Cases markedness and Case domains within Nominalizations

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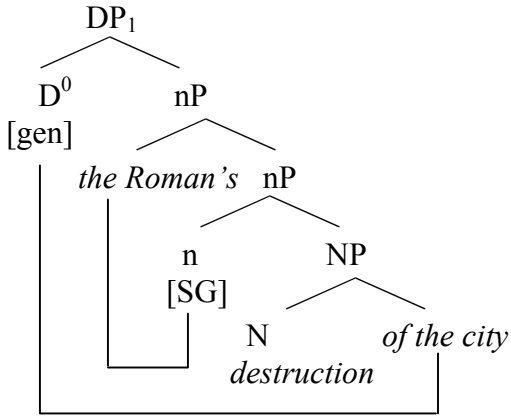
It is well known that nominalizations, whether syntactically or lexically derived, have both verbal and nominal properties. Research into the structure and interpretation of these complex nouns has led to the introduction of a number of functional projections (FPs) within the nominal domain. Some of these functional elements are specific to nominals, while others are found also at the clause level. The former types have included D (Abney 1987), Number (Ritter 1991), Word Marker (Bernstein 1993), among others. The latter include IP (Abney 1987), Voice (Kratzer 1994), Aspect (van Hout and Roeper 1993). Most of these innovations are motivated by semantic and modification properties of nominalizations. But how is the case patterns on arguments within nominalizations manifest, and to what extent is it similar to the clause?

Using the OT case framework of Woolford (2001, 2003), I will show that case marking patterns on arguments within event denoting nominals (ENs) can be understood when the competing constraints on case markedness, case domains, and case faithfulness are taken into account. In nominals, genitive is the only structural case. It is unmarked relative to other cases found in nominals. Inherent cases will appear in the EN though, depending on how faithfulness to inherent case is ranked with respect to markedness constraints.

On the representational side, I will confirm from Russian evidence that genitive is licensed high in the complex DP, perhaps by D^0 itself. Inherent cases, such as instrumental and by-phrases, will be marked by light n^0 heads, analogous to v^0. English has two cases that appear in the EN both regarded as genitives: the *of DP* locution (*of John*) and the Saxon genitive (*John's*). I will show that only the *of*-case is structural, while the Saxon genitive (SG) is inherent. English will then fall in line with Russian, having a structural genitive in D^0 and an inherent case located on a functional head, n^0. The structure is given in (1)

(1)



Variation within English and Russian, and between the two, will follow from the ranking of Woolford's (2001) case domain constraints, which specify that a checking domain contain only one DP (2) and only one structural case(3):

(2) 1-1 CHECKING DOMAIN: CASE (Woolford 2003)
The case checking domain of a head may contain only one DP

In the schema in (1), (2) is violated on the assumption that DP_1 is the checking domain for genitive. (1) contains two DPs in its domain. What isn't violated is (3), since the DP subject *The Roman's* is inherently marked.

(3) 1-1 DOMAIN: STRUCTURAL CASE: (Woolford 2003)
The case checking domain of a head with a structural case feature may contain only one structurally cased DP.

Two more constraints will be required to account for the patterns in Russian and English. The first is a faithfulness constraint to inherent case (or FAITH-LEX (Woolford 2001)).

(4) FAITH: INHERENT
A DP marked with inherent case α in the input (merge position) must be marked by α in the output (surface structure)

We will see that (4) is ranked and violable, under compulsion of case markedness (Prince and Smolensky 1993). I will assume the markedness constraint sub-hierarchy in (5):

(5) *instrumental > *genitive (> *accusative > *nominative)

The parenthesized portion of this hierarchy includes cases that are not always licensed to begin with, since the associated licensing heads are not present in lexical nominalizations like *destruction* (i.e. v^0[acc] nor T^0[nom]). So in (1), only the markedness of *instr > *genitive is operative. It will be shown in Russian that the unmarked case will always be present in the nominal, but that the surface structure is faithful to inherent cases (in this case, instrumental) as long as genitive can be assigned to some argument in the DP. This fact will be captured by ranking faithfulness to inherent case over the need to have 1-1 checking domain for the genitive. English will be the opposite with respect to faith and markedness: inherent case will be preserved even if a less marked case is available.

But an unmarked pattern still emerges in English. We will see that in the case of English non-lexically but syntactically derived nominalizations (6), where an accusative licenser is present, the fuller markedness hierarchy is active.

(6) I heard about [$_{DP1}$ Michael('s) running [the marathon]$_{acc}$ quickly]

In (6), a [gen] on the DP1 does not appear because a less marked case is available since (6) contains a VP (as shown by possible adverbial modification (Fu et al)).

I start with a brief analysis of the case patterns in Russian EN. The case domain constraint is violated in Russian in order to remain faithful to inherent cases. But Russian will violate faithfulness to inherent case and resort to the unmarked case whenever it can. Next I turn to English and argue that faithfulness to inherent case (here reanalyzed as the

Saxon genitive) is ranked over markedness constraints that favour the genitive (here reanalyzed as *of DP*).

2. Russian

Genitive appears on various types of arguments within Russian event nominals. The genitive will always appear on at least one of the DPs. When only one argument is present, it appears with genitive, regardless of its thematic status (1) and (2). The event nominal appears with the suffix *–ni-*, glossed as EN; it too inflects according to the case the matrix sentence assigns. (Russian data from Koptkevskaja-Tamm 1993)

(7) *External argument only; genitive*
[Zanoeva-ni-e Aleksandr-a]
conquer-EN-NOM Alexander-GEN
'Alexander's conquest'

(8) *Intransitive subject; genitive*
[razmysl-eniki-e mal'≠ik-a]
medidate-EN-PL.NOM boy-GEN
'the boy's meditation'

This tells us that genitive is the structural case associated with DPs in Russian. It is structural for all the standard reasons: it is found on arguments with varied semantic roles, and it is licensed by a specific head (assume D^0). Moreover, the checking domain is the entire DP, not just some subpart, as we will see below.

When two arguments are present in the nominalization, the external argument appears in the instrumental, the internal argument in the genitive. (The word order between the two is variable (KT 1993))[1]:

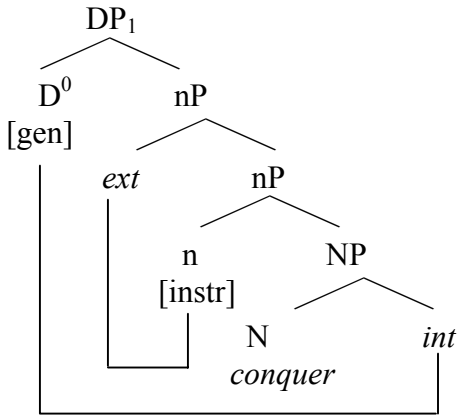
(9) [[V_{tr}-AN] obj-GEN subj-INSTR]
subj-INSTR obj-GEN

[zavoeva-nij-e Egipt-a (Aleksandr-om)]
conquer-EN-NOM Egypt-GEN Alexander-INSTR
'The conquest of Egypt (by Alexander)

[1] The event nominal appears before its arguments; perhaps N-to-D movement accounts for this order.

Assume a representation in (10) for the transitive EN in (9):

(10)



(10) has an imperfect case checking domain because two arguments appear within the domain of [gen], the internal and the external argument. But this is better than the alternative candidate, which would have two [gen] arguments within the same domain. So candidate (11a), while it has an imperfect case domain, is better than candidate (11b) which has an imperfect structural case domain. 1-1 structural case is therefore higher ranked than 1-1:case. This prevents multiple case assignment of [gen].[2] The case domain of genitive is underlined. Also, *INSTR is ranked below 1-1:strucutral, tolerating the marked case in order to achieve more optimal domains.

(11) Faith > Domains

input: [EN DP_{instr} DP]	1-1:STRUCTURAL	*INSTR	1-1:CASE
☞a. [EN DP_{instr} DP_{gen}]		*	*
b. [EN DP_{gen} DP_{gen}]	*!		

But faith can be violated when only one case is needed in the EN, as shown by (7), where an external argument, normally inherently marked, surfaces in the genitive. (Case domains are irrelevant for (7) and (8) since only one DP is present). The violation of faith is compelled by case markedness:

[2] Right now I'm looking into cases where 1-1:structural case might be violated. Romance allows both arguments in *di/di* phrases. Assuming the preposition/particle *d'* is the structural case on both arguments.

(12)

input: [EN DP_{instr}]	*INSTR	FAITH:INHERENT
a. [EN $DP_{instr\_}$]	*!	
☞ b. [EN $DP_{gen\_}$]		*

Russian shows the emergence of the unmarked case when only one case needs to be assigned. That is, when one case appear, the markedness constraint on instrumental is activated. Otherwise, the marked case is tolerated so that a case domain does not contain two structural genitives (11b). We will see next that English has the opposite approach.

3. English

I will now show that English can be seen in a similar light—with a few rankings permuted—as long as we question some standard assumptions about the locus of the Saxon genitive (SG) and *of* in English. The option I want to pursue is that *of* is the unmarked structural case in English DPs, like nominative in the clause and genitive in the Russian EN. The head that licenses *ofDP* is D^0[gen]. The morpheme *of* is not a preposition inserted to assign case (cf. Chomsky 1986). Rather it is a spell-out of case on a DP. It is D^0[gen] that licenses *of-case* on a DP in its domain. For reasons unknown still, *of* signals this case relation.

In contrast, the Saxon genitive is here proposed as an inherent case that is assigned to external arguments, in a similar way that the instrumental works in Russian and the by-phrase works in English. But in English, faith to inherent case outranks markedness considerations (FAITH:INHERENT >> *SAXON GENTIVE).

3.0 The English nominalizations: lexical, syntactic, etc.

English has an array of deverbal nouns, with varying degrees of verbal characteristics—running from lexically derived nouns to syntactically derived clauses embedded under a nominalizing head (Abney 1987; Kratzer 1993; Alexiadou 1999; Fu et al 2001; Harley and Noyer 1997).

(13) a. The/John's destruction of the city (by John) *Lexical nominalization*
b. The/John's destroying of the city *Nominal gerund*
c. John's/*the destroying the city *Verbal gerund*
d. saw [John destroying the city] *Verbal gerund*

There are various tests to distinguish this array, and ways to cut the pie according to the amount and kind of functional material within the nominalization (c, d involve VPs, or even vPs allowing for accusative objects; a,d are usually modified by adjectives whereas c,d by adverbs). There are also semantic distinctions involve result vs. process interpretations (Lees 1963; Grimshaw 1990). Putting these distinctions aside for now, let's look at (13a,d), nominalizations that have mostly noun characteristics in the expression of their arguments .

3.2 Restrictions on *of*

The external argument of nominalized verbs can appear either in the Saxon genitive ('s) or a by-phrase (14) and (15), but not in *of* phrases (16).

(14) Transitive subjects: Saxon genitive
- a. Jill's discussion of the problem
- b. The Roman's capture of the city

(15) Transitive subjects: by phrase
- a. The discussion of the problem by Jill
- b. The capture of the city by the Romans

(16) Transitive subjects
- a. *the discussion of $Jill_{subj}$ of the problem
  - ~= Jill's discussion of the problem
- b. *the capture of the $Romans_{subj}$ of the Celts
  - ~= the Roman's capture of the Celts

(17) Unergative[3] subjects (with a manner reading these might be ok)
- a. ?*the running of him
- b. ?*the talking of him
- c. ?*the dancing of Jill
- d. ?*speaking of the woman
- e. ?*the sitting of Mary

Internal arguments (both unaccusative subjects and themes) can be expressed with *of*. (These arguments can also appear with the Saxon genitive—a point I will return to later)

(18) Unaccusative subjects

a. the arrival of her	but also	Mary's arrival
b. the death of Mary		Mary's death
c. the appearance of Jill		Jill's appearance

(19) Transitive objects

a. The destruction of Rome	but also	Rome's destruction
b. The capture of Rome		Rome's capture

The standard interpretation of these data is that *of* can only mark internal arguments of the predicate. There are two ways to implement this idea. One treats *of* simply as a dummy case marker (the standard treatment, going back at least to Chomsky 1986, and as recently as Harley and Noyer 1997). In this approach, *of* is inserted to "rescue" a caseless DP that cannot receive case from an NP. The other approach is to treat *of* as the nominal

[3] I don't know of any unergative lexical nominalizations with -ment, -tion, etc. This is a fact that must be captured as well, but not necessarily by case restrictions.

counterpart to accusative, licensed low in the complex DP (Johnson MS; but cf Kayne who puts the *of* outside the complex DP altogether 2001). I will not assume either of these interpretations, for the following reasons.

If *of* were some sort of last-resort case, we might expect it could rescue any type of case-less DP, marking subjects and objects. As (16) shows this isn't always possible: some external arguments cannot appear with *of*. If *of* were just a dummy case marker we would predict that any otherwise case-less DP could show up with *of*.

The second approach avoids this problem by structurally constraining *of* to marking only the complement (adjunct?) of the N/NP. By locality conditions, this allows for only internal arguments to receive *of*-case, but not external arguments. But sometimes external arguments ***can*** receive *of*-case, as witnessed by the famous ambiguity in gerunds:

(20) a. [The shooting of the hunters] was heard in the distance (hunters = agent)
b [The playing of children] could be heard in the distance

While not all external arguments can behave this way (cf. (16 and 17))), (20) suggests the view that *of* is the structural case in nominals, since it appears here.

If *of* is the unmarked structural case in English DPs, like nominative in the clause and genitive in the Russian EN, it will appear on an argument within its domain (the whole DP). Just as in Russian, the cases domain can be impure, tolerating an inherent case (the Saxon genitive) in the domain, appearing as though an intervener.

(21a) [The Roman's]$_{SG}$ conquest [of the city]$_{gen}$

(21b) English Faith > Domains

input: [$\underline{DP_{sg}}$ EN DP]	1-1:STRUCTURAL	FAITH:INHERENT	1-1:CASE
☞a. [$\underline{DP_{sg}}$ EN $\underline{DP_{of}}$]			*
b. [$\underline{DP_{of}}$ EN $\underline{DP_{SG}}$]		*!	
c. [$\underline{DP_{of}}$ EN $\underline{DP_{of}}$]	*!		

But unlike Russian, when only the external argument is present English is faithful to its inherent case. This is what derives (19) where the subject is marked by SG.

(22) a. [The Roman's]$_{SG}$ conquest.

(22b) English Faith > Markedness

input: [$\underline{DP_{sg}}$ EN $\underline{DP_{of}}$]	FAITH:INHERENT	*SAXON GENITIVE
☞a. [$\underline{DP_{sg}}$ EN]		*
b. [$\underline{DP_{of}}$ EN]	*!	

Contrast English with a more closely related language, German, where the cognate to the Saxon genitive functions as the unmarked case in the nominal. As we can see in (20a) objects occur with genitive but subjects must appear in an by-phrase (20b):[4]

(23) German: GEN as unmarked case [F. Schwarz; T Vignjevic, p.c.]

a. ?*Des Mannes Zerstoerung der Stadt
the-GEN man's destruction the-GEN city
The man's destruction of the city

b. Zerstoerung der Stadt durch den Mann
destroy-ing the-GEN city through/by the-ACC man
The destruction of the city by the man.

German genitive is in-line with the Russian genitive and the English *of* since it appears on internal arguments not external ones. We have to be careful not to equate the English Saxon genitive with its cognates in German: the German genitive appears to be a structural case. The English genitive must have taken a historically different path, as we can see from the fact that earlier in English the genitive modified only the head of a complex DP. Now it can attach to the whole phrase:

(24) Modern English
[The queen of England]'s hat

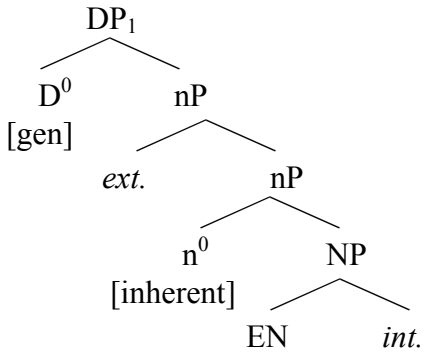
Old English
[[The queen]'s of England] hat

Suffice it to say, the Saxon genitive in English has taken on new characteristics. Whatever the precise nature of this difference, it is captured here by treating it as an inherent case.

Turning to the external argument in German, just like Russian, it must be marked by some sort of oblique, here a PP. Recall that in English the external argument could be expressed with a by-phrase. Thus the English Saxon genitive and the English by-phrase are analogous to the Russian instrumental and the German *durch*-phrase. Each of these obliques is generated in the specifier of a light n^0 head—directly paralleling v^0 in the clause:

[4] If the external argument is a proper name, the genitive improves. I don't know what to make of this yet, except that even in English highly referential arguments also behave differently, such as the so-called "ethnic" subjects in nominalizations: The American invasion of Iraq (cf. Grimshaw 1990).

(25) Case domains and licensers in German, Russian and English



(26) Case realization:

	D^0[gen]	n^0
Russian	genitive	instrumental
English	*of*	*'s*, by-phrase (right branching)
German	genitive	*durch*

3. More about English Saxon Genitive

So far I have said little about the various complications involving the SG in English, such as the way it can vary between as possessor and external argument meaning (Kratzer 1996), or how certain internal arguments can appear in the SG (cf. (15 and 16) above).

3.1 Variable interpretation of 's and the role of n^0

Let's look at the first complication: the variable interpretation of SG in English. Kratzer (1996) points out that the SG marked DP of an EN can be interpreted as an agent, but that this reading is not obligatory. Thus in (27),

(27) Maria's reading of *Pride and Prejudice* received better reviews than Anna's. (Kratzer 1996: 128)

Maria and Anna can certainly be interpreted as agents of the reading, but they do not have to be. Kratzer sets up a scenario in which there are several public readings of the novel (say on the anniversary of its publication), readings at which Maria and Anna are only spectators and not the actual readers. For Kratzer these genitive subjects are not agents, but "express a general notion of relatedness of which the agent argument is a special case" (128). Whether we wish to collapse the external argument role and the role bearing this "general notion of relatedness" into one head, n^0, is perhaps a separate question. It is sufficient to note that Kratzer's observations fit well with the view that the SG expresses an inherent case, assigned by a light head that can semantically select for arguments.

3.2 ’s is not a structural case nor is it a target for A-movement

A similar story will need to be told about the passive nominal, where the internal argument appears in the SG, repeated below:

(18) Unaccusative subjects
- a. Mary’s arrival
- b. Mary’s death
- c. Jill’s appearance

(19) Transitive objects
- a. Rome’s destruction
- b. Rome’s capture

These data make it appear as though the Saxon genitive is actually the structural case in the EN, since internal arguments appear to move to position where the SG is licensed. On analogy to the clause, the ENs in (16) have often been referred to as ‘passive nominal.’ It has often been noted that derived nominals and nominal gerunds exhibit characteristics of passives and unaccusatives (Chomsky 1986; Alexiadou 2001, to name a few). In (19) for instance, it *appears* as if accusative case is unavailable and the agent role is absorbed. Under a standard account where DPs move to Spec,DP to check ’s, the parallels between clausal and nominal passives becomes clear.

My proposal, however, does not treat these as parallel, since the Saxon genitive is not a case on D, nor is it a structural case that arguments will move to check. In fact, Grimshaw (1990) and Alexiadou (2001) present some evidence in favor my view that ’s is not a structural case to which DPs move in order to be valued. (Unlike my proposal, Grimshaw and Alexiadou do not argue that the SG is in an n^0.)

Both authors present two pieces of evidence against a structural view of SG. The first concerns the possibility of passivization in other types of ENs. If we assume that nominal gerunds, like lexical nominalizations, do not assign accusative case, then we would predict that the internal argument of the gerund could raise to spec,D if ’s were available there as a case licenser. However, this does not happen in nominal gerunds (26).

(28) *Passive in gerunds* (Grimshaw’s examples p.83)
- a. *The tree$_i$’s felling t_i
- b. The felling of the tree
- c. *The city$_i$’s destroying t_i
- d. The destroying of the city

A straightforward solution for why this does not happen is to propose that movement is banned because Spec,D cannot host raise arguments (Grimshaw 1990, Alexiadou 2001).

Further support for this claim is the fact that the Saxon genitive cannot host expletives. (The clausal/verbal gerunds do however, suggesting that they contain TP).

(29) (from Pires 2001)

- a. *there’s appearance to be sick... (derived nominal)

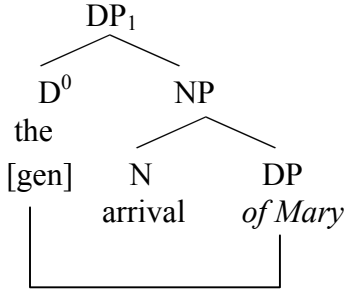
b. *there's frequent appearing to be sick... (Nominal gerund)
c. *You can count on there's being a lot of trouble tonight (Poss-ing)
d. You can count on there being a lot of trouble tonight (Clausal gerund)

The simple solution is that the Saxon Genitive marks a theta-position, a place where expletives are banned (Grimshaw 1990, Alexiadou 2001, Pires 2001). The conclusion from the raising facts and *there*-insertion data is that (i) [Spec,'s] is a thematic position and not an EPP subject position; and, as a consequence, (ii) [Spec,'s] is not a target for A-movement. As Alexiadou puts it: "arguments of nouns do not exhibit obligatory movement to a designated functional position in order to satisfy the requirements of this projection the way subjects move to Spec,TP…" (Alexiadou 61). This conclusion fits well with the current proposal, under which the SG is an inherent case: as a consequence it will theta-mark the argument it hosts and will ban movement to its specifier position.

3.2.1 Apparent raising of internal arguments to 's

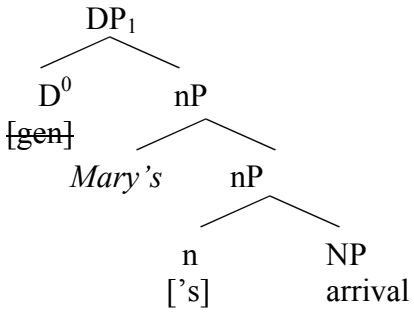
In order to maintain my proposal that *of* is the only structural case in the EN I will propose two structures for the alternation in (18) and (19). The constructions on the left involve our familiar structure in which a n^0 is not projected (30a). In this case, *of* is free to mark arguments as expect.

(30) ENs with only internal arguments: the *of* case structure

(1)


The so-called passive nominals arise from a different structure, where the internal argument is licensed by n^0 as well. This n^0 will be the sort that merely defines a vague relation between the event/state expressed by the EN and its argument (Kratzer 1996) (30b).

(30b) ENs with only internal arguments: the SG structure (passive nominal)

(1)


The argument structure properties of the unaccusatives predicate would have to be examined to fully justify this claim, but given that n^0 can have a variable interpretation we might expect internal arguments to be licensed here too.

More needs to be said above the role of n^0 and the Saxon genitive. Maybe something could be said about the nature of n^0 semantically—like a light verb it can introduce an external argument, but it can also express other relations such as possession or relatedness. In fact, possession itself can be seen as a relation expressed by a light verb (HAVE/BE). This would just be one instantiation of n^0. (cf. Harley 1995 for similar proposals in the clause).

4. Verbal gerunds, and syntactically derived nominalizations: when [acc] is present

As I mentioned in the introduction, the full case markedness hierarchy comes into play when accusative case licensers are present in the EN. In this case, even though *of* is still available, because we're still in a DP, markedness considerations prevail, giving accusative objects in syntactically derived (verbal) gerunds:

(32)

a. [Michael's running [the marathon]$_{acc}$]$_{DP}$ (surprised me).
b. [Bert's mixing [the drinks]$_{acc}$]$_{DP}$ (cased alarm).
c. [Betty's choosing [UMass over Princeton]$_{acc}$]$_{DP}$ (proved how committed she was to linguistics).

The subject can also vary between SG and accusative depending on the larger sentential context. When complement to a perception verb, the subject of the clausal gerund appears with accusative, resembling an ECM construction:

(33)

a. I saw Michael/him running the marathon briskly.
B. I disapproved of Bert/him mixing the drinks.
c. I admire Betty/her choosing UMass over Princeton.

So when accusative is present, both the SG and *of* can be over-ridden by markedness. Here we see a difference between the lexical nominalization and the nominal gerund on the one hand, and the clausal/verbal gerund on the other. When accusative is at all available, both *of* and SG disappear. Thus even though the SG was mapped faithfully to the output when the alternative was *of*, it is unfaithful when it can receive the even less marked accusative. This follows from ranking *Genitive > Faith(Inherent) > Inherent.

Conclusion

I have argued reversal in standard assumptions about case licensing within the English DP. Taking into account Russian and German, we saw that English *of* is the structural case in the nominalization. *of* is the true genitive in English, licensed by a high functional projection to any argument within the complex DP domain. In contrast, the Saxon genitive is theta-governed, assigned by a light head that introduces external arguments, which includes possessors and agents.

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