

**On the incompatibility of genitives and restrictive
relative clauses: an explanation within the
Theory of Principles and Parameters**

José Luis González Escribano
Universidad de Oviedo

Abstract

Starting from the failure of genitives to co-occur with restrictive relative clauses in present-day English, and assuming Chomsky's P&PT framework, a modified version of Abney's 'DetP Hypothesis', and a [DP DP CP] analysis of such clauses, I argue that the current unavailability of that construction is a consequence of the development of the 'group genitive'. Whereas in Late Middle English and Early Modern English X^0 genitives alternated with determiners under D, the development of a DP genitive pushed them out of D into Spec of DP. As a result of that new structural position of genitives, the identificational features of the -s affix now fail to percolate up to the higher DP and all constructions depending on identification via features available on it are blocked. These include restrictive post-nominal clausal APs, PPs and VPs, on account of their PROs, and especially restrictive relative clauses, but not non-restrictive ones, since these, as standardly assumed, are subject to different interpretive rules.

1. The problem

In general, DP constructions containing pre-nominal genitives and relative clauses, as in (1), are prohibited in present-day Standard English:

- (1) a. *This is your book that I borrowed last week.
b. *His car that lives next door is a big Volvo.
c. *His daughter's son that lives next door is a good teacher.

Unfortunately, the status of the relevant data is somewhat indeterminate. Not all restrictive relative clauses seem equally incompatible with pre-nominal genitives, as the examples of (2), taken from Quirk et al. (1985: 1281, 1323) show:

- (2) a. A friend's arrival which had been expected for several weeks
b. Her daughter who is so beautiful

According to the authors, acceptability varies considerably in such cases, but (2a) and (2b) sound to my foreigner's ears really bad, particularly the latter. My guess, however, is that, at least in (2b), in spite of the punctuation, the interpretation is non-restrictive.

Such constructions, however, were possible in Old, Middle and Early Modern English, so the issue under study is twofold: a) Why they have become marginal, if not plainly ungrammatical, and b) What aspects of DP structure account for their current status. I have dealt with the diachronic side of the problem elsewhere (cf. González Escribano (1994)), so my main concern in this paper will be issue b). Nevertheless, a short summary of that diachronic work will be included here in section 3 as additional support for the proposal to be made in section 2.

As regards cases like (1), one thing is clear: such constructions are by no means redundant or otherwise unsemantic, since, obviously, the speaker of (1a), for instance, may have borrowed several books from somebody on various occasions, and it is not hard to imagine circumstances in which it makes a difference to specify which one is being returned. The semantic content of (1a), therefore, is perfectly sensible and, indeed, there is hardly any other way of saying the same thing, (3a) being perhaps the closest grammatical option available in such a situation. Notice, however, that (1a) and (3a) are not strictly equivalent, since (1a) implies that the speaker has borrowed just that one book, whereas (3a) is compatible with a situation in which the book being returned is just one of possibly many borrowed by the speaker. If we had to convey exactly the implications of (1a) we would have to resort to the rather clumsy (3b), which is very explicit, but longer, taking three words where in Old and Middle English one would have been enough:

- (3) a. This is a book of yours that I borrowed last week.
 b. This is the book of yours that I borrowed last week.

Thus, if we measure efficiency, as Jespersen did (cf. Jespersen (1949: 370 et passim)) ultimately in terms of the trade-off between the energy spent by the speaker/hearer and the robustness and intelligibility of the messages exchanged, we must conclude that whatever linguistic innovation is responsible for the new state of affairs has rendered the system relatively inefficient, and that unless this loss is balanced by a net gain in simplicity and robustness elsewhere, this episode contradicts Jespersen's (cf. Jespersen (1949: 348-9, et passim), (1922: 364), (1918: 302-4), etc.), and indeed almost everybody else's view that changes along the history of English have invariably resulted in net progress for the system.

It must be pointed out, on the other hand, that, as illustrated in (1b-c) the prohibition holds irrespective of whether the antecedent is the higher DP, as in the examples just discussed, or only a genitival DP embedded within it. In (1c), for example, the relative clause is unacceptable no matter whether the antecedent is construed as being son, daughter, or just his, the three theoretically possible antecedents of the equivalent Middle English expression. If anything, a higher degree of embeddedness of the antecedent correlates with higher unacceptability, as we should expect for independent reasons, but the crucial fact is that, even if the antecedent is locally construed under sisterhood, as in the usual NP + S' structure (cf. Stockwell et al. (1973: 423-441) and Fabb (1990) for discussion of the main structural analyses proposed for relative clauses), Modern English still disallows it, whereas Old, Middle and Early Modern English speakers, of course, had no difficulty in computing such dependencies.

Concerning cases like (1c), it is significant that the Old and Middle English 'split genitive' construction seems to have remained in use until the end of the nineteenth century. Jespersen is able to produce examples like those in (4) below, which show that the definitive ban on such constructions, if it really exists, must be a very recent phenomenon, perhaps a twentieth century one.

- (4) a. for taking ones part that is out of favour (Shakespeare)
 b. Caines jaw-bone, that did the first murther (Shakespeare)

- c. this face must grace his bed that conquers Asia (Marlowe)
 - d. His high will whom we resist (Milton)
 - e. this lady's hand whom I now offer you (Goldsmith)
 - f. their names who rear'd him (Byron)
 - g. his letters who was his lover yesterday (Thackeray)
 - h. in his soul who wrought it (Wilde)
- (All in Jespersen 1909-49, vol. III: 79)

Needless to say, 'split genitives' like those in (4) above are strongly disallowed in Modern Standard English, cf. (5):

- (5)
- a.*Their attitude that/who can do something about it is all important.
 - b.*The girl's car that/who was kidnapped was found two days later.
 - c.*His reputation that you danced with is pretty bad these days.
 - d.*This guy's house who invited you to the party is two miles down the road
 - e.*A friend's arrival who had been studying for a year at a German University... (Quirk et al. 1985:1281)

In this case, the traditional grammarians' most common explanatory strategy has rested on the idea that such constructions were a source of ambiguity. Indeed, whenever there was more than one preceding DP that, given its lexical features, could be construed as the antecedent of the relative, the OE-ME construction was a source of potential ambiguity, but, all things considered, such cases could only very rarely have impaired communication. According to Mitchell (1985 vol. II: 180-1), in general, either the potential ambiguity did not matter much, or, if it did, lexical information available in the context sufficed to filter out unintended interpretations. In principle, the same occurs in present-day English: the expressions in (5) are by no means ambiguous. In fact, it is only cases like (1c) above that might produce ambiguity, if allowed, but, anyway, they are not.

Jespersen (1918), nevertheless, suggested, by way of 'functional' explanation, that 'If a relative clause is added to a genitive with its primary,

it may sometimes be doubtful which word it refers to, and therefore an *of*-phrase is preferred'. However, if avoidance of potential ambiguity had been the driving force, we should expect a systematic difference in acceptability between ambiguous and unambiguous cases in the modern period, and no such difference occurs: all are equally unacceptable. Jespersen's attempted explanation predicts that in the absence of ambiguity it should continue to be possible to extrapose the relative clause, and yet none of the starkly ungrammatical examples in (5) above is even remotely ambiguous. Finally, as regards his reference to an 'of phrase' being 'preferred', unfortunately, it is not a matter of stylistic preference, but a categorical impossibility of construing in any other way, so Jespersen's is no explanation in this case.

An alternative explanatory strategy for cases like (5), of course, is to assume that the interpretation of modifiers is based on strict adjacency between the modifier and its antecedent. That has been claimed to be a necessary condition for the interpretation of at least relative clauses (cf. Fabb 1990) and, if relevant, would automatically exclude such examples. Unfortunately, Fabb's theory does not explain much, for he has nothing to say on when Relative Clause Extraposition may apply. More generally, non-adjacency is extremely common in English and other languages and in no way interferes with intelligibility, so, in principle, there is no reason why it should precisely in those cases. Apart from that, if the explanation were something as general as the adjacency requirement, why should such a presumably universal condition have failed to apply in earlier periods of the history of English?

Indeed, the fact that such clauses are ungrammatical even if their only possible antecedent is the matrix DP already constitutes proof positive that neither ambiguity nor adjacency have anything to do with the question at issue and makes it sensible to assume that some other factor intervened. If that were not enough, additional evidence comes from the sheer generality of the constraint, for pre-nominal genitives reject not only relative clauses, but virtually all sorts of post-modifiers. Needless to say, where, as in (6), such post-modifiers are obviously related to the genitival DP, the result is just as bad as with restrictive relative clauses:

- (6) a. *the professor's portfolio responsible for that document

- b. *the girl's voice next to me
- c. *the students' records interested in this fellowship
- d. *the student's room smoking those awful cigars
- e. *the professor's signature who supervised my dissertation

Other grammarians sought for lexically-based causes for the anomaly in the antecedent itself. Curme (1931: 231a), for example, says that 'in poetry' and 'in older English' the antecedent of the relative may be in a possessive adjective, and adds: 'which is explained by the fact that the possessive adjective was originally a personal pronoun in the genitive and still always represents a definite person' (cf. also Brook (1958: 151)). That seems to imply that such constructions disappeared when the genitive of the personal pronoun lost its former pronominal character and became a mere possessive adjective, but neither Curme nor Brook explains what it is of the possessive's pronominal character that was lost. Certainly, it cannot have been referential capacity, for possessives continue to be referential expressions, but if it was not that, then what? That theory, anyway, does not explain the parallel incompatibility between relative clauses and full DP genitives, unless these too have lost some so far unidentified 'force', a completely unmotivated assumption. The question, at any rate, is not why the construction occurred when it did, which is obvious, but why it no longer occurs.

Of course, the strange thing about the present-day English situation is that whereas possessives and genitives, as we said, generally reject restrictive modifiers, other determiners, even very explicit ones like the demonstratives, accept them without difficulty, cf. (7):

(7) This is the/that/*Bill's/*your umbrella that I borrowed last week.

Assuming the asymmetry has something to do with the semantics, as there is universal agreement that the, this (etc.) and pre-nominal genitives are [+Definite], the only way to explain this fact would be to claim that genitives are somehow more 'definite' than other determiners, to the point of becoming redundant with restrictive modifiers. This is Smith's view, actually, (cf. Smith (1961: 344 footnote 4; 1964: 37), but, incidentally, not Jespersen's, for whom (1924: 110) 'An adjunct

consisting of a genitive or a possessive pronoun always restricts, though not always to the same extent as the definite article', nor Lyons's (cf. Lyons (1977), vol. II: 646ff, especially pp. 655-656), and, indeed, at first sight, what could identify more specifically than a deictic?

If we accept Jespersen's and Lyons' view, as well as the traditional characterization of earlier English deictics as determiners that further specify elements of a series that may already be quite definite (cf. Quirk & Wrenn (1957: 69)), deictics should end up being much more specific than genitives and we should expect exactly the opposite restrictions.

More recent work pursuing essentially the same explanatory strategy has not really contributed to clarify the issue. Thus, in Christopher Lyons' account, (cf. Lyons (1986: 138)) any element occupying Det makes the NP definite, so he has no reason to expect any difference between the two paradigms in this respect, and, indeed, he has nothing to say on the matter. Similarly, in Deane's view (cf. Deane (1987)), personal pronouns, and therefore possessives derived from them, rank higher than demonstratives in the Silverstein Hierarchy, but as these in turn are higher than proper names and names of human or animate entities, and these are typical pre-nominal genitives rejecting restrictive modifiers, no explanation would seem to follow for the facts in (1) and (5-6) above.

Taylor (1989: 679-683) also takes the expression of the possessor of an entity to be a specially powerful means for its identification, but so are, in his account, definite/demonstrative articles and relative clauses (1989: 685 footnote 22). Thus, if he is right, we should if anything expect all such elements to be mutually incompatible within a single NP. Yet, as in (7), articles and demonstratives are perfectly happy to take (or actually call for) relative clauses or other restrictive modifiers, whereas pre-nominal genitives are not. Notice, though, that Taylor's notion of possession, or the identification thereby effected, cannot be the key to the problem, for it is perfectly compatible with restrictive modification provided it is expressed via a post-nominal genitive, cf. (8):

(8) This is an/the umbrella of Percy's that we borrowed.

Rothstein, who pursues the same strategy (1988: 1015), is also aware of the problem, but all she says on the subject is: 'Presumably the failure

of the possessive determiner to occur with restrictive modifiers as the other universal functions do is because it inherently contains a restrictive modifier'. If the restriction has to do with the (\pm) identificational character of adjuncts, as she says, we might speculate either that the genitive contains an inherent restrictive modifier, or, perhaps more credibly, that the kind of identification provided by a Modern English genitive is similar to that brought about by the use of proper names, which also reject post-nominal restrictive modifiers, cf. (9):

- (9) a. *Henry who wrote this paper is an old friend.
 b. *Henry present during the proceedings must know.
 c. *Henry in the corner is drinking too much.
 d. *Henry divorced from Diana is an eligible partner.
 e. *Henry smoking a pipe is Diana's ex-husband.
 f. *Henry to ask for advice on such matters is Diana's ex-husband.

We might assume, for example, that proper names like Henry and genitives imply a sort of 'absolute', although pragmatically context-bound, identification of the referent (cf. Chesterman (1991: 47)), whereas articles and demonstratives would also be identificational, but syncategorematically so, i.e., relative to contextually perceptible properties which might be made explicit or not, as needed, depending on the pragmatics of the situation.

Certainly, genitives may intrinsically possess unique semantic properties rendering them incompatible with restrictive modifiers, but such properties have proved notoriously difficult to identify. The idea that they function semantically as identifiers and may therefore reject further identification-contributing phrases is attractive, but not really explanatory, since, as we saw, the identifiers par excellence, articles and demonstratives, do not show such incompatibility.

I suspect that that kind of 'semanticist' explanation represents fairly well what most grammarians would have to say on this issue, and it may well be correct at bottom, but, of course, if it all boils down to a matter of redundancy of the referential constraints imposed by genitives and restrictive adjuncts, it would make better sense if not only post-nominal, but also pre-nominal ones were disallowed with genitives. That is obvi-

ously not the case, as the examples in (10) remind us, and points to the existence of some so far unidentified extra factor that might well be a structural one.

- (10) a. Peter's brand new Macintosh Duo is a fantastic solution.
b. The chairman's rather boring report was received coolly.
c. Edwin's recently published work is excellent.

From a semanticist point of view, therefore, the behaviour of possessives and genitives with respect to restrictive modifiers is just incomprehensible. That genitives should have stronger or more explicit identificational force than a demonstrative is rather implausible, as we said above, so it is natural to assume that whatever makes them peculiar is a structural restriction. Under the traditional standard view, however, there is no such structural peculiarity unless it is directly connected to the presence of the 's affix in one case and its absence in the other, but nobody (to my knowledge) has been able to devise an explanation in such terms.

Quirk et al (1985) is an adequate summary of the facts of contemporary usage and of traditional views on the topic, but does not go beyond Jespersen in any essential way. A major shortcoming of their account of the problem, of course, is that they speak of 'complements' without acknowledging the difference between arguments and adjuncts. That distinction is surely significant, though, since genitives are not only possible, but very common, with complements discharging subcategorized arguments of the head noun, as the examples in (11) make clear:

- (11) a. The Pope's arrival at the airport attracted crowds of people.
b. Pollock's analysis of the clause does not convince me.
c. The Government's decision to stop industrial action is welcome.
d. John's conversation with his son lasted almost two hours.
e. Their resemblance to their father is astonishing.

However, in cases such as (12a-b) it is out of the question to analyze the second PPs as anything other than adjuncts, so it seems as though

genitives still allow restrictive modifiers in certain poorly understood circumstances:

- (12) a. His house in Holland Park is out for sale.
b. The socialists' success in 1982 was complete.
c. ?His resignation on account of a bribery scandal...
(Quirk & al. 1985: 1286)
d. ?Their arrival for a month
e. ?Their behaviour with courtesy
f. *Their action in a nasty manner
g. *Their contribution out of kindness (Quirk & al. 1985: 1290)

An obvious possibility to consider is that adjuncts are licensed or not depending on their structural position. Rothstein (1988: 1011-12) makes a distinction between 'restrictive' PPs, dominated by N'', and 'attributive' ones, dominated by N', in order to account for contrasts such as (13a, b):

- (13) a. He brought me the glass on the table.
b. *He brought me a glass on the table.
c. *He brought me his glass on the table.

Since the problem in (13) seems to be related to the choice of determiner, we might reformulate Rothstein's distinction as one between 'attributive' and 'identificational' adjuncts and hypothesize that whereas the grammatical PP adjuncts in (12a-b) are dominated by the NP (hence, presumably lexically selected by N, as in Grimshaw (1990)), the ones in (13) are purely identificational and belong to the DP tier. Then we could tackle the question of exactly what in the DP tier makes (1) and 12c-g impossible.

Grimshaw (1990) offers a completely different lexicalist explanation for the non-cooccurrence of genitives and modifiers in certain restricted cases, depending on whether nominals are associated with an a-structure or not, but, unfortunately, she does not include relative clauses in her discussion. However, although the cluster of properties that she postulates for the two classes of nominals is quite impressive, as she does not

offer an explicit theory of the relationship between lexico-conceptual structures and A-structures, her results, however intriguing, lack genuine explanatory force. Moreover, genitives are systematically ambiguous in her analysis, as in Anderson's (1984), i.e., they may occur accompanying eventive Ns with an A-structure, or accompanying result nouns. Thus, on the whole, they are (wrongly) predicted to co-occur with modifiers, although only with the ones each type of noun licenses, whatever these are. In general, therefore, Grimshaw's hypothesis does not allow us to make accurate predictions concerning whether a noun in a particular reading will take or fail to take a specific kind of modifier, and as to whether the genitive and the modifier will or will not co-occur, for that seems to depend on the noun's lexico-semantic structure, an issue on which Grimshaw has next to nothing to say. Time, location and duration, for instance, are supposed to be typical aspectual elements. Yet, they also appear with core result nominals like book, house, victories, or sessions, cf. the book on the mantelpiece, the 1991 book, the house in Bedford Square, the victories of 1992, several three-hour sessions, etc. Of course, *his book on the mantelpiece is far worse than his house in Bedford Square, but I see no way in which Grimshaw's theory may explain that fact.

This absence of predictions is particularly severe in the case of relative clauses, which Grimshaw does not discuss. It is surely true that they occur much more easily with result nominals, for obvious reasons, but may also co-occur with eventive ones in certain cases, cf. the prolonged / extensive siege / destruction of the abbey by the Norsemen that took place in 892. Be that as it may, as genitives take both types of nominals, if anything, we would expect them to co-occur with relative clauses, too, and yet, as we know, they do not: a result nominal like *Your book that is on the mantelpiece is just as bad as the eventive *The Norsemen's destruction of the abbey that took place in 892. Thus, even if, granted massive lexical stipulations, certain individual cases of (non)-co-occurrence can be predicted, a unified explanation of the phenomena is not likely to be forthcoming under a lexicalist approach like Grimshaw's.

In order to avoid lexical issues as much as possible, I will limit my discussion here to restrictive relative clauses, excluding post-nominal surface APs, PPs and VPs. It must be pointed out, though, that insofar as

these are clausal (Fabb (1984)) and contain ungoverned PROs, most of what will be claimed here as to the effects of the genitive on the antecedent of relative words applies also when the DP must act as the identifier of PRO.

If the status of certain AP and PP post-modifiers is somewhat unclear, as regards the combination of genitives and restrictive relative clauses the situation is certainly much clearer and must be carefully studied, for it has changed categorically in recent times. In general, the set of problems that seem to be involved here has not, to my knowledge, received the consideration it deserves from contemporary grammarians.

As far as I know, within the transformationalist tradition, no real explanation has ever been offered for the different behaviour of genitives versus articles and determiners with respect to relative clauses. Lees (1960: 86-87) is aware of the problem but offers no solution, and so is Smith (1964: 44-45) who even technically manages to block the construction, but only by stipulating that a genitive is like a determiner with the additional property of deleting its R dummy, thus preventing further relative clauses from being adjoined to it after the first one has given rise to the genitive. This is a conceptually unsatisfactory solution, for obvious reasons, but, apart from that, it is also empirically wrong, for genitives do co-occur with pre-nominal modifiers that must themselves be derived from stacked restrictive relative clauses in Smith's system. Therefore, these must be allowed to recur up to a certain point, but there is no way in Smith's grammar to allow them in those cases and block them when not bound to become pre-nominal modifiers.

The next major landmark in the analysis of genitives is Chomsky (1972a), which offers no general explanation for the phenomenon under discussion, although on page 32 he rather in passing mentions the possibility that in John's house in the woods, house in the woods is 'some sort of nominal expression', whereas in that book on the table, 'there is, presumably, no main constituent break before book'. That can be interpreted, I suppose, as meaning that in the first case there is no real adjunct, and therefore the general prohibition holds, whereas in the second on the table is an adjunct, hence *John's book on the table is ungrammatical.

Most of Chomsky's analysis of genitives in 'Remarks' remains standard until the late 1980's. Representative analyses from this period include Worrell Shumaker (1975), Jackendoff (1977), Drescher & Hornstein (1979), Hawkins (1981), Stowell (1981), Williams (1980, 1982), Anderson (1984), Fabb (1984: 62-63, 84-86), Chomsky (1986), Deane (1987), Hornstein & Lightfoot (1987), and Grimshaw (1990). There is a useful concise summary in Lappin (1988).

Again, none of them explains the phenomenon in a general way. Williams (1980, 1982), however, does succeed at explaining why some genitives fail to co-occur with certain post-nominal modifiers. Cases like *John's arrival dead, for example, follow from predication theory, the NP/NP constraint and the Strict Opacity Condition. Also, Williams (1985) contains an attempt to explain the non-occurrence of genitives with adjuncts implying control structures, (as in *John's arrest PRO to prevent riots) in terms of constituent structure, but his explanation, that in such cases PRO has no controller, since the genitive and the head N do not form a constituent, cannot be correct, for neither do Det and N' form a constituent in The arrest of John to prevent riots, and the structure is well-formed.

In the late 1980s, under the influence of Chomsky's and Stowell's analysis of the clause as a projection of functional categories like Comp and Infl, Fukui & Speas (1986: 138-139) and Abney (1987) analyzed the traditional NP as a projection of a functional category D (parallel to INFL, in Abney's system) whose lexical exponents are articles, demonstratives and other determiners, and, in Fukui & Speas' system (but not in Abney's) 's. At the same time, they offered convincing evidence that, at S-Structure, genitive DPs do not occur instead of articles in the D position, but occupy the Spec of DP position projected by Ds with suitable functional features.

One of the obvious consequences of the DP-Hypothesis is that the non-co-occurrence of genitives and other strong determiners can no longer be mechanically derived from their sharing a unique Spec of NP position, as in Chomsky (1972). Fukui & Speas' solution to this problem is a straightforward one, i.e., to make the 's element occupy D (thus excluding other determiners) at least at D-structure, or even throughout the derivation. Abney (1987:79-85) rejects this hypothesis, but, in my

view, his own is more circuitous and, for reasons that will be given immediately below, far more implausible. It consists in analyzing 's as a 'K', an adpositional marker of the genitive case assigned by the AGR features optionally present in D (1987:81-84) and stipulating that the AGR features of D are incompatible with overt determiners like the, that or these (1987: 83-84, 271). Hence genitive phrases never co-occur with visible determiners, because if they did, their genitive case would have no legitimate source. This strategy is highly implausible, however, since, as Abney himself (1987: 283) admits, some typical determiners (cf. these vs. this, etc.) obviously have overt AGR features. Recall, on the other hand, that he takes personal pronouns like we, you to be determiners. Are we supposed to believe that such items lack AGR features?

Leaving such details aside, there is no question that since its appearance in 1986-7 Abney's DP-Hypothesis, with its further development by Stowell (1989), Lobeck (1991), Vergnaud & Zubizarreta (1992), etc., is closer than anything else to being 'the standard theory' of English NP structure in the late eighties and early nineties, and has triggered a lot of current research in other languages as well (cf. Ritter (1991) and Siloni (1991) on Hebrew, Szabolcsi's work on Hungarian, Valois (1991), on French and English, Zimmermann (1993), on German and other European languages, Picallo (1994), on Catalan, etc.). Generally speaking, the results obtained in those studies have confirmed the fertility of the DetP-Hypothesis in its core aspects (cf. Stowell (1989) and Drijkoningen (1993) for supporting evidence coming from WH-extraction from NP and the distribution of NP-internal PROs) and strengthened the general parallelism between DP and CP structures. On the whole, then, Abney's DetP-Hypothesis can be taken as firmly established in contemporary theoretical syntax.

Unfortunately, that radical and fairly consolidated change of views on the structure of nominals does not in itself tell us anything on why genitives should be incompatible with certain restrictive modifiers, particularly relative clauses. Abney is aware of the problem (1987: 83, 313), but this is an area where he apparently finds nothing substantial to say. Concerning the dependency between determiners and relative clauses he rather disappointingly remarks (1987:314) that 'it does seem that there is a special relation between determiner and relative clause, which parallels

the relation between degree word and extent clause', and goes on (1987: 315) to postulate parallel grammatical structures for them. His half-hearted proposal to generate both NP and the relative clause as sisters to D, however, cannot be taken seriously, since it is directly incompatible with his main thesis concerning functional categories, i.e., that each category [+F] f-selects just one f-complement (i.e., D f-selects NP, but not NP **and** CP). For practical purposes, therefore, Abney has nothing to say on the matter.

However, the nature of some of the innovations characteristic of Modern Standard English with respect to OE and ME in this broad area has been somewhat clarified by recent work which perhaps should be briefly mentioned here. Lyons (1986), which offers one of the most detailed recent descriptions of the various genitival constructions and very accurately mentions the restriction we are concerned with (1986: 124, 133ff), although unfortunately has no explanation for it, claims that the present incompatibility between genitives and determiners can be explained as the result of a shift of values in a parameter of UG defining languages with 'adjectival genitives' (AG-languages) vs. languages with 'determiner genitives' (DG-languages). According to this hypothesis, Old and Middle English genitives were basically 'adjectival' in character (this point, incidentally, is made in Jespersen (1924: 110-111)), although at some later stage they acquired determiner status, so Modern English would already belong to the DG-type. Plank (1992) has pointed out that the basic facts may not be as neat and clear-cut as presented by Lyons, but he grants that, if conceived of as an opposition of degree instead of one of kind, Lyons' distinction might well be relevant.

It must be pointed out, though, that a) certain types of OE genitives clearly had identificational force, were positionally distinguished from attributive genitives, and might have been very close to the status of determiners (cf. González Escribano (1994)), and b) the earlier use of the genitive as an adjectival modifier is still detectable in contemporary Standard English in such cases as (14) and (15). Thus, except for the consolidation of D as a separate category, the overall situation does not seem to have changed much in this area of English grammar.

(14) In this your first day with us, we would like to give you a treat.

(15) John's fashionable bachelor's flat

Although cases like (14) are perhaps appositional, or arguably marked in some way, (15) is a minor, but productive pattern (cf. Lees (1960: 131-132), Worrell Shumaker (1975: 73), Taylor (1989: 664-665)) and cannot be disregarded. Notice the co-occurrence of the two genitives, the first identificational, the second some kind of subclassifier, and their relative position with respect to ordinary adjectives like fashionable. As the related experimental example in (16c) shows, the two genitives are non-interchangeable, and (16b-e) jointly prove that the identificational genitive must occupy the position alternatively filled by determiners, in which case it is incompatible with a second identificational genitive, whereas either an identificational genitive or another determiner co-occurs with a following attributive genitive without difficulty:

- (16) a. *Bachelor's fashionable John's flat
 b. *Fashionable John's bachelor's flat
 c. *That John's fashionable bachelor's flat
 d. *John's that fashionable bachelor's flat
 e. That/a/John's fashionable bachelor's flat

According to Jespersen and Lees, (and practically everybody else since), genitives like bachelor's must be interpreted as compounds. Two pieces of evidence in support of this view are, of course, the stress pattern, which differs from that of ordinary genitives (cf. Lees (1960: 131-132)) and the fact that in some cases the genitive and its governor are written as one word (cf. craftsman, statesman) (cf. Jespersen (1909-49, vol. VII: 319)). This may well be the correct approach, provided the syntactic status of compounds is conveniently clarified. It certainly offers a simple explanation of the ordering facts, as Taylor (1989: 664-665) points out.

Thus, simplifying a bit, the pre-nominal genitives and possessives that existed in OE seem to have undergone two different developments, roughly depending on whether they were pre- or post-adjectival. Pre-adjectival genitives, mainly possessives and genitives of nouns denoting animate/human entities, which already in OE were frequently used

identificationaly in the absence of determiners, have become even more determiner-like and positionally restricted, to the point of actual incompatibility with strict determiners. On the other hand, OE pre-nominal, but post-adjectival, genitives, i.e., those with a generic, attributive meaning, have either disappeared, replaced by PP adjuncts, or become even more 'adjectival' ('auxiliary nouns', to use Abney's phrase, cf. Abney (1987)) and closer to the status of first terms of noun compounds, as Jespersen pointed out, or actually given rise to [N+N] compounds. According to Worrell Shumaker, such attributive genitives have to compete with the attributive use of nouns and are losing ground, as proved by the fact that out of her corpus of 2,834 pre-nominal genitives, only 8 were attributive (1975: 73).

The apparent assimilation of genitives and determiners would seem to have occurred at some point during the Early ME period. Certain dialects, though, still allow combinations like (17), which clearly shows that that move created an obvious gap in English grammar:

(17) The Mary's shoe that I lost (cf. Stockwell et al. 1973: 709)

But such strategies are exceptional. In general, the situation obtaining in this area of grammar in contemporary Standard English can be pre-theoretically characterized as follows:

a) With a couple of minor exceptions, pre-nominal genitives, possessives, articles and demonstratives, among several other determiners, have become incompatible, cf. (18):

- (18) a. *the his bycicle, *his the bycicle
 b. *his that bycicle, *that his bycicle
 c. *John's that bycicle, *that John's bycicle, etc.

b) Following Late ME practice, in Modern Standard English genitives are forbidden in post-nominal position, cf. (19):

(19) *a paper John's that I read recently

c) The his-genitive frequent in Late ME and very popular in Early Modern English (cf. Mustanoja (1960: 159-162), Curme (1931: 71-72), Barber (1976: 234-235), has mysteriously disappeared.

d) Contrary to Shakespeare's practice, pronouns can no longer function as heads of the NP if they are accompanied by modifiers, cf. (20):

(20) *the shees of Italy, *the cruel'st she, etc.

e) So called 'split' or discontinuous genitives as existed in Old, Middle, and Early Modern English have been systematically ousted. The 'group genitive' is now the universal rule for complex pre-nominal genitival DPs, and in the many environments in which it turns out to be impracticable (cf. (21), and Jespersen (1918, 1909-49)) simply the 'of+NP' pattern must be used.

- (21) a. *The man who phoned's voice
 b. *The girl in red's hair
 c. *The people present's interests
 d. *The people here's interests
 e. *The fact that he phoned's importance

Recall that in Protogermanic and OE, when it was necessary to expand nouns by means of 'heavy' phrases, particularly what we now call 'relative' clauses, such phrases were invariably found after the head and its complements as appositive or explanatory additions loosely tied to their intended referents by means of agreement affixes or co-indexed anaphoric demonstrative pronouns (cf. Brugmann 1904: 650, 659-664, Lehmann 1974: 61ff, Mitchell 1985, vol. I: 557). Then, it seems as though such appositive elements were reanalyzed as subordinate to their syntactic antecedents and came to be perceived as 'extraposed'. At that stage, it must have been an easy step to take to actually 'intrapose them' producing such complex DPs as The books that we had to read (were boring) (from # the books were boring, # that we had to read). That should also have happened in the case of genitival DPs, and indeed, certain speakers, at least, do not reject such expressions as the play we saw yesterday's argument, but, presumably due to the presence of the 's

affix, that kind of 'intraposition' was bound to remain limited and in fact heavily restricted in Modern English, making the construction relatively inefficient (cf (21) supra).

An anonymous referee points out that the awkwardness of such constructions should be related to the general ban on right recursion in pre-head modifiers, as in (22):

- (22) a. *a proud of his father son
 b. *a proud son of his father

However, the fact that some relative clauses are acceptable (as in the play we saw yesterday's argument) suggests that the difficulty, when it exists, as in (21), stems from the internal structure of the post-modifier itself, particularly from the nature of the last lexical item within it, and not from any general ban on post-modification in that position.

Indeed, there is a ban on recursion within pre-modifiers, as Emonds (1976; 1985) pointed out, only that the ban is **not** a general one. Significantly, apart from lexicalized expressions like round-the-clock room service, up-to-date bibliography, etc., there are two **systematic** exceptions to it, and these turn out to be (of all things!) 1) the subject position of clauses, and 2) the pre-nominal genitive (cf. (23)) (both Specifiers, hence pre-modifiers, in the standard analysis):

- (23) a. The book on Mill that he wrote last year is excellent
 b. The queen of England's castles

In fact, in earlier work of mine (González Escribano (1990), written in 1988) I used the exceptional behaviour of subjects and genitives in this respect as evidence in support of a variant of the VP-internal subject hypothesis that included generation of subjects in post-verbal position at D-structure, and argued that the capacity of subjects/genitives to take recursive post-modifiers of their own is a result of their not being D-structure pre-modifiers at all.

Thus, although there is no doubt about the existence of a restriction on recursion within pre-modifiers, as shown in (22a), that cannot be the

explanation to our problem, because that restriction precisely does **not** apply to pre-nominal genitives.

As to the contrast between (22b), which rejects extraposition of the PP complement, and examples like (24), which allow it,

- (24) a. a similar car to mine
b. comparable facilities to ours

I submit that the difference may well follow from UTAH and the general principles governing projection, since in (22b) son corresponds to the external argument of proud, (which cannot be projected ‘earlier’ than the internal argument of his father), whereas in (24) both car and facilities can be analyzed as the first internal arguments of similar and comparable, and the projection principles are not violated.

Finally, f) for some so far unidentified reason, genitives can no longer cooccur with restrictive relative clause and other restrictive modifiers: our problem here.

As I have tried to show in the preceding paragraphs, whatever is ultimately responsible for f), it surely has nothing to do with ambiguity, recursion, stylistic preferences, or semantics in the pre-theoretical sense of the term, since such expressions are semantically well-formed and, what's more, most of the time they are not even ambiguous. That points to an abstract structural factor as the cause of the anomaly, but, as far as I know, although certain special cases may surely be accounted for by various principles, nobody has brought forth a unified explanation.

The rest of this paper is organized as follows: In section 2, I try to offer a formal explanation within the broad framework of Chomsky's Theory of Principles and Parameters. Finally, in section 3, I suggest a tentative diachronic explanation of events that depends on the hypothesis developed in 2 and may provide some additional evidence for it.

2. Towards an explanation consistent with P&PT

It seems to me that a slight modification of the DetP-Hypothesis together with some perhaps not wholly unorthodox extra assumptions concerning restrictive modification may offer a relatively simple and natural

explanation for the whole set of facts presented in section 1. My account requires adopting the broad principles of P&PT and Abney's DetP analysis with the following extra assumptions:¹

1) Restrictive relative clauses have an essentially identificational function, belong to the DP layer and are adjoined to DPs (cf. Ross (1967), Cinque (1982), i.e., they occur in [DP DP CP] structures at the level of representation where the interpretation of the relative takes place. Whether such structures are base-generated or result from generalized adjunction transformations (Speas (1990), Lebeaux (1991), Chomsky (1992)) is immaterial for present purposes.

2) Similarly, other restrictive post-modifiers, i.e., surface PPs, APs, and participle VPs, are in fact clausal structures containing PRO subjects and are adjoined to DP at S-structure in [DP IP] configurations.

3) The essential semantic contribution of D is 'identification', which may be formally expressed by an attribute-value pair [ID: i], and its typical exponents are the th- morphemes visible in this, that, etc., and the 's clitic (cf. Fukui & Speas (1986)).

4) The functional category D inherits an AGR complex (number, gender, person) from its f-selected lexical category, the NP complement. We may assume that the AGR complex is both a 'head' and a 'foot' feature in the sense of Gazdar et al. (1985), which 'passes through' the mother node D' and is 'transmitted' from D' upwards to DP and downwards to D, so that the head D eventually contains ID plus AGR. That accounts for the agreement between morphologically explicit Dets (this, these) and their NP complements.

5) The Det clitic 's alternates with explicit determiners under D at D-structure but must be adjoined to a lexical DP at S-structure. Contrary to other determiners, 's is a Case assigner and must discharge its Case feature on a lexical DP specifier of N landing in Spec of DP at S-structure.

6) Genitives fail to co-occur with morphologically explicit Dets (cf. *John's this resignation) not because AGR is incompatible with the latter, as Abney (1987) claims, but because overt Dets discharge the ID

¹ I thank an anonymous Linguistics referee for critical comments that have inspired substantial modifications in both the structure of the original version of this paper and the technical implementation details of the proposal that follows.

and AGR features available in D and are incompatible with a second Det ('s). The absence of the 's clitic, in its turn, deprives would-be 'genitive' DPs landing in Spec of DP of their source of Case, making such structures as *John the t resignation and the like impossible. On the contrary, an undischarged ID+AGR complex spelt as the 's clitic under D is available as a source of Case for a DP landing in Spec of DP position.

Granted as much as that, the basic mechanics of my proposal is straightforward: if the ID+AGR complex under Det gets discharged by some overt determiner like the, this, etc., the ID+AGR features, as all other 'head' features, will naturally 'percolate' up to the DetP node and minimally c-command the adjoined restrictive modifier from that position, allowing for the correct co-indexation and interpretation of the WH-item/PRO. On the contrary, if the ID+AGR complex 'jumps' under the form 's onto a lexical DP landing in Spec of DP, then it will not percolate up to the higher DP.

Under normal conditions, that movement of the clitic has no undesirable consequences, for its trace remains under D and from there c-commands its NP complement, licensing structures like John's book on syntax and the like. However, if the DP contains any restrictive modifier in its DP layer a problem arises, for, after cliticization of 's, its ID+AGR complex, as we said, does not percolate beyond Spec of DP. Consequently, it fails to c-command the adjoined clause, and is not available as the required ID+AGR specification of an appropriate antecedent for the WH-item/PRO. Neither is its trace, since, under the [DP DP XP] analysis, D does **not** c-command restrictive modifiers. As a consequence, the relative/PRO will remain uninterpreted, making the corresponding structure illegitimate. In essence, this is it.

The occasional cases where a possessive follows the Det, as in (1a), may easily be accounted for by assuming either that such possessives are still adjectival and need no Case or that they have inherent genitive Case and thus need not rise from Spec of NP into Spec of DP, whereas full lexical DPs do need Case under Spec-Head agreement, as usual (cf. Chomsky (1986), (1992)), and therefore must raise into Spec of DP if the Det 's is available. This gets us (1a), but not (1b, c), as desired:

- (1) a. This your first visit to Spain

- b.*This Peter's visit to Spain
- c *Peter's this visit to Spain.

Given our assumptions so far, cases like (2) should not be ungrammatical:

- (2) *The my first visit to Spain

Let's therefore adopt the following complementary assumption:

7) Even inherently Case-marked specifiers of N (possessives) must rise into Spec of DP and have their Case-feature 'checked' (cf. Chomsky (1992)) if the head D contains undischarged features. Thus, as the, contrary to strong determiners like this or these, cannot discharge D's AGR features, these remain available. That will force the possessive, if present, to raise into Spec of DP. However, as D does not contain a genitive Case assigner ('s) in that case, the possessive's inherent genitive case will not be licensed in that position (cf. *My the first visit to Spain), the condition above will not be satisfied, and unwanted cases like (2) will be excluded.

This account seems to me the simplest possible. All it calls for is, essentially, a [_{DP}DP CP/IP] analysis of post-nominal restrictive modifiers, for the assumption that the correct interpretation of relatives/PROs requires access to a co-indexed c-commanding antecedent seems inescapable under any account. Everything else, as far as I can see, follows straightforwardly from rather natural feature 'percolation' conventions.

Of course, before accepting that explanation, we must check whether our assumption 1) has some plausibility. The structure of restrictive relative clauses has been a moot point for well over three decades now, and, to my mind, no really compelling syntactic evidence has been adduced by any of the parties involved. At least six clearly different analyses have been considered in the literature: 1) the Art+S analysis (Smith (1964), Chomsky (1965)); 2) the Det N S' analysis of Chomsky (1965) and, under different assumptions, Abney (1987); 3) the NP+S analysis of Ross (1967), Cinque (1982) and maybe Williams (1982); 4) the Deep Structure Conjunction analysis of Kuroda (1968), Bach (1968), Thomp-

son (1971), du Castel (1978), etc.);5) the ‘standard’ Nom+S analysis (Stockwell et al. (1973), Partee (1975), Jackendoff (1977), Baker (1978), Fabb (1984), Gazdar et al. (1985), Hornstein & Lightfoot (1987), Rothstein (1988), Fabb (1990), etc.); and 6) recent Generalized Adjunction analyses such as Lebeaux (1991). Stockwell et al. (1973) is a still useful survey of the main early options. Fabb (1990) is a representative recent restatement of the more or less standard view, according to which the Nom+S analysis is to be preferred.

Now, although most generative grammarians until very recently have adopted the Nom+S analysis of Schachter and Partee without question, the evidence in its favour (and against its alternatives above) is far from conclusive.

In the case of the Deep Structure Conjunction Analysis, of course, the whole semanticist framework in which it was formulated has long been rejected as too unconstrained, but all other alternatives could well have survived into the present. Why have they been abandoned?

The Art+S analysis, for example, although quite attractive in various respects (cf. Stockwell et al. (1973: 423-427)), has been put aside as too ‘abstract’, largely because it requires what is generally presented as an otherwise unmotivated obligatory movement of the clause rightwards. However, it can easily be argued that there are many similar phenomena elsewhere in English grammar (comparatives, result clauses, constructions like comparable facilities to ours, etc.) that still call for that type of movement. Thus, whether the Art+S analysis is unduly abstract remains an open question.

The Art+N+S’ and the NP+S analyses, in their turn, have been dismissed because they allegedly fail to express what is taken to be the right constituent structure of NPs, and in the second case because it has been assumed not to offer adequate syntactic support for a neat compositional semantics (cf. Partee (1975)). As to this last inadequacy of the NP+S proposal, however, the semantic difficulties pointed out by Schachter et al. (1973: 427-435) and Partee (1975: 230-231) have proved far from unsurmountable (cf. Bach & Cooper (1978) and Von Stechow (1980) for relevant proposals).

As to the constituent-structure issue, part of the difficulty stems from the fact that the application of conventional syntactic tests yields incon-

clusive results in this case. The standard analysis is largely based on evidence from N'-anaphora, alias One-Pronominalization (cf. Jackendoff (1977), Baker (1978), Hornstein & Lightfoot (1981), Rothstein (1988), etc.). One-Pronominalization evidence, however, as I showed in detail elsewhere (González Escribano (1989)), is far from conclusive. Suffice it to say here that data like (3) suggest several incompatible places of attachment of the relative clause:

- (3) A1: Can you see those tall dark beautiful girls in pink trousers
 who are standing at the front?
 B1: Which ones?
 A2: The ones who are standing at the front.
 B2: The tall dark beautiful ones?
 A3: That's right, those who are standing at the front. Etc.

The Nom+S analysis faces other syntactic-semantic difficulties, apart from such constituent-structure uncertainties. For example, its strict version requires all relative clauses to be attributive and parallel to prenominal adjectives. However, if Rothstein's (1988) distinction between attributive and restrictive modifiers is well founded, we will have to generate restrictive relative clauses in two different positions, under N' and under N'', with subsequent duplication in the semantics.

It must be admitted, though, that straightforward constituent-structure evidence in support of a Ross-type NP+S' structure is also difficult to come by. A piece of evidence in this respect is the fact that the DP antecedent can often be replaced by tonic demonstratives like those, or the strong article one, as in (4):

- (4) a. The students are allowed to choose between continuous
 assessment and a final exam; those who opt for continuous
 assessment must take all the partial tests.
 b. I want a portable Macintosh, but I'm waiting for one that has a
 faster CPU.

Perhaps more significant is the fact that the relative seems to have scope not only over the NP but also over numerals and determiners, as the anomaly of examples like those in (5) suggests:

- (5) a. *The two German girls who married Eddy, Bob and Sam,
 respectively,...
- b. *This guy who's sitting at the end of the corridor...
- c. *That girl who's sitting here by my side...

Provided we restrict ourselves to absolutely minimal assumptions, such facts, and in general the way relative constructions are understood thus seems to support the [DP+CP] analysis, at least in the sense that the interpretation we attach to the WH-item clearly matches the ID feature and the referential index of its antecedent, and these, under the DetP Hypothesis, belong to the DP tier, not to the NP. Since the simplest and most general syntactic basis for restrictive modification is a mutual minimal c-command configuration, the null hypothesis in this respect is that the relative clause is base-generated/transformationally adjoined as a sister of DP under a higher DP node.

This analysis clashes head-on with traditional doctrine, which does not restrict itself to minimal assumptions on this matter. At bottom, the discrepancy concerns the semantic role of the relative clause. In our proposal it is identificational and belongs in the DP tier. Under the Nom+S analysis, on the contrary, its semantic import is not to identify the referent of the DP, a task left to the determiner, but to constrain the property expressed in the N predicate, i.e., to build a more discriminating predicate (cf. Partee (1975: 229-231)). That analysis, however, does not explain facts like those in (5).

On the other hand, semanticists like Bach & Cooper (1978) and Von Stechow (1980) have questioned Partee's objections to the NP+S analysis and argued for certain versions of it also on semantic grounds.

A further argument against the Nom+S analysis is that if relative clauses were mere 'classifying tools', like pre-nominal adjectives or first terms of noun compounds, they would not need to contain referential expressions, for example. The fact is, on the contrary, that relative clauses describe perfectly identifiable events concerning specific referents and that their arguments must be satisfied by fully referential DPs. That being the case, there is no reason why the argument that happens to be expressed by the relative phrase should be an exception to this

generalization, and in fact it is not: the *wh*-XP is always referential. Now, relative clauses behave as restrictive modifiers, (i.e., monadic predicates), and these must be saturated by maximal projections. Since WH-items are interpreted as co-referential with a minimally *c*-commanding coindexed antecedent which, as we saw in (5), includes numerals and Dets, we must conclude that the null hypothesis is that the clause is a sister to the DP. All other solutions will necessarily require extra conceptual machinery.

Of course, at first sight, it seems technically possible to implement essentially the same explanation above under the Nom+S hypothesis, but, as we shall see directly, that task requires extra auxiliary hypotheses and is bound to fail in one crucial case.

The standard Nom+S analysis depends on Higginbotham's notion of argument identification, i.e., roughly, both N and its modifiers have an external ('R') argument and these R arguments can be 'identified', and jointly discharged. That view, however, neither allows for the statement of scope relations among stacked relative clauses, surely a non-trivial matter, nor explains the facts in (5).

As regards the range of phenomena of direct interest to us here, under the standard account, the burden of explanation would presumably have to fall on the properties of D as a lexical governor, i.e., we would have to say more or less that if D is lexically filled it governs the *f*-selected NP with all its internal constituents, including possible relative clauses, 'identifies' the NP variable, and thereby makes the N(') an adequate antecedent for the relative, whereas if s adjoins to the Spec of DP and leaves D empty the latter ceases to be a proper governor for the NP and thus has none of those effects on it.

Notice, however, that government by a lexical Det cannot be the key condition, for the shifting of s onto Spec of DP does not seem to affect the NP at all (cf. Chomsky's book) unless it contains restrictive post-nominal adjuncts. Pre-nominal adjuncts are also linked by 'predication', under the standard view, and should make exactly the same requirements on N('). Yet, rather suspiciously, they are not affected by the shift of s onto Spec of DP.

That suggests that pre-nominal and post-nominal adjuncts have different structure. I therefore submit that whereas post-nominal adjuncts are clausal, contain PRO subjects, and belong to the DP tier, pre-nominal

ones are non-clausal and belong to the NP. Hence, whereas the former cannot be interpreted when 's jumps onto Spec of DP, the latter, being c-commanded by the trace of 's, can.

In other words, NP is perfectly at ease even if Det is merely filled by a trace of 's. Now, if John's new book on syntax contains the features of a well-formed referential expression licensing adjuncts like new or on syntax, why should we proclaim its NP an inadequate antecedent for a WH-item? Under the Nom+S analysis, I can see no answer to this objection.

Thus, whatever is ultimately responsible for the incompatibility of genitives and restrictive post-modifiers, it does not seem to be related to the availability of suitable features in NP in the strict sense (AGR), or in D (ID), for that matter, but rather to the relative structural position of the restrictive modifier with respect to the 's attached to the Spec of DP. Since the Spec of DP cannot any longer be the antecedent of the relative in any case (cf. (1c) and (13a-e) in section 1), it is natural to assume that the problem resides in that, buried inside it, the relevant ID+AGR features cannot percolate up to the node that does function as the antecedent of the relative/PRO. That offers an explanation provided the interpretation of the relative can be made sensitive to that difference, i.e., under the [DP DP CP] analysis. Consequently, the DP+CP analysis must be considered superior in this respect to the standard Nom+S approach.

Although the empirical evidence offered by facts such as (3-5) is not overwhelming, I would like to claim that the elegant explanation we can derive for the incompatibility of genitives and restrictive modifiers should count as extra support for the [DP+CP] proposal. Provided our assumptions above are adopted, it seems as though the mysterious present-day English behaviour of genitives with respect to restrictive modifiers can, after all, be explained as a straightforward consequence of general principles. The large remaining question, of course, is the diachronic one, i.e., why were genitives compatible with relative clauses in, say, Late Middle English or Early Modern English, and what happened to them since. To this we turn in section 3.

3. A diachronic explanation

Although a detailed rational reconstruction of the facts has been attempted elsewhere (González Escribano (1994)), it may not be inappropriate to offer a short sketch at this point: Pre-nominal genitives allowed relative clauses in earlier stages of English because a) roughly until the 13th century, relative clauses were not subordinate to the NP, but appositive (cf. Brugmann (1904: 650, 659-664), Aissen (1972), Lehmann (1974: 61ff), Mitchell (1985, vol. II: 182), etc.), and b) when, in the 12th-13th centuries, a proper Det category emerged and they did become subordinate, then, for a relatively short period, the word-level genitives did alternate with proper Determiners under D and their identificational features could thus percolate up to DP, as required. This did not last, however, for, when the 'group genitive' developed, genitives ceased to be X^0 level items to become full DPs, could no longer be lodged under D, and were shifted onto Spec of DP. The rest runs as stated in section 2 above: D features cliticized onto the DP in Spec DP and this, in turn, left D lexically empty and deprived DP itself of the ID feature it needed to function as antecedent of the relative clause or to 'identify' the PRO subject of other restrictive post-modifiers.

There are two separate diachronic phenomena that offer independent support for this conclusion: 1) Significantly, the earliest examples of elliptical genitives, as in we married at St. Peters, date from the thirteenth century, according to Mitchell (1985, v. I: 541) or Mustanoja (1960: 83), and from the fourteenth, according to Strang (1970: 198); if we take ellipsis to be the surface form of an empty category, as is standardly done within the P&P framework (cf. Lobeck (1991), (1993)), and, according to the Empty Category Principle, we assume that ECs must be lexically governed, genitives must have become lexical governors (= D heads of their respective NPs) by that time. That accounts for the pre-adjectival position of identifying genitives and for the incompatibility between genitives and articles or demonstratives in Late ME and Modern English. 2) In Early Modern English, but not earlier (cf. Barber (1976: 231-232)), we find personal pronouns occupying strictly the head slot of NPs, as in Shakespeare's examples the shees of Italy, the cruel'st she, etc., which

implies that personal pronouns were still felt as Xs, but, crucially, not as XPs, contrary to what occurs in present-day English.

Notice, on the other hand, that personal pronouns have an obvious deictic component that associates them with determiners. Barber's term 'determiner-pronouns' (cf. Barber (1976)), therefore, is entirely appropriate, and indeed, Jackendoff (1977) and Abney (1987), among others, have analyzed sequences like we young people as strings of the form Det + NP. For our present purposes, thus, once the D category is available, we expect LME and EModE possessives to be able to occupy it whenever there is no other determiner.

Full DPs in the genitive case, on the contrary, are not expected to occur in D, of course. Yet, in OE and early ME, many non-pronominal genitives did perform identificational functions now typical of D, (cf. González Escribano (1994) and references therein). Therefore, if such DPs were to function as suppliers of identificational features for the higher DP in the absence of determiners, a) they should find some way into the DP layer, and b) the genitive affix would first have to be allowed to affect XPs. Seen in due historical perspective, this implied either the possibility of agreement of the genitival N with a post-nominal phrase (i.e., the 'split genitive' inherited from OE and early ME), or genitivation of fully expanded DPs dominating PPs and clauses (= 'group genitive'), as in Late ME and Modern English. The former possibility, of course, had become awkward after the loss of inflections on post-nominal phrases, but the latter was definitionally incompatible with the status of the genitive marker as an inflectional affix. Therefore, the former inflectional affix -s had to be reinterpreted as a syntactic marker appended to full XPs, as Jespersen says (cf. Jespersen (1918)). Hence, at the end of the ME period we find 'group genitives' like the king of England's daughter gradually replacing the earlier 'split' pattern the king's daughter of England.

That solved part b) of the problem, but not part a), since a full genitive DP would not, of course, be allowed into the D slot. Hence the association of the genitive with the specialized identificational position D had to be effected some other way, perhaps by reanalyzing 's' itself as a Determiner. That was counterintuitive, though, as 's', even if by then it was functioning as something different, as Jespersen claims, was still

obviously associated in the speaker's mind with the genitive inflection of earlier periods, so the only remaining possibility was for the 'group genitive' to be associated with Spec of DP, leaving D empty at S-structure. That, of course, would be compatible with generating 's in D, since 's, being a clitic, would necessarily have to jump onto the DP in Spec of DP anyway. And this is what finally happened in Modern English.

Late ME and Early Modern English explored other strategies to solve the b) part of the problem, though, among them the pattern the wife of Bath her tale, which existed marginally in OE but became very popular between the 14th and the 17th centuries (cf. Mustanoja (1960: 159-162), Curme (1931: 71-72), Barber (1976: 234-235), etc.). In the present theoretical framework, that pattern naturally corresponds to the case in which her is filling D and the full DP the wife of Bath is occupying the Spec of (the higher) DP. This strategy, of course, did not succeed in the long run, but the reason why the his-genitive disappeared has always been an unsolved mystery. Of course, there is Jespersen's explanation (cf. Jespersen (1918: 306-312)), essentially based on the idea that it could not compete in generality with the 's interposition, but, on the other hand, 's in its turn could not really be extended to all DP expansions, as Jespersen himself showed, so some other intervening factor must have tipped the scales to the group genitive's advantage.

Indeed, so it was: in my view, the decisive factor was the reanalysis of he, she, his, her, etc., as full DPs (notice that we can no longer say such things as *the shees of England) and their shifting from D into Spec of DP. If this hypothesis is correct, therefore, the his-genitive disappeared roughly at the same time Shakespeare's pattern the shees of Italy did, and for the same reason, i.e., the pronouns could no longer be interpreted as X⁰ items. That made the 'his' genitive impossible and left the 'group genitive' alone on the field.

Now, the 'group genitive' surely broadened the expansion potential of pre-nominal genitive DPs as the Early Modern English period advanced (cf. Jespersen (1918: 296-304; 1909-1949, vol. VI: 286-287)), but certain types of expansions, notably those involving clauses (cf. the man we met yesterday's son), have remained awkward or plainly unacceptable to the present day (cf. Jespersen (1922: 351-352; 1909-49, vol. VI: 283ff., vol.

VII: 313-330)), so, as I argued in González Escribano (1994), in the long run it proved to be only a moderately successful change.

Lack of flexibility, however, was not the only serious problem with that construction. The other consequence, if the present hypothesis is correct, was that the possibility of expansion of the possessive/genitive by means of post-nominal modifiers that existed in OE, ME and even Early Modern English, was lost, making such expressions as **his car that owns this house is parked at the front*, etc. ungrammatical, as we saw. But that is not yet the whole story: even more disastrously, all DPs containing genitive specifiers were disabled to take restrictive post-modifiers. Thus, we can no longer say **Your book that I borrowed last week*, either, nor **Your books available in the bookshop*, **Your raincoat in the back seat*, **His book published last year*, etc., for that matter.

If this view of things is correct, something really paradoxical occurred at the end of the ME period, i.e., that the development of the 'group genitive', a construction 'designed' to broaden the expansion possibilities of genitival DPs and compensate for the loss of 'split' genitives (cf. Jespersen (1918)), eventually diminished them.

I think what we have said so far in this section can now be easily related to our 'formal' explanation in section 2 to make that paradox understandable. The process can be briefly recapitulated as follows:

a) Whereas in late ME and Early Modern English possessives like *his* briefly became genuine structural alternatives to determiners and came to occupy D (cf. Chaucer's *the Wife of Bath her tale*), allowing their identificational features to show on the DP node and enabling it to function as the antecedent of restrictive modifiers, in Late Modern English they were reanalyzed as DPs (cf. **the shees of Italy*) and shifted into Spec of DP, from where their identificational features cannot percolate up to the DP node.

b) With the development of the 'group genitive', full DP genitives also end in Spec of DP and unable to make their identificational features percolate into the higher DP node. Hence, they can no longer license relative clauses (or post-modifiers containing PRO, for that matter) any more than possessives can.

c) Articles and demonstratives, on the contrary, remained in D ever since that category emerged. Consequently, the usual percolation con-

ventions allow their identificational features to show on DP and from there to identify the relative pronoun or the PRO of clausal post-modifiers. That explains why articles and demonstratives cause no trouble in this respect.

References

- Abney, Steven P. (1987). *The English Noun Phrase in its Sentential Aspect*. Ph. D. Diss., MIT.
- Aissen, Judith (1972). Where do Relative Clauses come from? In John P. Kimball, ed., *Syntax and Semantics* 1, 187-198. New York: Seminar Press.
- Anderson, Mona (1984). Pre-nominal Genitive NP's. *The Linguistic Review* 3. 1-24.
- Bach, Emmon W. (1968). Nouns and Noun Phrases. In Emmon W. Bach & Robert T. Harms, eds., *Universals in Linguistic Theory*, 90- 122. New York: Holt.
- Bach, Emmon & Cooper, Robin (1978). The NP-S Analysis of Relative Clauses and Compositional Semantics. *Linguistics and Philosophy* 2, 145-150.
- Baker, Carl L. (1978). *Introduction to Generative Transformational Syntax*. Englewood Cliffs, NJ: Prentice Hall.
- Barber, Charles (1976). *Early Modern English*. London: A. Deutsch.
- Brook, George L. (1958). *A History of English*. London: A. Deutsch.
- Brugmann, Karl (1904). *Kurze vergleichende Grammatik der Indogermanischen Sprachen*. Berlin: Walter de Gruyter, 1970.
- Chesterman, Andrew (1991). *On Definiteness. A Study with Special Reference to English and Finnish*. Cambridge: Cambridge University Press.
- Chomsky, Noam (1965). *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.
- _____(1972a). Remarks on Nominalization. In *Studies on Semantics in Generative Grammar*, 11-61. The Hague: Mouton.
- _____(1986). *Barriers*. Cambridge, MA: MIT Press.

- _____(1992). A Minimalist Program for Linguistic Theory. MIT Occasional Papers in Linguistics 1.
- Cinque, Guglielmo (1982). On the Theory of Relative Clauses and Markedness. The Linguistic Review 1, 247-294.
- Curme, George O. (1931). Syntax. Boston: D. C. Heath & Co.
- Deane, Paul (1987). English Possessives, Topicality and the Silverstein Hierarchy. Berkeley Linguistic Society 13, 65-76.
- Dresher, Bezalel E. & Hornstein, Norbert (1979). Trace-Theory and NP Movement Rules. Linguistic Inquiry 10, 65-82.
- Drijkoningen, Frank (1993). Movement theory and the DP-hypothesis. Linguistics 31, 813-853.
- Du Castel, Bertrand (1978). Form and Interpretation of Relative Clauses in English. Linguistic Inquiry 9, 275-289.
- Emonds, Joseph (1985) A Unified Theory of Syntactic Categories. Dordrecht: Foris.
- Fabb, Nigel (1984). Syntactic Affixation. Ph. D. Dissertation, M.I.T.
- Fabb, Nigel (1990). The Difference between English Restrictive and Non-restrictive Relative Clauses. Journal of Linguistics 26(1), 57-78.
- Fukui, Naoki & Speas, Margaret (1986). Specifiers and Projections. MIT Working Papers in Linguistics 8, 128-172.
- Gazdar, Gerald, et al. (1985). Generalized Phrase Structure Grammar. Oxford: Blackwell.
- González Escribano, José Luis (1989). Sobre la Naturaleza del Componente Táctico en las Lenguas Naturales: Un Argumento Derivado del Uso de la Proforma One en Inglés (1989). In Studia Patriciae Shaw Oblata, pp. 277-306. Oviedo: Servicio de Publicaciones de la Universidad, 1991.
- _____(1990). Los Efectos de Inversión y la Estructura Subyacente de la Oración en Inglés. Revista Española de Lingüística 20(2), 329-401.
- _____(1994). On Dysfunctional Syntactic Change in Early Modern English: the Case of the 'Group Genitive' (or why Genitives no longer Appear with Post-nominal Restrictive Adjuncts. Atlantis XV, 229-267.
- Grimshaw, Jane (1990). Argument Structure. Cambridge, MA: MIT Press.

- Hawkins, Roger (1981). Towards an Account of the Possessive Constructions. NP's N and the N of NP. Journal of Linguistics 17(2), 247-269.
- Higginbotham, James (1983). Logical Form, Binding and Nominals. Linguistic Inquiry 14, 395-420.
- _____(1985). On Semantics. Linguistic Inquiry 16, 547-594.
- Hornstein, Norbert & Lightfoot, David, eds. (1981). Introduction to Explanation in Linguistics. London: Longman.
- Hornstein, Norbert & Lightfoot, David (1987). Predication and PRO. Language 63, 23-52.
- Jackendoff, Ray S. (1977). X-bar Syntax. Cambridge, MA: MIT Press.
- Jespersen, Otto (1909-1949). Modern English Grammar on Historical Principles. London: Allen & Unwin, rep. 1970-4.
- _____(1918). Chapters on English. In Selected Writings of Otto Jespersen, 154-312. London: Allen & Unwin Ltd. and Tokyo: Senjo Publishing (no date of publication).
- _____(1922). Language. London: Allen & Unwin, rep. 1968.
- _____(1924). Philosophy of Language. London: Allen & Unwin, rep. 1975.
- _____(1949). Efficiency in Linguistic Change. In Selected Writings of Otto Jespersen, 346-426. London: Allen & Unwin Ltd. and Tokyo: Senjo Publishing (no date of publication).
- Kuroda, S-Y. (1968). English Relativization and Certain Related Problems. Language 44, 244-266.
- Lappin, Shalom (1988). Introduction: the Syntax and Semantics of NPs. Linguistics 26, 903-907.
- Lebeaux, David (1991). Relative Clauses, Licensing and the Nature of the Derivation'. In Susan D. Rothstein, ed. Perspectives on Phrase Structure, pp. 209-239. New York: Academic Press.
- Lees, Robert B. (1960). The Grammar of English Nominalizations. The Hague: Mouton.
- Lehmann, Winfred P. (1974). Proto-Indo-European Syntax. Austin: The University of Texas Press.
- Lobeck, Anne (1991). Phrase Structure of Ellipsis in English. In Susan D. Rothstein, ed., Perspectives on Phrase Structure, 81-103. New York: Academic Press.

- _____(1993). Strong Agreement and Identification: Evidence from Ellipsis in English. Linguistics 31, 777-811.
- Lyons, John (1977). Semantics. Vol. 2. Cambridge: Cambridge University Press.
- Lyons, Christopher (1986). The Syntax of English Genitive Constructions. Journal of Linguistics 22, 123-143.
- Mitchell, Bruce (1985). Old English Syntax. Vols. I & II. Oxford: Clarendon Press.
- Mustanoja, Tauno F. (1960). A Middle English Syntax. Part I. Parts of Speech. Helsinki: Société Néophilologique.
- Ohkado, Masayuki (1990). Transitive Adjectives and the Theory of Case. Lingua 81, 241-264.
- Partee, Barbara M. H. (1975). Montague Grammar and Transformational Grammar. Linguistic Inquiry 6, 203-300.
- Picallo, M. Carme (1994). Catalan Possessive Pronouns: the Avoid Pronoun Principle Revisited. Natural Language and Linguistic Theory 11, 259-299.
- Plank, Frans (1992). Possessives and the Distinction between Determiners and Modifiers (with Special Reference to German). Journal of Linguistics 28, 453-468.
- Quirk, Randolph & C. L. Wrenn (1957). An Old English Grammar 2nd. ed. London: Methuen, rep. 1969.
- Quirk, Randolph et al. (1985). A Comprehensive Grammar of the English Language. London: Longman.
- Ritter, Elizabeth (1991). Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew. In Susan D. Rothstein, ed. Perspectives on Phrase Structure, 37-62. New York: Academic Press.
- Ross, John R. (1967). Constraints on Variables in Syntax. MIT Ph. D. Dissertation.
- Rothstein, Susan D. (1988). Conservativity and the Syntax of Determiners. Linguistics 26, 999-1019.
- Siloni, Tali (1991). Noun Raising and the Structure of Noun Phrases. MIT Working Papers in Linguistics 14, 255-270.
- Smith, Carlota S. (1961). A Class of Complex Modifiers in English. Language 37, 342-365.

- _____(1964). Determiners and Relative Clauses in a Generative Grammar of English. Language 40, 37-52.
- Speas, Margaret (1990). Phrase Structure in Natural Language. Dordrecht: Kluwer.
- Stockwell, Robert P., Schachter, Paul M. & Hall-Partee, Barbara M. (1973). The Major Syntactic Structures of English. New York. Holt.
- Stowell, Timothy (1981). Origins of Phrase Structure. Ph. D. Diss., MIT.
- _____(1989). Subjects, Specifiers and X-bar Theory. In Mark C. Baltin & Anthony S. Kroch, eds., Alternative Conceptions of Phrase Structure, 232-262. Chicago: The University of Chicago Press.
- Strang, Barbara (1970). A History of English. London: Methuen.
- Szabolcsi, Anna (1983). The Possessor that Ran away from Home. The Linguistic Review 3(1), 89-102.
- Taylor, John R. (1989). Possessive Genitives in English. Linguistics 27, 663-686.
- Thompson, Sandra (1971). The Deep Structure of Relative Clauses. In Charles J. Fillmore & David T. Langendoen, eds., Studies in Linguistic Semantics, 79-96. New York: Holt, Rinehart & Winston.
- Valois, Daniel (1991). The Internal Syntax of DP and Adjective Placement in French and English. NELS 21, 367-382.
- Vergnaud, Jean-Roger & Zubizarreta, Maria Luisa (1992). The Definite Determiner and the Inalienable Constructions in French and English. Linguistic Inquiry 23, 595-652.
- Von Stechow, Arnim (1980). Modification of Noun Phrases. A Challenge for Compositional Semantics. Theoretical Linguistics 7, 57-110.
- Williams, Edwin (1980). Predication. Linguistic Inquiry 11, 203-238.
- _____(1982). The NP cycle. Linguistic Inquiry 13, 277-295.
- _____(1985). PRO and Subject of NP. Natural Language and Linguistic Theory 3, 297-315.
- Worrell Shumaker, Nancy (1975). The Semantics of the English 's Genitive. American Speech 50 (1), 70-86.
- Zimmermann, Ilse (1993). The Syntax of 'Possessor' Phrases. In Gilbert Fanselow, ed., The Parametrization of Universal Grammar, 201-225. Amsterdam: John Benjamins.