

Semantics of Adjectival Modification: Possessive DPs

Last time I sketched out the main elements of an event-based analysis of non-intersective adjective modification. I considered a variety of specific questions concerning events quantification inside the NP. On the basis of the Bolinger effects, we considered the idea that the nominal contains a generic quantifier binding an event variable. Furthermore, on the basis of the restriction and nuclear scope relations, I suggested that prenominal position of manner adjectives in English is a derived one, with AP raising around N for agreement reasons (1a). The underlying arrangement of sentence parts is therefore as shown in (1b), which appears to match the logical form of the sentence more properly:

- (1) a. [AP' [Γ_e [AP N t]] AP']

 b. [AP' [Γ_e [N(e) [AP(e)]] AP']
Quant Restr Scope

This result leaves open the question as to what, if anything, might bind stage-level adjectives (AP') lying outside the scope of Γ_e . Today, I'm going to talk about the structure of possessive nominals and suggest an answer on the basis of them. Specifically, I will suggest the presence of a second, non-generic event quantifier ($\$$) above NP, which may be the binder of prenominal temporal adjectives and stage-level postnominal adjuncts. If correct, the picture for event quantifiers in DP would therefore to be approximately as in (2):

- (2) [DP $\exists e$ [AP [NP Γ_e [AP N]] AP]]
s-level i-level s-level

I will motivate this idea on the basis of some work on the interaction of temporal adjectives and possessive DPs, which was done with Ms. Sungeun Cho (SUNY - Stony Book). Where I say "we believe", "we propose", etc. in the following, the "we" refers to Cho and me. The text below is drawn verbatim from our joint 1998 paper "Temporal Adjectives and the Structure of Possessive DPs." Please refer to that paper if you should cite this work. References from the paper are included at the end.

1.0 Temporal Modification in Nominals

The temporal adjective *former* typically attaches to a noun creating a predicate true of objects that once had the property described by N. Thus in (3a), *former* attaches to *movie star* to create a predicate true of things that were once movie stars. In (3b), *former* attaches to *house* to create a predicate true of things that were once houses but

now, through some exigency, are houses no longer:

- (3) a. John met a **former movie star**.
- b. That is a **former house**.

Similar, although slightly more complicated, facts hold with the adjective *old*. *Old* attaches to N to form a predicate with one of several different meanings. For example, an *old* N can refer to something that is aged and that is an N. Thus in (4a), *old car* applies to things that are both old and are cars. Alternatively, an *old* N can refer to something that was formerly an N. On the salient reading of (4b) *old IWW member* describes someone who was formerly a member of the International Workers of the World organization.[1]

- (4) a. That is an **old car**.
- b. Mary is an **old IWW member**.

Consider now the examples in (5), which show a temporal adjective in a possessive nominal:

- (5) a. That is **John's former house**.
- b. This is **John's old car**.

John's former house in (5a) can be understood analogously to (3b), as referring to an object that John possesses and that was once a house. (Imagine us at the scene of a recent tornado, pointing out the effects of its destruction.) On its most salient reading, however, the phrase refers to an object that is a house and that John once possessed. *Former* applies to the possession relation, not the house. Similarly, although *my old car* in (5b) can refer to an object that John possesses and that is both old and a car, on its most salient reading, *John's old car* refers to a car that John once owned. *Old* applies not to the car, but to the possession. Notice that under the latter construal there is no need for the car to be old in absolute terms. If John purchases a late-model and sells it, the car becomes his old car even if it is still quite new and in mint condition. Henceforth we will use "CN-modifying" to refer to the reading where a temporal adjective is understood to modify a noun. Correlatively, we will use "P-modifying" to refer to the reading where a temporal adjective is understood to modify a possession relation.[2]

The CN- versus P-modifying ambiguity shows an interesting pattern in examples like (6), containing two temporal adjectives:

- (6) a. John's new old car
- b. John's old new car

Notice that (6a) univocally denotes an old car that John has newly come to own. It does

not denote a new car that John once owned. By contrast (6b) has exactly the opposite sense: it denotes a new car that John has used to own, not an old car that John has newly acquired. Evidently, then, in a sequence of two temporal adjectives (A1, A2), the first must be understood as P-modifying, and the second as CN-modifying (7):

- (7) **XP's** **A1** **A2** **CN**
 P-mod CN-mod

This suggests that the semantic ambiguity of examples like (5a,b) might in fact be due to a structural ambiguity, one that we cannot directly observe. Specifically, it implies that on the P-modifying reading of (5a,b), the adjective is in the position of A1, whereas on the CN-modifying reading, the adjective is in the position of A2:

- (8) XP's A1 A2 CN
 a. **John's** **old** **car** "the car John formerly possessed"
 b. **John's** **old** **car** "the car John possesses that is old"

Given the lack of intervening material we are simply be unable to observe the positional difference, so the idea would go.

1.1 Korean Temporal APs

Korean shows data parallel to that of English. Like its English counterpart, the Korean possessive nominal in (6), containing the temporal adjective *sae* 'new', is ambiguous:

- (9) John-uy sae cha
 John-POSS new car
 'John's new car'

Thus (9) can denote a car (of whatever age) that John has newly come to own. Or it can denote a car that is currently owned by John and which is a new model.

Korean also can iterate temporal adjectives, displaying the same correlation between position and interpretation found in English:

- (10) a. John-uy yeys sae cha
 John-POSS old new car
 'the car John formerly owned and which was/is a new model'
 b. John-uy sae yeys cha
 John-POSS new old car
 'the car John has newly come to own and which is an old one'

As the glosses indicate, in a series of two temporal adjectives, the first must be understood as modifying the possession relation, whereas the second must be read as modifying the common noun.

Korean shows something further, however, in so far as it allows other items besides temporals to permute freely with temporals. Compare (11a,b) involving the color adjective *palan*, 'green':

- (11) a. John-uy palan sae cha
John-POSS blue new car
'John's blue new car'
'the car of John's which is blue and which is a new model'
- b. John-uy sae palan cha
John-POSS new blue car
'John's new blue car'
'the car that John has newly come to own and which is blue'

Both orderings of the adjectives are felicitous. But observe that when the color adjective comes first and therefore shows *sae* to be unambiguously in second position, only a CN-modifying reading is possible for it (11a). Similarly, when the position of the color adjective shows *sae* to be unambiguously in first position, only a P-modifying reading is possible (11b).

Consider also (12a,b), which exhibits a temporal adjective together with the quantity predicate *modun*, 'all/every':

- (12) a. John-uy modun sae cha
John-POSS every new car
'John's every new car'
- b. John-uy sae modun cha
John-POSS new every car
'John's new every car'

(12a) quantifies over the all cars that are owned by John and that are new models. By contrast, (12b) quantifies over all the cars that John has newly come to possess. Again we see that second position for *sae* forces the CN-modifying reading, whereas first position for *sae* forces the P-modifying reading.

1.2 Halkomelem Nominals and Tense (Burton (1997))

Burton (1997) independently notes facts from the Salishian language Halkomelem that appear closely related to those discussed here. Halkomelem (like other Salishian languages) allows the past tense morpheme (*-elh/-alh*) to be attached to nominals. When it attaches to regular non-possessive nominals, the result is much like attachment of the English adjective *former*. Thus when it is affixed to a nominal denoting an animate object (person or animal), it typically indicates an individual who has died (13a-c).

(13) a.i. tel má:l my father	ii. tel má:l-elh my father-PST	'my late father'
b.i. tel si:l my grandfather	ii. tel si:l-alh my grandfather-PST	'my late grandfather'
b.i. te sqwemá:y the dog	ii. te sqwemá:y -elh the dog-PST	'the dead dog'

When it attaches to a nominal denoting an inanimate object, it typically indicates an individual which has been destroyed. And when it attaches to a possessed nominal, , it typically indicates an individual which has been lost (no-longer possessed). Burton does not actually give examples nominals that have exclusively the "destroyed" reading. Rather he gives possessive nominals that are ambiguous (14a-c):

(14) a.i. tel xeltel my pencil	ii. tel xeltel-elh my pencil-PST	'my broken pencil' 'my former pencil'
b.i. tel pukw my book	ii. tel pukw-elh my book-PST	'my destroyed book' 'my former book'
b.i. tel kopú my coat	ii. tel kopú-elh my coat-PST	'my coat book' 'my former coat'

2.0 A Challenge to Compositional Semantics

The ambiguity observed above poses an interesting challenge for a compositional semantic treatment of adjective modification. Consider, for example, the analysis of adjectival modifiers advanced by Siegel (1976a,b) within the framework of Montague Grammar. On Siegel's theory, prenominal adjectival modifiers divide semantically into two fundamentally different types: attributive modifiers, analyzed as expressions of category CN/CN, and predicatives, analyzed as expressions of category t//e. The latter produce intersective interpretations, while the former produce non-intersective interpretations. Some adjectives belong exclusively to the class of attributives (e.g., *veteran*); some belong exclusively to the class of predicatives (e.g., *aged*); and others are actually phonological "doublets", with homophonous forms in both the attributive and the predicative class (e.g., *beautiful, old, skillful*, etc.)

On the Siegel analysis, temporal adjectives like *former* are exclusively members of the category of attributives (see Siegel 1976a). It follows that the ambiguity in (5a,b) is not a matter of attributive versus predicative readings: both interpretations must be attributive. But the source of the ambiguity becomes a mystery then. Given that adjectives apply to nouns, how and why should a P-modifying reading arise in addition to a (nonintersective) CN-modifying reading?

Within the framework of Montague Grammar, and given Siegel's specific analysis, it is tempting to venture a lexical account of the ambiguity, appealing to entailments. For example, we might further subdivide the attributive temporal adjectives into doublets,

with one member of each pair carrying an entailment like that expressed by the meaning postulate in (13):

$$(15) \forall x \forall P [\delta(P)(x) \rightarrow P(x) \ \& \ \exists y [\delta'(y, \wedge \text{POSS}(\wedge \lambda P [P\{x\}])]]]$$

Here $\delta \in \{\textit{former}, \textit{new}, \dots\}$ and where $\delta' \in \text{PIAV}$ and is the corresponding adverbial form of δ . Thus if $\delta = \textit{former}$, $\delta' = \textit{formerly}$, etc. On this approach, **former'**(**car**')(x) would entail that [**car**'(x) & $\exists y$ [**formerly**'(y, $\wedge \text{POSS}(\wedge P [P\{x\}])$]]. And so on.

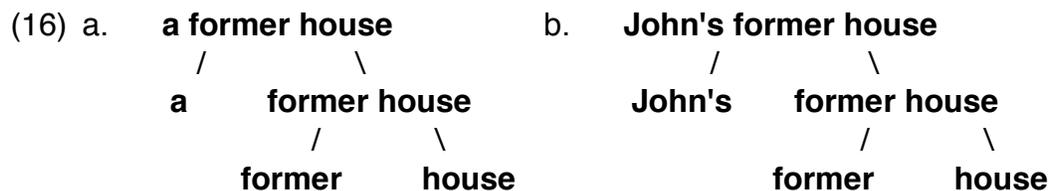
On further reflection, however, this approach looks quite doubtful. For one thing, splitting into doublets and appeal to a meaning postulate like (15) implies that the CN-modifying/P-modifying ambiguity is a form of lexical "accident". This leaves the occurrence of this accident in other languages like Korean unexplained. Second, appeal to lexical meaning postulates would do nothing to clarify the positional facts observed above: why a sequence of two temporal attributives must be interpreted such that the first one has the P-modifying reading. Again, the fact that the same syntactic-semantic pattern is also found in Korean strongly suggests that a generalization is being lost.

Finally, the Siegel-style Montagovian analysis seems to encounter a serious and quite general compositionality problem. Recall that P-modifying readings arise specifically in possessive nominals; whereas the possessive (5b) has P-modifying reading, a corresponding nonpossessive nominal like (3b) does not:

(3b) That is a former house.

(5b) John's former house

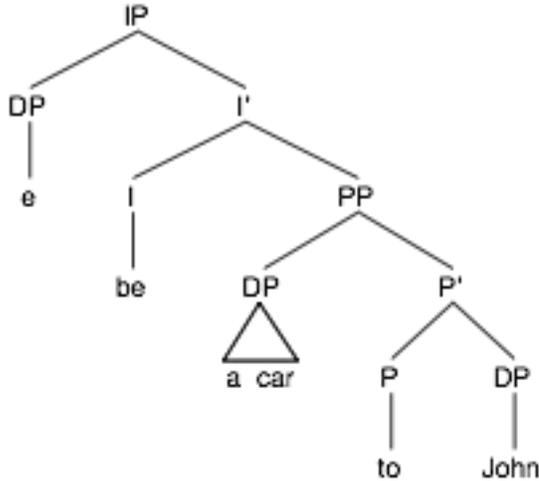
Under Siegel's analysis trees, adjectives combine with nouns before the latter combine with determiners (16a). Possessives like *John's* are also analyzed as determiners within Montague Grammar (Barwise & Cooper (1981)), so they too combine in a term phrase after any adjectives have been put together with the common noun head (16b):



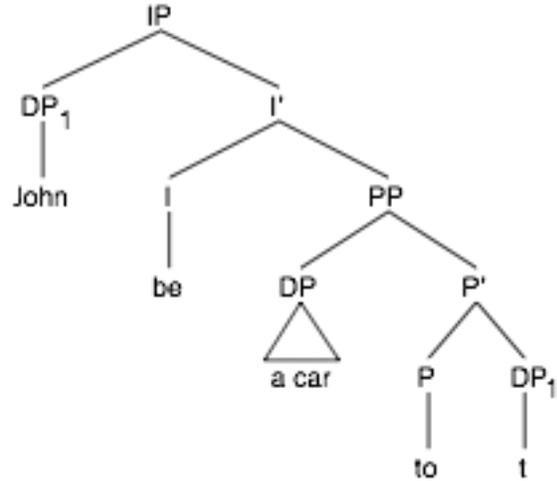
But if we are to analyze the P-modifying reading as arising from the semantics of the adjective, it would seem the the adjective would have to "know" whether a determiner to be combined later is possessive or not. This is impossible, of course, hence it is unclear how the P-modifying reading could be strictly a matter of semantics of the adjective in this account.[3]

ideas by Benveniste (1966), Freeze (1992) has proposed that a possessive *have* construction like *John has a car* is composed underlyingly from the copula *be* and a locative preposition, here represented as *to*.^[4] The copula selects PP, which contains two arguments: a theme (*a car*) and a location (*to John*) (17a). The surface form of the possessive is derived by first raising the object of *to* to the spec of IP (19):

(19) a.

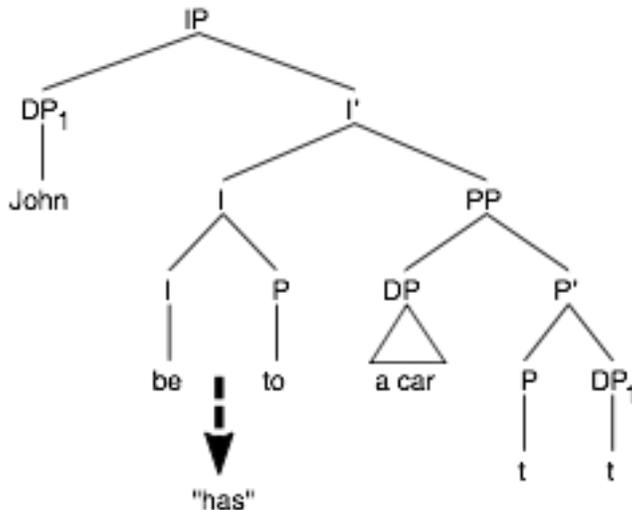


b.



The locative preposition then incorporates into *be* (20). *Have* is conceived as the "spell-out" of the *be+to* aggregate:

(20)



The justification for this analysis derives from the persistent and wide-spread homologies that hold among locative, possessive and existential constructions in the world's languages. Thus Freeze (1992) cites many triples like the following from Hindi and Finnish as illustrating the point:

- (21) a. mai hindustaan-mee thaa. (Hindi)
 I India-in COP-sg.MASC.PAST
 'I was in India'
- b. larkee-kee paas kuttaa hai
 boy.OBL.-GEN proximity dog COP-sg.MASC.PRES
 'The boy has a dog'
- c. kamree-mee aadmi hai
 room-in man COP-sg.MASC.PRES
 'There is a man in the room'

- (22) a. mies on huonee-ssa (Finnish)
 man.NOM is room-inessive
 'The man is in the room'
- b. Lusa-lla on mies
 Lisa-adessive COP(LOC) man
 'Lisa has a husband'
- c. pydlä-llä on kynä
 table-adessive COP(LOC) pencil
 'There is a pencil on the table'

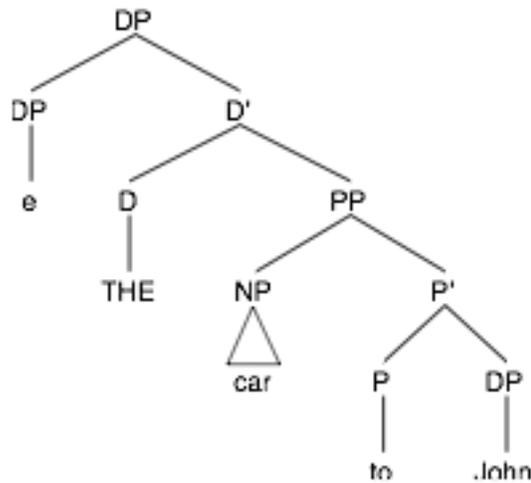
Freeze argues that all three construction types, locative (*The visitor is with John*), possessive (*John has a visitor*), and existential (*There is a visitor with John*) derive from a single underlying locative structure similar to (19a). The homologies between the constructions are thus explained by appeal to a shared source.

3.2 The Structure of Possessive Nominals

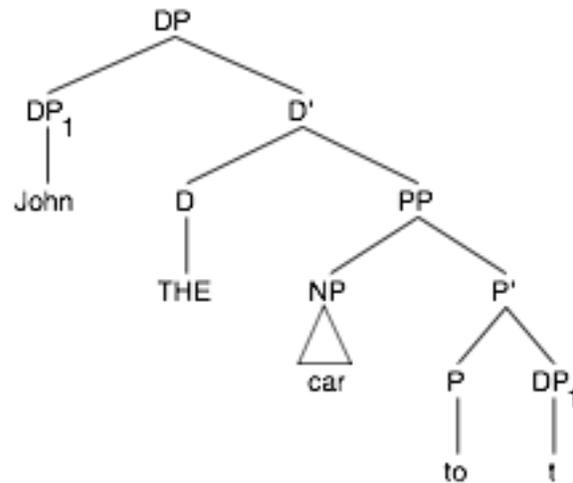
We will not rehearse the Freeze analysis further here, but rather will simply assume its basic correctness and build from it. Specifically, we will pursue the idea that possessive nominals, like possessive clauses, are a form of locative construction with a similar derivation.

Suppose, following Abney (1987) (refs), that argument nominals are in fact "DPs", with the category D formally parallel to I. Suppose further, following standard semantic views, that possessive nominals are definite descriptions (Barwise and Cooper (1981), Neale (1990)).[5] Then *John's car* might be assigned the underlying clause-like structure in (23a), containing an abstract definite determiner *THE* in a position parallel to *be* in a sentential possessive, and containing the locative PP, also parallel to the sentential case.[6] As in the sentential case, the object of the locative P (*John*) raises to the spec position of DP (23b):

(23) a.

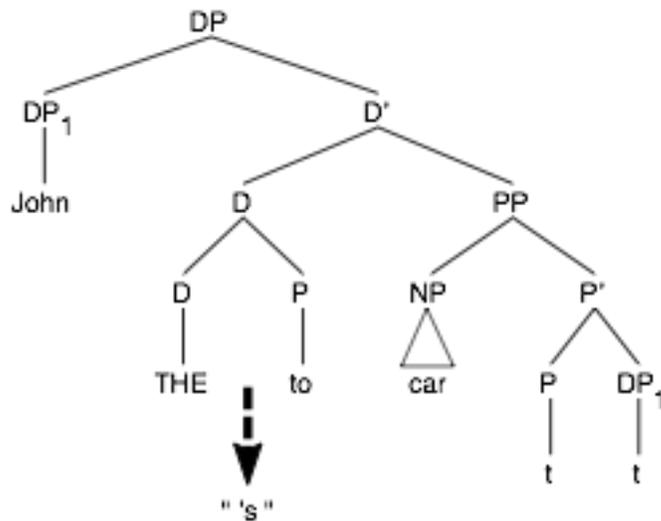


b.



The locative preposition then incorporates into the definite determiner. For concreteness, we will assume that the *THE+to* aggregate spells out as " 's ", which subsequently cliticizes to the DP subject (24).

(24)



There are a number of general considerations that make this proposal attractive. First there is the broad connection that it draws between the expression of possession in the nominal and sentential domain. On this proposal, the same syntactic processes are at work in both. In addition, as discussed by Barker (1995), the psycholinguistic literature provides evidence from the acquisition of possessive nominals supporting the view that children analyze possession as some kind of generalized locative relation, what Barker refers to as "proximity".[7] In addition to these broad considerations, there are also some more specific lines of evidence supporting the analysis.

Constraints on Subjects

The highly parallel derivations for sentential and nominal possessives assumed on this account lead us to expect parallel behavior. This expectation appears correct, at least in certain cases. Freeze (1992) notes that possessive constructions are sensitive to the [\pm human] value of their possessor subject. Specifically, a [-human] subject of *have* requires the theme to be an "inalienably possessed, or 'characteristically associated' noun (i.e., treated as inalienably possessed)" (p.583). Possessives containing an alienable theme and a [-human] subject are ungrammatical. Compare (25a-d), from Freeze (1992):

- (25) a. The tree has branches. ('inalienable possession')
b. The flour has weevils (in it). ('characteristic association')
c. *The tree has a nest.
d. *The flour has a ring.

By contrast, Freezes notes that when the subject is [+human], the theme is not limited to these possession types, and may be alienable, inalienable or characteristically associated (26a-d):

- (26) a. The boy has a needle.
b. The boy has a cousin/nose
c. The boy has fleas (on him).

Interestingly, this same pattern of facts appears to hold in the case of possessive nominals, compare (27) and (28):

- (27) a. The tree's branches ('inalienable possession')
b. The flour's weevils ('characteristic association')
c. *The tree's nest
d. *The flour's ring

- (28) a. The boy's needle
b. The boy's cousin/nose
c. The boy's fleas

Assuming this distribution to be a grammatical matter, the parallelism between sentential and nominal possessives supports the idea of treating them in a syntactically parallel way.

Hungarian Possessors

Freeze (1992) observes that the situation in English possessive constructions is actually a rather uncommon one. Recall English has nominative-marked possessive subjects and a "possessive copula" (*have*) that is produced by incorporating a locative P (*to*) into an existential copula (*be*) (29):

- (29) a. Mary has a husband.
 b. [_{IP} **Mary** be+TO [_{PP} t [_{P'} t]]] (be + TO = have)
 |_____|

More representative is the case of Hindi and Finnish, illustrated above in (21) and (22), where the existential copula appears throughout, and where a locative preposition or oblique case-marking surfaces in the possessive. On Freeze's account, this more typical case corresponds to a derivation where the entire P' raises to IP spec position, and where no incorporation of P into the copula occurs:

- (30) a. Lusa-lla on mies (= (22b))
 Lisa-*adessive* COP(LOC) man
 'Lisa has a husband'

- b. [_{IP} **Lusa-lla** on [_{PP} mies [_{P'} t]]]
 |_____|

Given our analysis, we might expect analogous effects to show up in possessive nominals. That is, we might expect possessives in which the possessor is accompanied by a preposition or marked with oblique case, and where the unincorporated definite determiner surfaces directly.

Hungarian, as described by in an interesting series of papers by Szabolsci (1983, 1994), may present such a case. Szabolsci observes that the subjects of Hungarian possessive nominals may occur without overt case-marking, a situation she diagnoses as involving Nominative case (31a). Alternatively, Hungarian possessors may show up in the dative case (31b). With the nominative possessor, the definite determiner may be absent, whereas with the dative possessor, the definite determiner is required:

- (31) a. Mari kalap-ja-i
 Mari-**NOM** hat-POSS-PL(-3SG)
 Mari's hat'
 b. Mari-nak a kalap-ja-i
 Mari-**DAT** the hat-POSS-PL(-3SG)
 Mari's hat'

Under the analysis advanced here, it is very tempting to see this alternation in terms of the English/Finnish alternation shown above. That is, it's tempting to suggest that Hungarian shows in its possessive nominals both of the two options noted by Freeze. The idea would be that with the nominative possessors, P incorporates into the definite determiner. The determiner + preposition aggregate (*a + TO*) spells out as \emptyset and the subject surfaces in nominative case, as in English sentential possessives. With the dative possessors, no incorporation of P into the definite determiner (*a*) occurs. Thus the latter shows up obligatorily, and the subject surfaces in an oblique case, as with Finnish sentential possessives.[8]

4.0 Semantics of Possessive DPs

Along with providing a syntactic account of possessive nominals that is parallel to possessive clauses, this analysis affords a very straightforward view of the semantic composition of possessive DPs. Assume that the possessor subject *John* is interpreted in its source position, and that DP receives the same interpretation as its contained D'. Then we can use the simple Montague-style translation rules in (32) and (33):[9,10]

- (32) a. $[P' P DP]$ $\implies P'(DP')$
 b. $[NP N]$ $\implies N'$ + "Existential Closure" on e
 c. $[PP NP P']$ $\implies \lambda x[NP'(x) \ \& \ P'(x)]$ + "Existential Closure" on e
 d. $[D' D PP]$ $\implies D'(ly[PP'(y)])$
- (33) a. $[DP John]$ $\implies j$
 b. $[P to]$ $\implies \lambda x \lambda y [POSS(x,y,e)]$
 c. $[N car]$ $\implies \lambda y [car'(y,e)]$
 d. $[D THE]$ $\implies \lambda Q \lambda P \exists x \forall y [[Q(y) \leftrightarrow y = x] \ \& \ P(x)]$

Under these rules, we can build up the translation of *John's car* (= *THE car to John*) as shown in (34), according to which DP denotes the set of properties of the unique car possessed by John:

- (34) a. $[P' to John]$ $\implies \lambda x \lambda y [POSS(x,y,e)](j)$
 $\implies \lambda y [POSS(j,y,e)]$
 b. $[NP car]$ $\implies \lambda y [car'(y,e)]$
 $\implies \lambda y \exists e [car'(y,e)]$ "EC"
 c. $[PP car to John]$ $\implies \lambda x [\lambda y [\exists e [car'(y,e)]](x) \ \& \ \lambda y [POSS(j,y,e)](x)]$
 $\implies \lambda x [\exists e [car'(x,e)] \ \& \ POSS(j,x,e)]$
 $\implies \lambda x \exists e' [\exists e [car'(x,e)] \ \& \ POSS(j,x,e')]$ "EC"
 d. $[D' THE car to John] / [D' John 's car]$
 $\implies \lambda Q \lambda P \exists x \forall y [[Q(y) \leftrightarrow y = x] \ \& \ P(x)](\lambda y [\lambda x \exists e' [\exists e [car'(x,e)] \ \& \ POSS(j,x,e')](y)])$
 $\implies \lambda Q \lambda P \exists x \forall y [[Q(y) \leftrightarrow y = x] \ \& \ P(x)](\lambda y [\exists e' [\exists e [car'(y,e)] \ \& \ POSS(j,y,e')]])$
 $\implies \lambda P \exists x \forall y [[\exists e' [\exists e [car'(y,e)] \ \& \ POSS(j,y,e')]]] \leftrightarrow y = x] \ \& \ P(x)]$

This is in fact close to the standard Russellian semantics assigned to the possessive description under generalized quantifier theory (Barwise and Cooper (1981). The only unfamiliar aspect may be the appeal to event variables in the analysis of the common noun ($\lambda y [car'(y,e)]$) and the locative P ($\lambda x \lambda y [POSS(x,y,e)]$).[11] These variables are introduced to allow interaction with temporal adverbs, as discussed below. Since the variables are introduced they must be bound. For concreteness we assume an

5.0 A(n) N of Possessives

Our analysis has further interesting consequences for another set of possessive structures of the general form: *a(n) of DP's*. Examples are (41a,b):

- (41) a. A car of John's
b. An enemy of Frank's

Note carefully now that although *former* doesn't appear to be construction with the possessive in a case like (42), the example still shows the same ambiguity as observed in *John's former car*. There is both a P-modifying reading and a CN-modifying reading:

- (42) a former car of John's
a. a car which was once possessed by John
b. an object which is possessed by John and which was once a car

The challenge raised by this case is straightforward: how do we predict the interpretations of (42) given its apparent structure?

The structure of examples like (41) and (42) is in fact far from clear, and has been a subject of debate in the literature. One fairly natural idea under the Freeze analysis is to try to assimilate these cases to existential constructions. There a couple of potential attractions in such a move. For one thing, both constructions exhibit definiteness effects:

- (43) a. a car of John's
b. *the car of John's
- (44) a. There is a car in the parking lot.
b. *There is the car in the parking lot.

Furthermore, both constructions display the same theme-location word order. Suppose then that (42) derives from a locative structure containing an indefinite determiner and the preposition *of* (45a), and where in fact no surface raising into subject position occurs, counterpart to existentials. Instead we might assume that some form of DP pleonastic is inserted (\emptyset) (45b), or else that the subject position is simply left empty:[12]

- (45) a. [DP a [PP [NP car] [P' of John's]]]
b. [DP \emptyset a [PP [NP car] [P' of John's]]]

Under this structure, we can explain the ambiguity of *a former car of John's* by attachment as before. When *former* is attached to PP (46a), it modifies the possession relation. On the other hand, when *former* is attached to NP (46b), it modifies the noun itself.

- (46) a. [DP a former [PP [NP car] [P' of John's]]] (P-modifying)
 b. [DP Ø a [PP [NP former car] [P' of John's]]] (CN-modifying)

Although we do not have a developed analysis of these cases at present and there are some important loose ends that must be left dangling at this point. For example, if we adopt the view proposed then it seems plain that 's cannot be understood simply as the spell-out of *THE + TO*. This is so simply because 's is already present on *John's*. Thus we are driven toward the more conventional picture of 's as genitive case-marking, plausibly governed by *of*. [13] Furthermore, there are questions regarding the case-marking of the subject of PP, and the source of the indefiniteness effect observed in (43b). In the usual way, we must postpone these questions for future research.

Notes

1. This example also has a less-favored reading where Mary is asserted to be a friend who is aged, as in John is a young friend but Mary is an old friend.

2. Although we will be concentrating here on temporal modifiers, the CN-modifying/P-modifying distinction is also observed with intensional adjectives like *alleged*, *purported* and *putative*, as pointed out to us by Chris Barker. Thus consider:

- (i) a. John's alleged child
 b. My alleged forgeries

On the most natural reading of (ia), the allegation is not that the individual in question is a child (the CN-modifying reading), but rather that the child in question is John's (the P-modifying reading). In other words, what's alleged is the possession relation. Similarly, (ib) seems to us to denote either some objects that are alleged to be forgeries (the CN-modifying reading), or some forgeries that are alleged to be mine (the P-modifying reading).

3. It might be objected that P-modifying readings are not in fact dependent on the presence of a possessive nominal in virtue of examples like (i)

- (i) [A former student] is in your office.

This nominal can be used to refer to someone who was a student and is a student no longer. But it can also be used in contexts where the individual is a currently student and where *formerly* appears to modify a possession relation. In this case the example is roughly synonymous with *a former student of yours is in your office*. We believe this reading is an artifact of the presence of the relational noun, which (in effect) licenses an implicit possessive phrase "of X's". We discuss constructions of this kind in section X below. In the meantime simply note that with a nonrelational noun (like *house* in (3b) and (5b)) a P-modifying reading is completely absent.

4. See also den Dikken 1996 and Kayne 1993 among others for variants of this

analysis.

5. See Barker (1995) for a particularly careful discussion of the semantics of possessive descriptions. Barker does not adopt the classical Russellian analysis that we are adopting here largely on grounds of its familiarity. But we believe the proposals made here could be imported into Barker's semantics without significant changes.

6. It is interesting to note that in the semantical analysis of type-shifting operations presented in Partee (1987), *BE* and *THE* are closely related notions. In fact, the one represents formal inverse of the other. *BE* converts a quantifier-type expression to a predicate-type expression, whereas *THE* does the opposite. If the analysis presented here is correct, it suggests that some version of Partee's point must be correct as well: that the copula and the definite determiner represent linked concepts.

7. Barker cites the studies of Howe (1976) and Slobin (1985) in this connection.

8. These remarks leave open the case in Hungarian where the possessor is marked nominative and the definite determiner is present.

- (i) a Mari kalap-ja-d
the Mari(-NOM) hat-POSS-PL(-3SG)
Mari's hat'

Interestingly, in addition to the English and Finnish paradigms, Freeze (1992) identifies a third possibility with sentential possessives. This the case where the bare location phrase moves to subject position, and where the P reanalyzes with the copula, but spells out as *be+P*. Freeze suggests that Portuguese shows both of these possibilities: both have and the possibility of spelling out *be+P* explicitly:

- (ii) a. O menino tem fome (Freeze 1992); (76a)
the child has hunger
'the child is hungry'
b. O menino esta com fome (Freeze 1992); (76a)
the child is with hunger
'the child is hungry'

A natural possibility that we will not explore here is that the alternation in Hungarian possessive nominals with a nominal subject is parallel to what we find in (ii). Thus *a + TO* can spell out either as \emptyset (the equivalent of *have*), or explicitly as the sequence *a + TO*. Assuming *TO* to be abstract, the result is phonologically identical to *a* itself. I. Tóth points out to me that Hungarian does not in fact exhibit an independent dative preposition/postposition, but rather marks indirect objects with dative case. One view of this is that the Hungarian dative P is abstract (*TO*).

9. We assume that POSS is equivalent to the general locative "P" relation posited by Barker (1995).

10. The semantics proposed here is similar in important respects to the analysis

advanced independently in Burton (1997). Burton gives no syntax for possessive nominals, nor does he note a difference of attachment site for nominals modifying the possession relation versus NP itself. However his account does parallel the idea followed here of (a) identifying a separate possession relation to be modified and of attributing a hidden parameter to both NP and the possessive relation. For Burton this is a time coordinate. We think a time coordinate is much more likely to be correct.

11. Larson (1983, 1995, 1998) and Larson and Segal (1995) introduces situation variables in nominals to allow for the temporal modification of common nouns. See also Higginbotham (1985) for a similar idea.

12. Notice that we do not claim the *of*-phrase to be a complement of N on this structure. Rather it forms the predicate in the equivalent of a locative small clause.

13. For example, in the framework of Chomsky (1995), a natural idea is that John's raises to the Spec of PP at LF, creating a multiple Spec construction and having its case checked by *of*:

(i) [PP John's [PP [NP car] [P' of t]]]
|_____|

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