₁-DET₂ on roof-DET₁-DET₂
 The man worked on the roof
- b. p'ála p'ác'uá=ya=s wísem=xí la ux^wλiás=a=xí
 work diligent-DET₁-CONN man-DET₂ on roof-DET₁-DET₂
 The diligent man worked on the roof
- c. p'ála 'wála=ya=s p'ác'uá=s wísem=xí la ux^wλiás=a=xí
 work really-DET₁-CONN diligent-CONN man-DET₂ on roof-DET₁-DET₂
 The really diligent man worked on the roof

In this language, the DP has two separate clitic elements marking various deictic information. One of these appears after the first phonological word of the DP, in second position, regardless of what that word is. These are underlined in the examples in (8). The other appears at the right edge of the DP. Since DPs in this language always end in the head Noun of the included NP, this is always where the final clitic attaches, but note that in the case of one-word DPs, the final clitic comes after the second position clitic, reflecting the fact that its position is truly DP-final and not post-head. Both classes of these elements are completely general and independent of anything except the phonological shape of the words they attach to. They are thus true special clitics.

Anderson 2005 proposed that phrasal properties realized in peripheral positions within the phrase can always be treated as special clitics, but closer inspection makes it clear that there are some cases where the edge-inflection treatment, instead, is correct. Three of these are discussed in Anderson, Brown, Gaby & Lecarme 2006, including the facts of Ergative Marking in Kuuk Thaay-orre (Gaby 2006). In this language, Ergative Marking can occur on nouns and on adjectives. As illustrated in (9), there are a number of different ways in which the ergative is marked, and their distribution is not predictable from the shape of the word: that is, a word has to be lexically specified for which of these affixes (among other) it takes in the ergative form.

(9)		Nominative	Ergative		Nominative	Ergative
	‘meat’	minh	minh-al		‘good’	min
	‘dog’	kuta	kuta-ku		‘woman’	paanth
	‘eye’	meer	meer-e		‘cat’	thok
	‘crocodile’	pinj	pinj-i		‘child’	parr_r
	‘boomerang’	werngr	werng-arr			parr-an

As illustrated in (10), Ergative Marking appears only once within the DP, on the rightmost word. This is true whether that word is the content Noun, a modifying adjective, or a pronominal possessor.

- (10) a. minh kothon-thurr pam nhaanham
 MEAT wallaby-ERG man.ACC see.REDUP.NPAST
 The wallaby is looking at the man
- b. wa’ar pam.thaawarr-an nhul kar paath-thurr thaathi-rr
 jellyfish dangerous-ERG 3SG like fire-ERG sting-PST.PFCTV
 nganh yangkar
 ISG.ACC leg.ACC
 The venomous jellyfish stung me like fire on the leg
- c. ngan pumun ngathan-thurr kuta theernga-rr
 RELATIVE younger.brother my-ERG dog.ACC hit-PST.PFCTV
 My younger brother hit a dog

However, when the last word is a demonstrative determiner as in the examples in (11), Ergative Marking occurs on the next-to-last word instead. In fact, demonstratives in this language do not have an ergative form. Similarly, pronouns have no ergative form; the possessives in examples like (10c) are actually a kind of adjective in this respect, rather than simple pronouns.

- (11) a. pam-al ith nhul may carrots yak-ake-rr
 man-ERG DEM.DIST he.3SG VEG carrots.ACC cut-REDUP-PST.PFCTV
 The man(, he) cut up the carrots
- b. parr_r paanth-u ith may mular washm
 child female-ERG DEM.DIST VEG yam.ACC wash.VERBALIZE
 rirk ngok-eln
 do.NPAST water-LOC
 The girl washes the yam

In Kuuk Thaayorre, we have diagnostic properties of an affix, and not those of a clitic: lexically idiosyncratic shapes and lexical gaps. Furthermore, Ergative Marking is only possible for Nouns and Adjectives, we could say that the property is selective in what it attaches to. But if the Kuuk Thaayorre ergative is an affix, it has to be treated as edge inflection. It realizes a property of the phrase, but only on a single, peripheral word. In this case, as well as in the examples from Somali and the Austronesian language Nias Selatan discussed in Anderson et al. 2006, we have to recognize edge inflection as a formal mechanism distinct from that of special clitics.

If edge inflection exists, we need a way to describe it. The approach in the GPSG/HPSG tradition seems content simply to stipulate that “Left-Right Edge” is a possible place for features to dock, in addition to heads. But this stipulation is troubling, because we do not find relations between phrases and their left/right edges in grammar in general, and it would be better to find some

alternative that grounds the phenomenon more securely. In fact, we can describe edge inflection within the same framework proposed in Anderson 2005 for the positioning of items in word level morphology and for special clitics: a system of constraints, on the general approach of Optimality Theory.

In analyzing the facts of Kuuk Thaayorre, we first want to note that only Nouns and Adjectives can realize the feature [Ergative]. That ought to follow from the fact that neither the lexicon nor the morphology provide realizations for this feature in other categories. What matters to us here is only the fact that Determiners, including demonstratives and non-possessive pronouns, cannot be specified for this property. As noted, that may well follow from broader aspects of the organization of the language, but it will suffice to invoke a specific constraint such as (I2).

- (I2) * $D_{[\pm\text{ERG}]}$: “Nouns and Adjectives, but not Demonstratives or Pronouns, can be specified for the feature $[\pm\text{ERG}]$ ”

Subject to this limitation, we want the rightmost word of a [+ERG] DP to bear the feature. This can be achieved as the result of a standard sort of Alignment constraint, as in (I3).

- (I3) **Align**($XP_{[+\text{ERG}]}$, **R**, $W_{[+\text{ERG}]}$, **R**): “The Right edge of a phrase bearing the feature [+ERG] should coincide with the Right edge of a Word bearing [+ERG].”

Finally, we can say that other things being equal, words are not inflected for [+ERG], as specified in (I4).

- (I4) * $W_{[+\text{ERG}]}$: “Do not inflect words for the feature [+ERG]”

Of course, other things are not always equal: we definitely want the rightmost word of the phrase to bear the feature when the phrase itself does. If the Alignment constraint in (I3) out-ranks (I4), the effect will be that words are marked [+ERG] if and only if that is required to mark the right edge of a [+ERG] DP. Finally, if (I2) out-ranks (I3), the rightmost word of a [+ERG] cannot be inflected if it is a Demonstrative or Pronoun. In that event, the minimal violation of (I3) will be obtained precisely by inflecting the penultimate word of the DP instead.

The resulting analysis involves no percolation of features, and no redundant assignment of the edge feature to intermediate structural levels as in (6). All that is required is a principle specifying (via an Alignment requirement) the relation between a phrase bearing [+ERG] and the inflection of an individual word expressing this feature, using constraints of a familiar sort.

Having observed that both special clitics and edge inflection exist, we can now go back to the English Possessive, and ask how we should treat it. Recalling the symptoms mentioned above that separate the two classes of phenomenon, we can compare the cases before us as in (I5).

(I5)		<i>Heiltsuk</i>	<i>Kuuk Thaayorre</i>	<i>English</i>
		<i>Determiners</i>	<i>Ergative</i>	<i>Possessive</i>
	Selection:	none	Nouns & Adjectives	none
	Gaps:	none	Demonstratives (Pronouns?)	none
	Idiosyncratic shapes:	none	several	pronouns

When we look at Heiltsuk, we find none of the idiosyncrasies that are associated with word-level inflection, so this case is clearly one involving special clitics. In contrast, when we consider Kuuk Thaayorre, we find all of the hallmarks of word-level inflection, so this is a good candidate for an edge inflection analysis, along the lines just described. When we compare these clear cases with that of English, most of the facts seem to be what we expect of a special clitic, but there is one sticking point: the possessive form of pronouns. It is to this issue that we turn in the following section.

3 Pronouns and Possessive Marking

Pronouns actually present a problem for both accounts, though in different ways. With regard to the special clitic analysis, the problem is that pronouns have idiosyncratic forms when they appear in possessive positions, rather than consisting of the plain pronoun plus the same /z/ that appears with other DPs. This point is illustrated in (16).

- (16) a. my lunch, your lunch, her lunch, our lunch
b. *I/me's, *you's, *she/her's, *we/us's lunch

Their shape, that is, seems to be determined as a lexical matter, which is the kind of thing we associate with word level inflection rather than phrase level clitics.

On the other hand, the edge inflection account also runs into problems. Consider the form in which pronouns appear when occurring in different positions within a possessive DP, as illustrated in (17).

- (17) a. My bad habit
b. The woman who loves me's bad habit
c. A bad habit of mine
d. A friend of mine's bad habit

On the edge inflection account, all of the underlined forms ought to be just a first person pronoun with the feature [Poss], but in fact we find four different forms.

The basic facts regarding the possessive forms of pronouns do not seem to provide a clear argument in either direction. Since the other features of (non-pronominal) possessive DPs in English seem to favor the special clitic analysis, however, let us see if pronouns too can be accommodated within that account.

Let us begin by asking what the basic representation of pronouns should be. Adopting a suggestion originally due to Postal (1966) and revived in Abney 1987, let us assume that a personal pronoun is not in fact a special kind of Noun, or Noun Phrase, but rather a special kind of Determiner. As they appear in syntactic structures, that is, a personal pronoun is represented as a DP consisting solely of a Determiner, bearing features of person and number (and optionally, gender),³ as in (18).

- (18) Pronoun: [_{DP} [_D [\pm ME, \pm YOU, \pm PL (\pm male)]]]

The possessive forms *my*, *your*, *her*, *our*, etc. then represent the lexicalization of such a DP when it bears the feature [+Poss]. These forms are not in general predictable from the base forms of the corresponding pronouns, and so must be listed separately in the lexicon.

Another set of idiosyncratic forms are those that appear when a DP contains no overt content beyond the possessive pronoun, but where “something possessed” is implied: *I want mine*, *yours*, *hers*, *ours*, etc. We can represent these as the lexicalization of a DP containing a [+Poss] pronominal possessor (in Spec(DP) position) and an empty NP complement to the null determiner characteristic of possessive constructions.

Possessive pronouns in English are just pronominal DPs appearing in Spec(DP) position, where they get the feature [+Poss] by the rule in (3) like any other DP. Note that in some languages,

³The appropriate inventory of features for pronouns is an important issue, but one that is not relevant to our concerns here. The specific features presented in (18) should not be taken overly seriously as a claim about English structure.

possessives are a special set of Adjectives, instead. This must be the case for Kuuk Thaayorre, as well as for at least some Slavic languages.

Let us assume the lexical entries for pronouns of these various sorts are represented as in (19).

- (19) a. *mine*: [_{DP} [_{DP,+POSS} [_D +ME, -YOU, -PL]] [_{D'} [_D \emptyset] [_{NP} \emptyset]]]
- b. *my*: [_{DP,+POSS} [_D +ME, -YOU, -PL]]
- c. *I/me*: [_{DP} [_D +ME, -YOU, -PL]]

Each of these items lexicalizes an entire DP of the appropriate form. They also stand in a relation of decreasing specificity, as listed in (19), since the circumstances for which each of these entries is appropriate is a proper subset of those to which entries lower in this list could be used. Furthermore, each is more specific than the set of forms to which the general rule of /z/-Adjunction in (4) could apply to mark a possessive DP in the usual way. In consequence, simply listing the forms (possessive and non-possessive) in the lexicon, necessary in any event in light of their unpredictable shape, and providing a general rule of possessive marking, will yield exactly the correct results as a consequence of the principle of disjunctive ordering known as the “Elsewhere” Condition, “Blocking,” etc. in the literature (Anderson 1969, Kiparsky 1973, Aronoff 1976, and many other works).

Rather than posing a problem for the special clitic account of English possession, the facts about possessive forms of pronouns fall out from it without further stipulation: the special clitic *’s* is introduced by a rule, but that rule is prevented by a very general principle of grammar from applying exactly where a more specific form for the realization of a [+Poss] DP is supplied by the lexicon. The same principle also chooses among the different forms within the paradigm of a given pronoun.

Notice that a comparable result does not follow if we assume that possessive constructions are characterized by an overt, phonologically non-null Determiner /z/. Instead we must invoke some special principles of post-syntactic “merger” to combine the base form of pronouns with a following /z/ to yield a surface form resembling neither (e.g., *I + ’s* → *my* or *mine*, depending on the content of the rest of the DP). In fact, there is no advantage to assuming an overt Determiner *’s* as opposed to introducing its phonological form by a rule of phrasal morphology, where appropriate; and some apparent complication of the grammar results from making that assumption. There is also no comparably straightforward account of the pronoun facts on the edge-inflection analysis, since (as already noted), all of the expressions *my*, *me’s*, *mine*, *mine’s* in (17) have essentially identical structures on that theory. I conclude that the analysis of possessive marking as phrasal morphology (a special clitic), as proposed in Anderson 2005, is well supported in comparison to the available alternatives.

We can note that there are circumstances not involving pronouns in which a possessor might consist only of a Determiner, as illustrated in (20). Interestingly, when these involve demonstratives, numbers, and other bare determiners, the possessed forms generally seem unacceptable.

- (20) a. *These’s illustrations are more competently drawn than those’s.
- b. *Of the books I lent you, two’s/some’s/many’s covers were soiled when you brought them back.
- c. ... one’s cover was soiled.

I suggest that this has something to do with the fact that the lexicon does not provide us with any specific lexicalization for a determiner like *these*, etc., as opposed to a personal pronoun, when it exhausts the DP and bears the feature [+Poss]. Possessive Determiners in general (as opposed to the case of personal pronouns) thus present a gap, a sort of defective paradigm, for which some

explanation is to be sought. The present analysis would suggest that they ought simply to be suffixed with /z/, which is not the case, so some further principle(s) must be involved.

Oddly, *one* is an exception to this exceptional behavior, as illustrated by (20c). Perhaps this has something to do with the fact that *one* also has a use as a pronoun, and thus may have a fuller paradigm in the lexicon than other Determiners. Clearly, further research is required to resolve these issues, but they do not appear to compromise the special clitic account of possessor marking as opposed to other analyses.

Now consider the case of what happens when one of the non-pronominal Determiners happens to appear in final position in a possessive DP, without exhausting the DP, as in (21).

- (21) a. The man who brought you these's car is still in the driveway.
b. We look at their records for failing grades, and a student who has two's/some's/many's chances of admission are quite poor.

In these sentences, the Determiners augmented with the suffix /z/ are much more acceptable. This shows that there is nothing wrong with the phonological forms *these's*, *two's*, etc. *per se*. On the special clitic account, we would expect that, since there is no need to lexicalize them as special cases unless they represent the entire DP. This set of facts falls out nicely on the special clitic account, but seems more difficult for the edge inflection analysis.

4 Some Phonology

We turn now to the phonological realization of the possessive marker 's. In the general case, of course, this is homophonous with (and shows the same range of variation as) the regular plural, the regular third person singular present ending of verbs, and the contracted auxiliary form 's of *is* and *has*. There are, however, some particularities of the possessive marker.

First, as illustrated in (22), it is well known that the possessive marker does not appear overtly when it would be added to a Noun that ends in the regular plural marker *s*. This is crucially a fact about the combination of these two markers, since the possessive appears normally with plural Nouns that do not take the regular ending, such as *children*.

- (22) a. the three boys' [bojz] caps.
b. *the three boys's [bojziz] caps
c. the three children's/women's/deer's/mice's etc. feet

Zwicky (1987), in fact, says that the possessive ending is not realized phonetically when added to a phrase that ends in a word inflected with any of the regular inflectional endings taking the form /z/. He gives examples including those of (23) where a DP ends in a relative clause or a prepositional phrase that happens to terminate in a Noun bearing the plural or possessive ending or a third person present verb form, and says that the possessive disappears in all such cases.

- (23) a. anyone who likes kids' (/kids's) ideas
b. people attacked by cats' (/cats's) reactions to them
c. anyone who hurries' (/hurries's) ideas
d. everyone at Harry's (/Harry's's) ideas
e. a friend of my two kids' (/kids's/kids's's) ideas

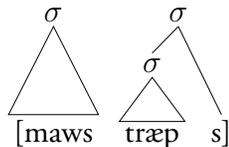
Not all speakers agree with the facts as presented by Zwicky, a point I will return to immediately below. There is clearly, however, some sort of interaction between the possessive marker and other homophonous endings, and in describing this, reference must be made to the status of the final segment [z]/[s]. This is because words ending with such a segment that is *not* one of the endings in question do get an added /z/ in the possessive, as shown in (24).

- (24) a. the fuzz's old cars; at Buzz's
 b. the bus's doors; at Cass's
 c. the terrace's tiling; at Thomas's

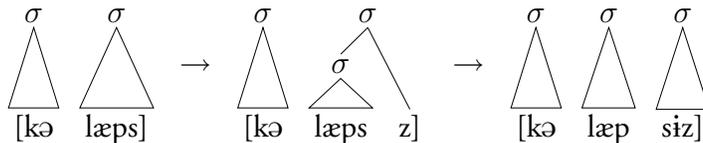
Anderson 2005 argues that the correct analysis of the English word level inflectional endings is, as already hinted above, to treat them as adjoined to the final syllable, rather than directly incorporated into it. This account, widely accepted in the phonological literature, accommodates the observation that syllables ending in inflectional /z/ and /d/ commonly violate the regular phonotactics of the language, a fact that suggests that these elements are not actually part of the syllable at the lexical levels of the phonology.

As a consequence, when a morphological rule (at the word level, or a phrasal rule like the addition of the possessive marker) applies to adjoin material to a syllable, there is a structural difference between syllables that already contain other adjoined material and those with similar segmental content, but a different analysis. The rule adjoining /z/ to the final syllable of the possessive DP in (25) can thus be made sensitive to the presence of plural affix [s] in (25a) *vs.* the same segmental sequence without affixation in (25b).

- (25) a. My three mousetraps'(*s) only contents...



- b. The recent stock market collapse's only consequence...



When the word ends in a non-adjoined sibilant, as in (25b), possessive marking applies normally, and the post-lexical phonology later re-organizes the form on the basis of an inserted vocalic transition.

We could say either that the rule required to express (4) blocks in the case where it would apply to a syllable that already contains adjoined /z/. Alternatively, the rule in question might simply say “the final syllable of a DP with the feature [+Poss] must end in adjoined /z/,” a condition that would require adjunction of the affix in the normal case, but which would already be satisfied without further change in a case like (25a). The difference between these two formulations, however, is not material to our present concerns.

As we explore these matters in more detail, the facts can become quite complicated. For example, as noted by Zwicky (1987, p. 140, fn. 6), “POSS is occasionally suppressed in speech (as it regularly is in writing, according to at least some style sheets) after proper names ending in /s z/: *Jones'*, *Nevis'*, *Jeeves'*.” One possible account of this is to say that speakers who omit the possessive marker after proper names ending in a sibilant analyze such names as if they contained an adjoined /z/, as in (26a): perhaps these are somehow formally (though not morphosyntactically) plurals for such speakers, or

perhaps the adjoined element is a derivational formative that appears in certain proper names. In any event, its presence would cause possessive adjunction to be phonologically vacuous, just as with normal regular plurals. Speakers who, in contrast, represent such names simply as in (26b) will simply add the possessive marker normally.

- (26) a. $[\sigma [\sigma \text{ jiv}]z]$
 b. $[\sigma \text{ jiv}z]$

Of course, even though from the point of view of the lexical phonology the regular inflectional affixes /z/ and /d/ are adjoined, by the time a form reaches the surface phonetics they have to be pronounced as part of some phonetic syllable. The grammar must thus contain a principle such as (27) that will incorporate them into their associated syllable at some point.

- (27) Syllable-Affix Incorporation: $[\sigma [\sigma X]C] \rightarrow [\sigma XC]$

We can use this to account for the difference between what Zwicky says about sentence like those in (23) and what is said about them by Carstairs (1987), who claims that the sentences with two /z/s are often acceptable. We might say that the rule in (27) is always post-lexical for speakers whose judgments of these sentences are like Zwicky's. That means it will never have applied when a rule of the phrasal morphology applies, and so possessive marking will always be phonologically vacuous in such cases. For speakers who accept Cartairs(-McCarthy)'s judgments, however, we can say that the incorporation rule in (27) can apply within a cycle of the lexical phonology (or perhaps at the end of a "Phase"), with the result that on subsequent cycles, the originally adjoined nature of the final /z/ is no longer structurally visible, and possessive marking can adjoin another /z/. There is obviously much more work to be done to fill out this proposal, but it seems a possible path toward reconciling the two sets of judgments.

5 Conclusions

This paper has addressed a number of general issues beyond the simple treatment of the English Possessive. First, I have tried to show that we need both special clitics and edge inflection as possible mechanisms by which phrasal properties can be expressed.

Phrasal morphology is really a lot like other morphology. Beyond the parallels that have been adduced in other places, we can now note that for both, the productive case can be pre-empted by lexical listing. In the phrasal case, of course, that requires that we have a lexical listing for the realization of a phrasal category — something that is rather rare, but which occurs in English in the case of pronouns, whose definition hinges on their analysis as DPs consisting only of a D with person/number features, as well as with a variety of idiom types.

All of this talk of phrasal morphology contributes to a somewhat subversive agenda, one that attempts to avoid claiming that functional content always induces hierarchical structure, as functional categories are wont to do in the literature. Functional content can be seen, at least in many cases, simply in terms of the addition of features to a complex symbol representing a phrasal category, with no additional hierarchical structure implied or required. That necessitates in turn an account of how those features are realized, something has been offered here for the English Possessive and which is discussed in more general terms in Anderson 2005.

Finally, once we have established that the English possessive is a special clitic, it becomes a clear counter-example to the claim in the literature on "Grammaticalization" that that term describes a

unidirectional process. According to advocates of that position, historical change can involve full words becoming clitics, which can in turn become affixes. Such developments are well attested, but the notion that such “Grammaticalization” is a unitary mechanism of linguistic change is said also to imply that the development can *only* proceed along this path: changes in the reverse direction are not supposed to be possible. The English possessive, however, clearly originates as an inflectional ending (the *-s* genitive suffix of many Old English Nouns), and has subsequently evolved into a phrasal clitic. The path by which this development has occurred is controversial (and beyond the scope of this paper), but it surely constitutes counter evidence to the claim that such change is always unidirectional.

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