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RESEARCH ARTICLE

The argument structure of *have* and other transitive verbs

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Abstract

I argue that semi-lexical *have* is a transitive verb in the sense that it has the same selectional properties as lexical transitives but is lexically underspecified. I propose a system of argument linking that assigns verbs a set of 'D-selectors' (selectors for determiner phrases) that are distinguished by a 'thematic feature' ±θ; selectors are licensed by linking rules that associate them with a position in a conceptual structure on the basis of their ±θ-specification. I argue that *have* is underspecified both syntactically (its initial D-selector can be +θ or –θ) and semantically (it lacks a lexical conceptual structure, which must thus be provided in syntax). I show that this enables the major interpretations of *have* (causative, affected experiencer, possessive, locative, affectee) to be derived straightforwardly. A particular contribution of the paper is its description and analysis of 'affectee *have*', which, as I show, poses particular problems for recent analyses such as Kim (2012) and Myler (2016).

1. Introduction

Verbal formatives such as *have* and *get* have been described as 'semi-lexical', having a status intermediate between purely functional and purely lexical categories (e.g. van Riemsdijk 1998; Emonds 2001; Alexiadou 2012). On the one hand, they behave like lexical verbs in most varieties of English in that they do not pass tests for auxiliary status (e.g. those of Huddleston & Pullum 2002: 92–102). On the other, they lack the semantic specificity of lexical verbs, being compatible with a diverse range of interpretations, as illustrated for *have* below:

(1) (a) Barry has a ball. (Possessor)
(b) Carla had Donna wash her car. (Agent or Affected Experiencer)
(c) The cabinet has a clock on it. (Location)
(d) The car had a rock thrown at it. (Affectee)

There are limits to this freedom, however, as shown by examples such as the following, where the oddness indicated by '#' seems to be due to a requirement to construe the subject of *have* as an affected experiencer:

(2) (a) #The list had Larry add a lot of items to it.
(b) #The waves had a boat approach them.
(c) #The painting had Peter see it.

An adequate analysis of *have* must therefore be able not only to rule in examples such as (1) but also to rule out those such as (2). The existing literature contains a variety of approaches to the syntax and semantics of *have*, but a common theme in many of them is 'underspecification'; that is, they claim that *have* differs from lexical verbs in lacking lexical specifications of meaning and/or syntactic properties, allowing it to be compatible with a wide range of uses. On the other hand, *have* cannot be too underspecified, on pain of permitting examples such as (2). The primary aim of this article is to propose a system of argument linking – and an analysis of *have* within it – that licenses examples such as (1) in the same way that it licenses argument structures for lexical verbs (e.g. *possess*, *break*, *contain*, and *gain*, respectively for (1a–d)) and correspondingly rules out examples such as (2) on the same basis that lexical transitives do not allow 'pure' patient, goal, or theme subjects. A particular contribution of the paper is a description and analysis of 'affectee' examples such as (1d), which differ in important ways from 'affected experiencer' examples such as (1b).

Section 2 presents an analysis of verbal argument linking, inspired by various previous works (e.g. Jackendoff 1990; Neeleman & Van de Koot 2002a,b; Reinhart 2002, 2016), which captures a number of generalisations about the repertoire of verbs in English. Section 3 applies this analysis to *have*, proposing that *have* is underspecified both syntactically and semantically, and shows that this proposal can account for the major interpretations of *have* in (1). Section 4 compares the proposal with two recent underspecification proposals by Kim (2012) and Myler (2016), showing that they face particular problems with ruling in 'affectee' examples such as (1d) while ruling out examples such as (2). Section 5 is the conclusion.

2. Argument structure in syntax and semantics

2.1. Syntax: D-selectors and s-sets

In this paper, I adopt the basic approach of Neeleman & Van de Koot (2002a), which advances a system of syntactic representation that accounts for five shared properties of grammatical dependencies: c-command by the antecedent, obligatoriness of the antecedent, uniqueness of the antecedent, non-uniqueness of dependents, and locality (cf. Koster 1987). In particular, I adopt their view that verb-argument dependencies are established by a 'selectional function' (a lexical property of the verb) that is copied upwards node by node until it comes to immediately dominate an appropriate argument. Accordingly, a sentence with a transitive verb (i.e. one taking two determiner phrase [DP] arguments) can be analyzed as in (3b), where the verbal node contains an ordered set (henceforth 's-set') of selectional functions (henceforth 'D-selectors'):

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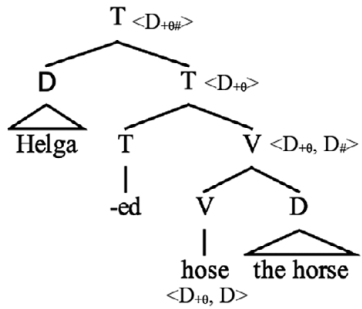
(3) (a) Helga hosed the horse.

(b)



The analysis in (3b) departs from that of Neeleman & Van de Koot in two main ways. First, D-selectors combine the functions of thematic selection and c-selection (for which they posit separate, but linked, functions).[1] Second, the ordering of D-selectors within a single node (for which they posit a separate 'ordering tier') is determined on the basis of a binary-valued 'theta-feature' (for related ideas and discussion, see Reinhart 2002, 2016; Marelj 2019; and references cited in Levin & Rappaport Hovav 2005: 44–47). The binary nature of this feature can be motivated by a number of observations. First, there is a distinction between transitive verbs that allow passives and those that do not, which is usually assumed to correspond to a distinction between verbs that take an external argument (unergatives) and those that do not (unaccusatives) (e.g. Perlmutter & Postal 1984; Pesetsky 1995). Second, within the unergative group, there is a distinction between verbs that allow *by*-phrases in passives and nominalisations and those that do not. This is illustrated for passives of transitive verbs in (4), and for nominalisations of intransitive verbs in (5):[2]

(4) (a) The catastrophe was caused by the chaos.
(b) The barrel was broken by Bill.
(c) The rambutans were received by Rhea.
(d) The lozenges were liked by Laura.
(e) The olives are owned by Olaf.
(f) Psi is preceded by pi.
(g) The cakes are contained in/*by the container.
(h) India is included in/*by the Indian subcontinent.
(i) *Rhea was reached by the rambutans.
(j) *Upholstering was undergone by the underpass.
(k) ?*Corin is being concerned by the cleaning rota.

(5) (a) the dancing by/of Derek
(b) the bleeding of/*by Barry
(c) the arrival of/*by the apples

[1] I also assume that D-selectors subsume the role of structural case assignment/checking in Minimalism and related frameworks (see the treatment of raising to object in Section 3), though this would require more space to defend in detail.

[2] As a reviewer notes, *contain* as in (4g) allows a *by*-phrase if the DP it introduces is an agent/causer; in this case I assume *contain* has the s-set <D+θ, D>.

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Table 1 Categorisation of D-selectors in terms of ±θ

±θ spec. of active subject	Passive possible?	*By*-phrase possible?	Auxiliary
+θ	Y	Y	*have*-type
–θ	Y	N	*have*-type
Not specified for ±θ	N	N	*be*-type

If we take the type of auxiliary used in perfect/past constructions in languages such as Dutch as indirect evidence for unergative vs. unaccusative status in English, the transitive verbs that allow passive in (4a–h) can be identified as unergative, as their Dutch equivalents use *hebben* 'to have' in perfects, while those in (4i, j) can be identified as unaccusative because some Dutch verbs with similar meanings use *zijn* 'to be' (see, e.g. Zaenen 1993; Lieber & Baayen 1997; Hoekstra 1999).[3] The class of intransitives also shows a three-way distinction. Alongside clear unergatives such as (5a), which both permit *by*-phrases and use *hebben* in Dutch, and clear unaccusatives such as (5c), which disallow *by*-phrases and use *zijn* in Dutch, there is a third category, exemplified by (5b), that disallows *by*-phrases but uses *hebben* in Dutch (Zaenen 1993: 131). This category corresponds to what Levin & Rappaport Hovav (1995) call 'internally caused verbs' and Reinhart (2002, 2016) calls 'theme unergatives'.

Thus, there is grammatical justification for a three-way distinction, which can naturally be characterized in terms of a binary feature that may be present or absent on a given D-selector, as expressed in Table 1. Thus, an 'external argument' under the present proposal is simply a ±θ-marked D-selector that is initial in its s-set.

The postulation of a single binary-valued theta-feature allows for a natural characterisation of the range of permissible verbal argument structures in English. A first relevant observation is that the maximum number of DP arguments per verb in English (and many other languages) is three. This fact can be captured straightforwardly under the assumption that the members of an s-set must be distinct (e.g. Neeleman & Van de Koot 2002a: 542; Reinhart 2002: 264). Thus, alongside the proposed s-sets for intransitive and monotransitive verbs in (6) and (7), we have s-sets for ditransitives as in (8), which represent the maximum number of D-selectors for a single s-set:[4]

[3] In fact, the number of transitives that take *zijn* is relatively small, including verbs such as *naderen* 'to approach', *ontlopen* 'to escape' and *passeren* 'to pass' (Lieber & Baayen 1997: 841–842); other transitives with an 'unaccusative-like' meaning, such as *bereiken* 'to reach', take *hebben.* As it does not seem that there is a semantic basis for this split (e.g. Ackema 1999: 118–123), I must assume that *bereiken*-type verbs have the s-set <$D_{+\theta}$, D>, perhaps licensed by the TOP function (cf. fn. 17, fn. 28).

[4] A reviewer notes that there seems to be no language that morphologically realises thematic roles independently of case (Myler 2016: 46 and fn. 32). If D-selectors combine the functions of 'theta-roles' and 'structural case' (see fn. 1), however, this is not a problem for the present proposal. Rather, we expect that languages may have morphosyntactic marking of the three distinct D-selectors (as distinguished by ±θ). This seems broadly correct: languages may have applicative morphemes that represent specific types of locative-like relations, or a single applicative morpheme corresponding to the $D_{-\theta}$ class of interpretations; likewise, languages may have causative morphemes, or they may have more general morphemes that include experiencers, thus corresponding to the $D_{+\theta}$ class.

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(6) (a) dance <$D_{+\theta}$>
(b) bleed <$D_{-\theta}$>
(c) arrive <D>

(7) (a) cause, break, receive, like, own, occupy <$D_{+\theta}$, D>
(b) precede, help <$D_{+\theta}$, $D_{-\theta}$>
(c) contain, include, lack <$D_{-\theta}$, D>
(d) reach, undergo (inanimate subject) <D, $D_{-\theta}$>
(e) annoy, please <$D_{+\theta}$, D> or <$D_{-\theta}$, $D_{+\theta}$>
(f) escape, strike (animate object) <D, $D_{+\theta}$>

(8) (a) give, envy <$D_{+\theta}$, $D_{-\theta}$, D>
(b) give (inanimate subject) <$D_{-\theta}$, $D_{+\theta}$, D>
(c) take (time object) <D, $D_{+\theta}$, $D_{-\theta}$>

Table 1 only determines the θ-specification of the initial D-selector in an s-set, which is the most relevant for our purposes. As for the feature values associated with non-initial D-selectors, I assume that these can be determined in part by the distribution of *of*-prepositional phrases (PPs) in nominalisations. While *of* is thematically underspecified in that it can introduce agents, causers, experiencers, patients and inclusors, there are some cases in which *of*-PPs are unable to represent a particular argument:

(9) (a) the destruction of Dacia by/*of Darius <$D_{+\theta}$, $\underline{D}$>
(b) the sale of Steve (= 'Steve sold something to someone' or 'someone sold Steve to someone'; ≠ 'someone sold something to Steve') <$D_{+\theta}$, $\underline{D}_{-\theta}$, $\underline{D}$>
(c) the help of Helga (= 'Helga helped someone'; ≠ 'someone helped Helga') <$D_{(+\theta)}$, $D_{-\theta}$>
(d) the annoyance of Andrew (='something annoys Andrew'; ≠ 'Andrew annoys someone') <$D_{-\theta}$, $D_{(+\theta)}$>

I suggest that *of*-PPs target the most underspecified D-selector in an s-set. The effects of this are clearest in (9a, b), assuming that the s-set of the underlying verb is as shown: the *of*-PP is only compatible with the final, θ-unspecified D-selector (under an event reading of the nominal).[5] Examples such as (9c, d) – and (5a) above – can be handled if English has a rule of '+θ-impoverishment', which deletes the +θ specification of a D-selector (as indicated by parentheses in (9)), provided that this does not create a conflict with the distinctness requirement on D-selectors. Thus, by process of elimination, the non-initial D-selectors that cannot be targeted by *of* must be specified as –θ.[6]

[5] For example, the result nominal *the sale of Steve* does allow an agent reading of *Steve* (cf. *the frequent sale of Steve*, which does not allow this reading); this is presumably because result nominals lack the full s-sets of their corresponding verbs.

[6] Potential independent evidence for +θ-impoverishment comes from the phenomenon of 'variable behaviour' – verbs that have both unergative and unaccusative variants (e.g. Levin & Rappaport Hovav 1995: Chapter 5). As far as I can tell, all the English cases that Levin & Rappaport Hovav discuss involve verbs with a +θ subject, as expected if only +θ can be impoverished.

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2.2. Semantics: Conceptual structures and linking rules

2.2.1. The interpretation of ±θ

I propose that ±θ restricts the kind of argument positions to which a DP may be linked in a conceptual structure (CS) in the sense of Jackendoff (1990), as determined by the linking rules below:[7]

(10) (i) $<\ldots, D_{+\theta 1}, (D_2), \ldots> \Leftrightarrow$ [F (x_1, $y_{(2)}$)], where F is a CS function expressing an 'exclusive' relation between x and y

(ii) $<\ldots, D_{-\theta 1}, (D_2), \ldots> \Leftrightarrow$ [F (x_1, $y_{(2)}$)], where F is a CS function expressing an 'inclusive' relation between x and y

(iii) $<\ldots, D_1, \ldots> \Leftrightarrow$ [F (… x_1 …)]

Thus, the semantic content associated with ±θ is relational, in that this feature is always associated with a two-place function in CS. The terms 'exclusive' and 'inclusive' are intended to capture the intuition that certain relations conceive of two arguments as separate or independent of one another, while others conceive of two arguments as in a kind of 'inclusion' relation, either literally or metaphorically. The contrast is perhaps clearest between agentive verbs such as such as *kill*, which involve one individual (the agent) acting on another individual (the patient) external to it, and verbs such as *include*, which involve two individuals considered to form a 'whole' of which one is a part. Arguably, however, inclusion should be understood in a broader sense. For example, following Belvin (1996), I assume that the notion of 'inclusion' should be extended to take in 'proximal' relations, as in the case of verbs such as *contain.* Similarly, given the bifurcation between 'external' and 'internal' causation referred to above, it seems reasonable to think of internal causation as involving a kind of inclusion relation; hence the assignment of –θ to subjects of verbs such as *bleed*, where we might think of the relevant relation as that between the causal mechanism inside a person and the person themselves. Furthermore, the fact that certain uses of object experiencer verbs such as *concern* are incompatible with passives (as in (4k) above) suggests that, in such cases, the subject and object are in a kind of mental inclusion relation (cf. Manzini & Franco 2016). For example, in (4k), it is not the cleaning rota itself but a mental representation internal to Corin that is the causer of the emotion.

The conception of unergative subjects expressed in (10i, ii) can be contrasted with that of proposals making reference to notions such as 'cause' and 'mental state' (e.g. Reinhart 2002, 2016). The main problem for such proposals involves the linking properties of verbs such as *precede*, *follow*, *border* and *accompany*, which behave like unergatives (i.e. permit *by*-phrases and take *hebben* in Dutch) but whose initial argument cannot be characterised as a cause or a mental state holder (see e.g. Davis & Koenig 2000: 59). Under the present analysis, such verbs can be distinguished from *contain* and *include* in terms of the conditions in (10i, ii): while *contain* and *include* crucially involve the internal structure of the subject argument, *precede* and *follow* rather refer to the external relation that the subject entertains with the object.

[7] As a reviewer notes, this is a departure from the proposal of Jackendoff (1990), which proposes that thematic/semantic information is only present in CS. Presumably, if the present proposal were more in alignment with Jackendoff's views, it would make use of the 'grammatical function tier' of Culicover & Jackendoff (2006) in place of the s-sets proposed here. While a full comparison must await future work, I believe that the present proposal has advantages in terms of accounting for the restricted range of argument structures in English (as briefly discussed in Section 2.1).

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2.2.2. Force transmission and mental state relevance

Let us now consider the way in which a transitive s-set can be associated with a CS. Note that the rules in (10i, ii) may apply either to a single ±θ-marked D-selector or to such a selector immediately followed by another D-selector. In principle, then, an s-set <$D_{+\theta}$, D> may be linked to a CS either by the application of the rules in (10i, iii), or by the application of rule (10i) alone. Some evidence that the second, more 'economical' linking is correct can be provided by considering a number of restrictions that hold of transitive verbs. For example, consider the sentences in (11a, b) and one potential CS that could represent them in (11c), based on that proposed by Jackendoff (1990: 91–95):[8,9]

(11) (a) The ball broke the bookcase.
(b) The ball caused the breaking of the bookcase.
(c) [CAUSE (BALL, [BECOME [BROKEN (BOOKCASE)]])]

While (11c) seems roughly adequate as a representation of the meaning of (11b), it falls short as a representation of (11a) because transitive change-of-state verbs such as *break* generally require something like 'direct causation' (e.g. Fodor 1970 and much subsequent work). That is, in (11a) it is generally understood that the ball must have come into forceful contact with the bookcase, while (11b) could describe a situation in which someone puts a ball into a complex machine, starting a chain of events that culminates in a baseball bat swinging against the bookcase (see e.g. Rappaport Hovav & Levin 2001; Neeleman & Van de Koot 2012 and references cited).

A way of expressing this difference is by adopting a version of Jackendoff's (1990) proposal that CSs consist of two linked 'tiers' expressing distinct aspects of a sentence's meaning. For example, the CS in (11c) can be modified as in (12) to incorporate the requirement of direct causation: the outermost CAUSE function on the uppermost (henceforth 'matrix') tier is linked to a function FTR (for 'force transmission') on the lower (henceforth 'dependent') tier, of which *the ball* and *the bookcase* are both arguments:[10,11]

(12) [CAUSE (BALL, [BECOME [BE (BOOKCASE, [LOC_{PRED} (BROKEN)])]])]
|
[FTR (BALL, BOOKCASE)]

[8] The CS representation in (11c) assumes that lexical causatives express a direct relation between an individual and an event, rather than between two events (causing and caused) as in, for example, Neo-Davidsonian approaches. See especially Neeleman & Van de Koot (2012) for arguments in favour of the former view.

[9] Strictly speaking, (11c) does not fully represent (11b) in that it does not encode the semantics of the definite article (roughly speaking, the existence and/or uniqueness of the embedded event). Even if this were explicitly encoded, though (for instance in the form of an iota-operator), the appropriately restricted/quantified BECOME event could be seen as a co-argument of *the ball*, both being arguments of the CAUSE function.

[10] In part following Jackendoff (1990), I assume that locative functions in CS are subdivided on the basis of the kind of 'location' they describe; e.g. LOC_{PRED} for the relation between an individual and a predicate, LOC_{CONT} for the type of location that involves 'contact' (as with verbs such as *hit*), LOC_{POSS} for possession and LOC_{INCL} for part-whole relations (inclusion). A reviewer points out that Myler (2016: Chapter 1) argues against a semantically unitary concept of possession. I leave this as an unresolved matter here; it may be that LOC_{POSS} should be decomposed into subcategories denoting different 'possessive' relations, but I do not believe the choice affects the arguments being made here.

[11] The FTR function is similar to the AFFECT function proposed by Jackendoff (1990: 127), for which he adopts the 'What X did to Y test'. I adopt a slightly different treatment here, distinguishing bivalent FTR from monovalent AFF(ECT) for reasons that will become clear below.

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A plausible way of understanding the contribution of FTR in (12) is as meaning 'The ball transmits force starting from the causing event and continuing to the "being-broken" state predicated of the bookcase'.[12]

Now, recall that the verb *break* was assigned the s-set <$D_{+\theta}$, D> on the basis of its permitting a *by*-phrase in passives. Given the linking rule in (10i), the two D-selectors in this s-set can now be related to the two argument positions of FTR. If, instead, rules (10i+iii) could apply separately to the D-selectors in the s-set, we would predict that direct causation (qua force transmission) could be circumvented. Accordingly, I propose that the general economy condition in (13) holds of s-sets:

(13) ECONOMY CONDITION ON S-SETS
For any s-set S lexically associated with CS C, if there is an alternative s-set S' representing C that requires fewer linking rules than S in order to be licensed, then S' blocks S in representing C.

To obtain the desired result, it is also necessary to assume that all D-selectors in a given s-set must be targeted by at least one linking rule (a kind of Full Interpretation requirement; Chomsky 1986).

Agentive verbs require a different treatment, as they do not strictly require direct causation. For example, Neeleman & Van de Koot (2012) observe that in (14) (adapted from Katz 1970), the gunsmith does not have to have directly attacked the sheriff for the sentence to be true or acceptable; he could have deliberately tampered with a gun that was supposed to fire blanks, and in that case would be considered to be accountable for the sheriff's death:

(14) The gunsmith killed the sheriff.

Neeleman & Van de Koot argue that the requirement holding of a causative verb with a sentient subject (or agent) is not direct causation, but 'accountability'. A way of encoding this requirement under the present analysis is to posit a distinct dependent function MSR encoding 'mental state relevance' (cf. the [+m] feature of Reinhart 2002, 2016):

(15) [CAUSE (GUNSMITH, [BECOME [BE (SHERIFF, [LOC_{PRED} (DEAD)])]])]
|
[MSR (GUNSMITH, SHERIFF)]

In accordance with the interpretation of dependent functions proposed above, [MSR (x, y)] can be read as follows: 'the gunsmith's mental state is relevant both as part of the causing event and as part of the "being-dead" state that is the minimal eventuality containing the sheriff'.

Mental state relevance is also presumably the crucial factor in the linking of other types of transitive verbs that have a sentient subject, such as those in (16):

[12] More generally, I assume that dependent functions are interpreted as follows:

(i) In a CS containing dependent function F which (i) has denotation D, (ii) takes arguments x and y, and (iii) is linked to matrix eventuality E, [F (x, y)] is interpreted as 'x has property D in E and x has property D in E', where E' is the minimal eventuality contained in E that contains y.'

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(16) (a) Larry likes the loofah.
(b) Olive owns the octopus.
(c) Robert received the rambutans.
(d) The summit has been reached by many people.

As it is not crucial here, I leave open whether these verb types are to be licensed by a single MSR function or by distinct (sub)functions referring to different types of mental state relation. (I return to examples such as (16c) below.)

2.2.3. Verbs of motion and transfer: MSR, AFF, and ANC

Transitive verbs of motion, as in (17), illustrate the need for dependent functions beyond FTR and MSR:

(17) (a) The rambutans reached the restaurant.
(a') *The restaurant 'bereached' the rambutans.
(b) Rhea received the rambutans.
(b') *The rambutans 'acceived' Rhea'.

As discussed by various authors (e.g. Carter 1988; Jackendoff 1990: 261; Gruber 2001: 262–264), verbs expressing pure motion toward a goal require theme>goal order, as in (17a); thus, there are no verbs such as **bereach* with the opposite linking, as in (17a'). The example (17b, b') illustrates that the opposite ordering holds for verbs expressing change of possession; that is, they require recipient(goal)>theme order. I would like to argue that these generalisations can be understood in terms of the Economy Condition on S-Sets (ECOS) in (13), together with the following additional condition on linking:

(18) INITIAL LINKING CONDITION
For any s-set S in syntactic node N with corresponding CS C, the initial role of S must be the initial argument of (an outermost function of) C.

Recall that in Section 2.1 the verb *reach* was assigned the s-set <D, $D_{-\theta}$>, while *receive* was assigned <$D_{+\theta}$, D>. An important difference between these two s-sets is that <$D_{+\theta}$, D> can be licensed by a single linking rule, (10i) (which links it to MSR), while <D, $D_{-\theta}$> requires two linking rules, (10i+iii), to apply. Now, suppose that both *reach* and *receive* have a matrix CS along the lines of (19):

(19) [BECOME [BE (x, [AT (y)])]]

The Initial Linking Condition (ILC) in (18) requires one of x and y in (19) to be linked to an outermost function. Since this cannot be satisfied by the matrix tier alone, it forces the presence of a dependent tier function linked to BECOME. Plausibly, in the case of *receive* the relevant function is MSR, as suggested above. Thus, (20a) would have the CS in (20b):

(20) (a) Rhea received the ravioli.
(b) [BECOME [BE (RAVIOLI, [LOC_{POSS} (RHEA)])]]
|
[MSR (RHEA, RAVIOLI)]

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I take MSR here to mean 'Rhea's mental state is relevant both as part of the becoming event and as part of the possession state that is the minimal eventuality containing Rhea'. The independent justification for linking MSR to BECOME here is that, for some person x to receive some item y, it is normally the case that x's mental state changes in relation to y.[13] Of course, we can imagine an event in which someone puts the ravioli in Rhea's handbag without her knowledge, but calling this a receiving event would be somewhat misleading.

In the case of *reach*, however, neither MSR nor FTR seems appropriate: an event of reaching neither requires force transmission between its two arguments nor sentience of its initial argument. What, then, is the relevant interpretative property of the subject of *reach*? Important here, I think, is the fact that the subject, but not the object, of *reach* passes the classic 'What happened to X' test for 'affectee' status (e.g. Halliday 1968: 196; Jackendoff 1990: 111):

(21) (a) What happened to the rambutans was they reached the restaurant.
(b) #What happened to the restaurant was the rambutans reached it.

Accordingly, I posit a dependent function AFF(ECTEE) whose single argument is interpreted as affected by the eventuality to which it is linked, where, roughly following Beavers (2011: 339), I take 'affectedness' to refer to a change (either actual or likely) of state or location. Thus, I propose that (22a) has the CS in (22b):

(22) (a) The rambutans reached the restaurant.
(b) [BECOME [BE (RAMBUTANS, [AT (RESTAURANT)])]]
|
[AFF (RAMBUTANS)]

The AFF function in (22b) has the effect of allowing an argument of the embedded state introduced by BE to also be understood as a participant in the matrix BECOME event. In terms of linking, AFF further ensures that the initial D-selector of <D, $D_{-\theta}$> satisfies the ILC: this D-selector is linked via rule (10iii) to the single argument of AFF in (22b), which is an 'outermost' function.

Let us now consider how the unattested 'inverse' linkings in (17a', b') can be ruled out. Suppose, for example, that **acceive* has the s-set <D, $D_{+\theta}$>. This could in principle be linked to the CS in (23b):

(23) (a) *The rambutans acceived Rhea.
(b) [BECOME [BE (RAMBUTANS, [LOC_{POSS} (RHEA)])]]
| |
[AFF (RAMBUTANS)] [MSR (RHEA, RAMBUTANS)]

However, this would require the application of two linking rules, (10i+iii), to the s-set. By contrast, the s-set <$D_{+\theta}$, D> requires only a single application of (10i) to be linked to the CS in (20b) above. Hence, by the ECOS, <$D_{+\theta}$, D> blocks <D, $D_{+\theta}$>.

[13] That is, MSR probably needs to be understood as 'modalised' – i.e. as denoting what is normally expected to be the case; see, e.g. Bruening & Tran (2015: 154) on the Vietnamese marker *bị*.

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The exclusion of **bereach* requires a little more discussion, given the linking properties of locative verbs such as *contain*. If the CS of *contain*-type verbs corresponds roughly to the embedded BE state in (22b), then the ILC would predict that they should have theme>location order, contrary to fact. Suppose, in part following a proposal of Neeleman & Van de Koot (2002b), that *contain*-type verbs involve a dependent function ANC (for 'anchor') that takes the location as its first argument (cf. the 'proximal zone' of Belvin 1996: 83):

(24) (a) The case contains the cakes.
(b) [BE (CAKES, [LOC-IN (CASE)])]
|
[ANC (CASE, CAKES)]

Why, then, could there not be a verb such as **bereach*, with the s-set <$D_{-\theta}$, D> and the CS in (25b)? Indeed, this possibility would be expected to block verbs with the linking of *reach* under the ECOS, because linking <$D_{-\theta}$, D> to (25b) would require only the application of rule (10ii):

(25) (a) *The restaurant bereached the rambutans.
(b) [BECOME [BE (RAMBUTANS, [LOC (RESTAURANT)])]]
|
[ANC (RESTAURANT, RAMBUTANS)]

Intuitively, the difference has to do with the fact that receiving primarily involves a (likely) change in the mental state of the recipient, whereas reaching involves a change in the location of the theme but not in the internal properties or location of the goal. For example, Rhea could receive the rambutans without any literal change in the internal properties or location of the rambutans having taken place (for example, if the previous owner simply signs them over to Rhea). By contrast, in order for the rambutans to reach the restaurant, they literally have to undergo a change of location. Thus, the BECOME component of *receive* is fundamentally an event of (expected) mental state change (hence linked to MSR), while the BECOME component of *reach* is fundamentally an event of change of location (hence linked to AFF). I will therefore assume that ANC is restricted to occurring with eventualities in which the relevant locative relation holds throughout the eventuality, and hence can at best be linked to BE in (25b).[14,15]

At this point, it is worth noting that the postulation of AFF alongside FTR does not pose a risk of 'overriding' the linking possibilities provided by FTR. First, the well-known fact that

[14] Possible cases in which ANC is linked to a function other than BE involve transitive variants of verbs such as *drip* and *leak*, where the subject is not plausibly a causer, mental state holder or affectee:

(i) The damask rose dripped dew on the dandelions.

In the event described by (i), the dew is located 'at' the rose from the start. If [ANC (ROSE, DEW)] is linked to the initial matrix function (BECOME or GO), then this will allow such linkings to conform to the ILC.

[15] A further question concerns the linking properties of *occupy*-type verbs, which have theme>location order, but (unlike *contain*) require a 'holistic' interpretation (e.g. Anderson 1971: 389–393). Given that these permit *by*-phrases, I assume that they involve the FTR function; that is, the fact that *occupy* requires the location to be full or almost full of the theme can be understood in terms of the theme exerting force on the location.

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we do not find patient>agent verbs alongside agent>patient verbs can be accounted for in terms of the ILC. Consider the potential CS for the unattested (26a) in (26b):

(26) (a) *The bookcase bebroke the ball.
(b) [CAUSE (BALL, [BECOME [BE (BOOKCASE, [LOC_{PRED} (BROKEN)])]])]
|
[AFF (BOOKCASE)]

In (26b), AFF is linked to the embedded BECOME event, as it makes sense to describe this event as a change of state but not the outermost CAUSE event; thus, the linking in (26a) would violate the ILC (*the bookcase* would not be an argument of an outermost function).

A second relevant case involves non-causative verbs that entail force transmission, such as *hit.* Notable here is the fact that both the subject and object pass the test for affectee status:

(27) (a) What happened to the Harley-Davidson was it hit the hotel.
(b) What happened to the hotel was the Harley-Davidson hit it.

Suppose that *hit* involves a theme-goal relation, as in (28ci) (e.g. Fillmore 1970; Jackendoff 1990). The observations in (27) can then be taken to indicate that either of the dependent tiers in (28cii, iii) is possible in principle, as either would satisfy the ILC:

(28) (a) The Harley-Davidson hit the hotel.
(b) *The hotel 'behit' the Harley-Davidson.
(c) i. [BECOME [BE (HARLEY, [LOC_{CONT} (HOTEL)])]]
|
ii. [AFF (HARLEY)]
iii. [AFF (HOTEL)]
iv. [FTR (HARLEY, HOTEL)]

However, a hitting event fundamentally involves force transfer between its two participants. Thus, the dependent function FTR, as in (28civ), is another plausible option. Given that options (28cii, iii) would require two applications of linking rules, and (28civ) only one application of (10i), (28civ) blocks the other options under the ECOS. As well as accounting for the fact that *hit*, unlike *reach*, is compatible with passive *by*-phrases, this captures the absence of verbs with the meaning of *hit* but the opposite linking, such as **behit* in (28b).

Finally in this subsection, consider examples such as (29):

(29) (a) The gabled house gained a garage.
(b) The Land Rover lost its left door.

Verbs such as *gain* and *lose* can denote alienable possession, if they have a sentient subject, or inalienable possession otherwise – here, a kind of part-whole relation – as in (29). In this case, the subject, but not the object, passes the affectee test:

(30) (a) What happened to the gabled house was it gained a garage.
(b) #What happened to a/the garage was the gabled house gained it.

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This suggests the following analysis:

(31) (a) The gabled house gained a garage.

(b) [BECOME [BE (GARAGE, [AT_{INCL} (HOUSE)])]]
| |
[AFF (HOUSE)] [ANC (HOUSE, GARAGE)]

The analysis in (31b) combines aspects of those of *contain* and *reach*. As with *contain*, the two D-selectors of *gain* are linked by rule (10ii) to the two arguments of ANC in the corresponding CS. As with *reach*, the initial $D_{-\theta}$-selector is linked by rule (10iii) to the argument position of AFF, which is itself linked to the outermost matrix function BECOME, satisfying the ILC.[16] Furthermore, the proposal captures the fact that there are probably no verbs with the meanings of *gain* and *lose* but with the order theme>inclusor.[17]

3. The interpretations of have

3.1. The lexical specification of *have*

Section 2 outlined a system of argument linking with the following five main features:

(32) (i) A verb has a lexically specified s-set with up to three D-selectors, distinguished by the feature ±θ.

(ii) A verb lexically specifies a CS consisting of a matrix tier expressing causal, locational and motional relations, to which dependent functions (FTR, MSR, AFF, ANC, TOP) may be linked to express additional properties of arguments.[18]

(iii) FULL INTERPRETATION

[16] This is possible even though the initial selector is $D_{-\theta}$, as rule (10iii) is underspecified for ±θ.

[17] A loose end here is the status of *precede*-type verbs, assigned the s-set <$D_{+\theta}$, $D_{-\theta}$> in Section 2.1. I simply follow Davis & Koenig (2000) here in taking the relevant relation between subject and object here to be 'topic', encoding point of view, and accordingly I assume that such verbs specify a dependent function TOP. A reviewer notes that the types of interpretations encoded by dependent functions are somewhat disparate ('a smorgasbord of discourse pragmatics (topic), s-selectional concepts (mental state relevance), and harder-to-pin-down lexical semantic concepts (affectedness, [anchor])'), and hence 'wonder[s] what principles govern what can go on this tier'. I would draw an analogy here with the assumption of a functional sequence in 'cartographic' approaches to syntax (i.e. there is no principled reason why extra functional heads could not be added to the sequence, with any conceivable kind of interpretation).

[18] Given the limited range of dependent functions posited, an additional principle needs to be posited to rule out transitive verbs whose arguments do not bear any of these relations to one another:

(i) CO-ARGUMENTHOOD
For any two distinct D-selectors D_1 and D_2 within an s-set S:

(a) there must be a function F in the corresponding CS such that D_1 and D_2 are both linked to arguments of F, or

(b) there must be a distinct D-selector D_3 in S such that (a) holds both of D_1 and D_3 and of D_2 and D_3.

Thus, in a monotransitive s-set both D-selectors must be CS co-arguments, while in a ditransitive s-set it is enough for the three D-selectors to be 'transitive' CS co-arguments (i.e. if the first two D-selectors are co-arguments, and the final two D-selectors are co-arguments, the first and last D-selectors do not need to be co-arguments). (I relegate this principle to a footnote because it does not play a major role in the argumentation of the paper.)

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All D-selectors in an s-set must be linked to at least one argument position in the corresponding CS by the linking rules in (10).

(iv) Economy Condition on S-Sets
For any s-set S lexically associated with CS C, if there is an alternative s-set S' representing C that requires fewer linking rules than S in order to be licensed, then S' blocks S in representing C.

(v) Initial Linking Condition
For any s-set S in syntactic node N with corresponding CS C, the initial role of S must be the initial argument of (an outermost function of) C.

In this subsection, I will argue that the major meanings of the semi-lexical verb *have* can be accounted for within this system if *have* is lexically specified as follows:[19]

(33) $<D_{\alpha\theta}, D>$

That is, *have* is underspecified in two senses. First, it has a transitive s-set whose first D-selector is compatible with either value of ±θ.[20] Given the association of initial ±θ with unergativity, this captures Myler's (2016: 336–343) observation that *have* is transitive (or unergative), not unaccusative (*pace* Freeze 1992, among other works). Second, *have* lacks a lexically specified CS altogether. Thus, when *have* occurs in a syntactic structure, it must somehow be associated with a CS in order to obtain an interpretation. The system as proposed thus far predicts that this may be achieved by applying one or more of the linking rules in (10), repeated below:

(34) (i) $<\ldots, D_{+\theta 1}, (D_2), \ldots> \Leftrightarrow [F (x_1, y_{(2)})]$, where F is a CS function expressing an 'exclusive' relation between x and y

(ii) $<\ldots, D_{-\theta 1}, (D_2), \ldots> \Leftrightarrow [F (x_1, y_{(2)})]$, where F is a CS function expressing an 'inclusive' relation between x and y

(iii) $<\ldots, D_1, \ldots> \Leftrightarrow [F (\ldots x_1 \ldots)]$

In principle, the function-argument structure introduced by one of the rules could be a matrix or a dependent CS. I will argue that both of these possibilities are instantiated by *have.* Before showing how this works for each of the major interpretations of *have*, it will be necessary to go into more detail on how the linking rules in (34i–iii) establish semantic interpretations of syntactic constituents. First, it is necessary to provide principles determining the way in which the CS associated with a syntactic node is derived from the CSs of

[19] I omit consideration of auxiliary *have* (e.g. *Derek has done it*) and 'modal' uses of *have* (e.g. *I have to write a paper*; *I have a paper to write*), as do most other authors (though see Ackema 1999 and Ackema & Marelj 2012 on auxiliary *have*; Belvin 1996: 6 on modal *have*). At least in the case of auxiliary *have*, treating it separately is justified because it, unlike semi-lexical *have*, displays the NICE properties for most speakers (Huddleston & Pullum 2002). As for modal *have*, it is plausible that it is licensed by MSR, because of its requirement for a sentient subject, but it is not entirely clear how the modal content should be derived.

[20] It is important to note that most uses of *have* do not allow passives (e.g. Ackema & Marelj 2012: 240–244; Myler 2016: 337–338). I simply assume that this is because verbal passive is a lexical operation targeting an s-set with initial $D_{+\theta}$, which therefore cannot apply to the underspecified $D_{\alpha\theta}$ of *have.* (Cases of 'light verb' *have* that do passivise may have their own lexical entries and CS.)

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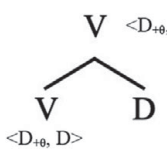
that node's daughters. Consider, for example, CS-inheritance by a transitive verb phrase (VP) from its daughters:

(35)



[CAUSE (x, [BECOME [BE (BOOKCASE, [LOC$_{PRED}$ (BROKEN)])]])]

[CAUSE (x, [BECOME [BE (y, [LOC$_{PRED}$ (BROKEN)])]])]

The relationship between the CS of the higher V node and its daughters can be captured by the following principles, a default inheritance rule in (36) and an inheritance rule referring to a satisfied D-selector in (37):

(36) DEFAULT INHERITANCE
In the following structure, where α and β are outermost function-argument structures corresponding to syntactic nodes N_1 and N_2, respectively, α and β are in a relation of mutual entailment (modulo type-shifting of individuals to propositions; e.g. Partee 1987):

N_1 […]$_\alpha$
|
N_2 […]$_\beta$

(37) INHERITANCE THROUGH SELECTOR-SATISFACTION
In the following structure, where α and β are outermost function-argument structures corresponding to syntactic nodes N_1 and N_2, respectively, and i indicates linking by a linking rule in (10), $X_i = \beta$:

N_1<…, D_i#,…> [… X_i …]$_\alpha$
|
N_2 […]$_\beta$

Let us now consider how these principles can be applied to the major interpretations of *have.*

3.2. Causative *have*

Causative uses of *have* involve one of three complement types, which I will refer to as 'bare VP', 'passive VP', and 'gerund-participial VP' (the latter term coming from Huddleston & Pullum 2002):

(38) (a) Harry had Helga hose the horse.
(b) Harry had the horse hosed by Helga.
(c) Harry had Helga hosing the horse.

Here I will focus on the bare VP type in (38a), returning to aspects of (38c) in particular below. A major question here concerns the status of the post-*have* DP: is it a raised object of *have*, a base-generated object of *have* or a surface subject of *hose*? Here I take the position

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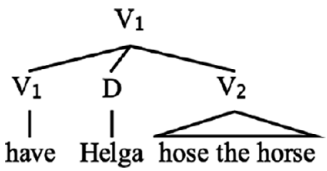
that (38a) involves a raising-to-object structure, assuming a ternary-branching structure as in (39):

(39)



This enables us to maintain the idea that *have* is consistently a monotransitive verb – that is, it has two D-selectors in its s-set. Now consider the proposed analysis in (40):

(40) (a) Harry had Helga hose the horse.

(b) [$_{V<D+0,\ D\#>}$ have Helga [$_{V<D,\ D+0\#>}$ $t_{<D>}$ hose the horse]]
| |
[CAUSE (HARRY, [‘HELGA HOSE THE HORSE’])] [‘HELGA HOSE THE HORSE’]

Neeleman & Van de Koot (2002a) propose that A-trace (indicated by $t_{<D>}$ in (40)) is a lexical item that both satisfies a D-selector in its mother and introduces its own selector that percolates to its mother. In (40b), the percolated (unsatisfied) D-selector of the lower V undergoes identification with the second D-selector of *have*, with the identified D-selector being satisfied by *Helga*. Now, crucially, the inheritance condition in (37) allows for a mismatch between D-selection and linking to a CS position. That is, the diacritic ‘#’ indicates that the relevant selector immediately dominates a DP, but this does not force this DP to be linked to the same CS position that the D-selector is linked to.[21] This gives the effect of raising to object: all that the DP does in its ‘raised’ position is satisfy the D-selector of its mother, while the satisfied D-selector links another daughter – the lower VP in (39) and (40b) – to the relevant CS position. This accounts for the fact that the post-*have* DP may be an idiom chunk or (slightly marginally) an expletive:[22]

(41) (a) Harry had the shit hit the fan for Helga.
(b) ?Harry had there be a riot at Helga’s house.

[21] A reviewer asks whether this treatment requires a ‘construction-specific interpretation rule’. I think that this is not necessary: given that the D-selectional property of the selector and the coindexing in the linking rule are conceptually separate, I see no particular reason why these two requirements must be satisfied by a single element.

[22] A reviewer raises the question of whether the present analysis can account for Myler’s (2016: 287) observation that *have*-causatives do not appear to introduce an independently modifiable causing event. I do not think that the analysis has this consequence, but I also think there is reason to question the claim in any case. First, I do not find Myler’s (ia) with *had* worthy of a star, although it is perhaps more awkward than with *made* (which may be related to the fact that *I had Bill eat his soup* is also less natural than *I made Bill eat his soup*). Compare (ib), which seems unexceptionable:

(i) (a) I made/(*)had Bill eat(ing) his soup by threatening him with a ladle.
(b) The other team’s coach had them lose the match on Wednesday by lining their boots with lead on Tuesday.

The same reviewer later stated that they did not share my judgement of (ib); I must leave any attempt to account for such variability for future research.

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3.3. Affected experiencer *have*

Affected experiencer uses of *have* are structurally similar to causative uses but differ in that the subject is understood as being (at least potentially) affected by the event denoted by the embedded VP (e.g. Bosse, Bruening & Yamada 2012). A further difference is that affected experiencer uses normally require a pronoun coreferential with the subject of *have* to occur within the embedded VP (e.g. Brunson & Cowper 1992); thus, *Harry* can more naturally be understood as an affected experiencer in (42) than in (38):

(42) (a) Harry had Helga hose his horse.
(b) Harry had his horse hosed by Helga.
(c) Harry had Helga hosing his horse.

I propose that affected experiencer *have* also involves the raising-to-object structure in (39). The major difference is in the way that the CS of *have* is licensed. Consider the proposed analysis in (43):

(43) $[_{V<D+\theta,\ D\#>}$ have Helga $[_{V}$ humiliate him]]
| |
['HELGA HUMILIATE HIM'] ['HELGA HUMILIATE HIM']
|
[MSR (HARRY, ['HELGA HUMILIATE HIM'])]

As in (40), *have* in the syntax has the s-set $<D_{+\theta}, D>$. Linking rule (10i) /(34i) applies, linking this s-set to the CS-function MSR. As this is a dependent function, there must be a matrix function to which it can be linked. I assume the following principle applies:

(44) LICENSING OF DEPENDENT FUNCTIONS
If a CS contains a dependent function-argument structure S, then there is a matrix function-argument structure S' such that:
(i) the highest function of S is linked to the highest function of S'
(ii) the arguments of S are contained in S'.

The requirement in (44) can now be satisfied if the default inheritance rule in (36) applies, in effect licensing the entire CS of the lower VP as part of the CS of the higher VP. Notice that, given that the lower CS already implies a mental state relation between the subject of *have* and the embedded VP, the mutual entailment requirement imposed by (36) is satisfied. A further desirable consequence of the licensing principle in (44) is that it accounts for the pronoun requirement. This is because (44ii) requires the subject of *have* to be contained in the matrix CS.

3.4. Possessive *have*

In the case of possessive *have*, there is no obvious source for the possessive CS component in the complement of *have*, which is simply the DP interpreted as the possessum. For example, in the alienable possession example in (45), we need a way to get from the CS content of *horse*, which is a Thing in Jackendoff's (1990) terminology, to the matrix CS introduced by BE, which is a State:

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(45) [$_{V<D+\theta,\ D\#>}$ have [$_{D}$ a horse]]
| |
[BE (HORSE, [LOC_{POSS} (x)])] [HORSE]
|
[MSR/ANC (x, HORSE)]

There are various imaginable ways to do this, such as Myler's (2016) proposal that the possessor interpretation comes from a Poss category inside the possessum DP. Given that Poss would always be silent in English, however, I would like to suggest an alternative based on the default inheritance rule in (36). Notice that, since the required relation between α and β is not identity, but mutual entailment (*modulo* type-shifting), this leaves open the possibility that the CS of the higher node could include that of the lower node as a proper part, provided that mutual entailment holds. Indeed, mutual entailment arguably does hold in the revised structure (46), in which the matrix CS of *have* contains the general LOC function rather than LOC_{POSS}:

(46) [$_{V<D+\theta,\ D\#>}$ have [$_{D}$ a horse]]
| |
[BE (HORSE, [LOC (x)])] [HORSE]
|
[MSR/ANC (x, HORSE)]

Assuming that we can think of *horse* as existentially quantified, then the requirement for licensing the BE-structure in the upper node is that 'there is a horse' and 'there is a horse that is somewhere' are in a mutual entailment relation, which is arguably the case.

3.5. Locative *have*

Given that (46) involves the general LOC function, we can extend this analysis to locative *have*-sentences as follows:

(47) [$_{V<D+\theta,\ Mod\#,\ D\#>}$ have [$_{D}$ a horse] [$_{P<Mod,\ D-\#>}$ in it]]
| | |
[BE (HORSE, [LOC_{IN} (x)])] [HORSE] [BE (y, [LOC_{IN} (z)])]
|
[ANC (x, HORSE)]

The main difference between possessive and locative *have*-sentences is then that in the latter, the LOC function of *have* is specified for a particular locative interpretation, coincident with that introduced by the preposition. I assume that the PP is syntactically a modifier that selects for its host via a Mod function (Neeleman, Van de Koot & Doetjes 2004). Its contribution to the CS of its mother is made via the default inheritance rule in (36).

3.6. Affectee *have*

The final major interpretation to be considered in this subsection is what I call the affectee interpretation of *have*, illustrated in (48):

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(48) (a) The hill had a Harley-Davidson hit it. (Goal)
(b) The list had a lot of items added to it. (Goal-Inclusor)
(c) That table seems to have had a tureen removed. (Source)
(d) The privet had its leaves pruned. (Source-Inclusor)

In the previous literature, this usage has been relatively neglected, though examples are mentioned by Brugman (1988: 146) and Belvin (1996: 56–59). Despite this neglect, I believe such examples are particularly revealing about the correct analysis of *have.* Note, first, that in the examples in (48), the subject has two types of interpretative property: it is a kind of goal or source, and it is understood to be affected by the event. Examples in which the subject is a pure goal or source are ill-formed (parentheses around '#' indicate that the sentence may be good on other interpretations; I return to this matter below):

(49) (a) (#)The shop had Sarah enter it.
(b) #The waves had a boat approach them.
(c) #Everest had Hillary climb it.

Likewise, examples in which the subject is a pure affectee (patient) or theme, as in (50a, b) are also ill-formed. Furthermore, examples such as (50c) show that a locative/inclusion relation with *some* other argument in the clause is not enough; the corresponding theme argument must be the DP 'complement' of *have.* Compare (50d), where a locative relation is not required because the sentient subject can be licensed as an affected experiencer by the MSR function:[23,24,25]

(50) (a) (#)The painting had John see it.
(b) (#)My coffee had someone drink it.
(c) (#)The list had Larry add a lot of items to it.
(d) Barry had Bill burn his bagel.

That is, the interpretation of the subject of *have* in (48) has both a locative component and an affectee component. In this sense, it is parallel to the interpretation of verbs such as *gain* and *lose* when they take an inanimate subject.[26] Accordingly, I propose the analysis in (51):

[23] Thus, the contrast between (50a–c) and (50d) provides a concrete reason to reject the claim made by a reviewer, citing Belvin (1996: 57–59), that the affectee reading should be reduced to the affected experiencer reading.

[24] As a reviewer notes, the proposal predicts that it should be possible to have affectee *have* with a sentient subject licensed by ANC, where the interpretation of the subject is distinct from that of an affected experiencer. Unfortunately, given the 'modalised' interpretation of MSR (i.e. the sentient subject is expected to be mentally affected under normal circumstances) it is difficult to come up with an example in which a sentient subject is literally affected but not mentally affected in the modalised sense.

[25] As a reviewer notes, (49) and (50a–c) are not strictly impossible; for example, (50b) becomes acceptable if I have marketed a brand of coffee that was previously unsuccessful, but finally someone has drunk it ('At last, …'). I think it must be conceded that some cases of affected experiencer *have* do not strictly involve a sentient subject, but rather a subject that is closely connected with (e.g, created or possessed by) a sentient individual (cf. McIntyre 2006).

[26] I leave aside the alienable possession uses of *gain* and *lose*; these differ in that the subject can also be thought of as an agent (first argument of FTR/MSR):

(i) What happened to the Playstation 3 was John gained/lost it.

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(51) [$_{V<D-\theta,\ D\#>}$ have a Harley] [$_{V<D+\theta,\ D\#>}$ hit it]]

[BECOME [BE (HARLEY, [LOC_{CONT} (x)])]] [BECOME […]]

[AFF (x)] [ANC (x, HARLEY)]

The way in which *have* obtains its CS interpretation is the most complex of all the usages examined so far. As in the affected experiencer usage, it involves default inheritance of the matrix CS of the complement of *have.* As in the possessive and locative usages, it involves the application of rule (10ii)/(34ii) to the s-set of *have* (<$D_{-\theta}$, D>). Finally, in order to satisfy the ILC, it involves the application of rule (10iii)/(34iii) to the initial role of *have* ($D_{-\theta}$), licensing the dependent function AFF.

Notice now that the lexical specification of *have* rules out the ill-formed usages of *have* in (49) and (50). First, a pure goal/source interpretation of the subject of *have*, as in (49), is ruled out because this would violate the ILC. This is because the ANC function requires that the 'anchoring' relation it denotes must hold throughout the eventuality to which it is linked; thus, it must be linked to the BE state and not to the matrix BECOME event. Second, a pure affectee interpretation of the subject of *have*, as in (50a–c), is ruled out because the ANC relation is necessary to license the –θ specification of the initial D-selector (Full Interpretation) and to ensure that the two D-selectors represent co-arguments of a single function (Co-Argumenthood, fn. 18).

Further support for the analysis in (51) comes from a consideration of the different possible VP complements of *have.* As has been observed many times in the literature, when *have* takes a VP complement, whether the sentence as a whole is eventive or stative seems to be determined by its complement (e.g. Belvin 1996: 29–33; Myler 2016: Chapter 4). In particular, when *have* takes a bare or passive VP complement, it behaves as eventive, while when it takes a gerund-participial VP complement, it behaves as stative (e.g. Harley 1998).[27] This can be illustrated by the fact that present tense *have* is interpreted as repetitive (hence eventive) in (52a, b) but can be interpreted as a single eventuality (hence stative) in (52c):

(52) (a) Harry has Helga hose the horse.
(b) Harry has the horse hosed by Helga.
(c) Harry has Helga hosing the horse.

The eventive/stative difference correlates with differences in the potential thematic interpretations available to the syntactic arguments of *have.* In particular, the requirement for an affectee interpretation disappears when *have* takes a gerund-participial complement:

(53) (a) The tree has three people standing next to it.
(b) #The tree had three people stand next to it. [unless tree affected]

Supposing that the gerund-participial VP is stative by default, while the bare VP is eventive by default (i.e. in this case, is introduced by a BECOME function), we can understand the

[27] In response to a reviewer's question, I do not think that this observation follows straightforwardly from the present analysis, and accounting for it remains a task for future work.

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Table 2 Interpretations of *have*

Example	Usage of *have*	S-set	Function licensing subject of *have*
Harry had Helga hose the horse.	Causative	$<D_{+\theta}, D>$	CAUSE
Harry had Helga humiliate him.	Affected Experiencer	$<D_{+\theta}, D>$	MSR
Harry has a horse.	Possessive	$<D_{+/-\theta}, D>$	MSR / ANC
The horse box has a horse in it.	Locative	$<D_{-\theta}, D>$	ANC
The horse box had a Harley hit it.	Affectee	$<D_{-\theta}, D>$	ANC & AFF

contrast in (53) as being due to the ILC. In (53a), the outermost matrix function is BE, to which ANC may be linked, hence satisfying the ILC. In (53b), by contrast, the outermost matrix function is BECOME, and hence ANC is too deeply embedded to satisfy the ILC, which means that an affectee interpretation of the tree is required:

(54) a. [BE (PEOPLE, [LOC-NEXT.TO (TREE)])]
|
[ANC (TREE, PEOPLE)]

b. [BECOME [BE (PEOPLE, [LOC-NEXT.TO (TREE)])]]
| |
[AFF (TREE)] [ANC (TREE, PEOPLE)]

3.7. Summary

The major interpretations surveyed in this subsection can be summarised as in Table 2.[28]

4. Comparisons

4.1. Previous analyses of *have*

The existing literature on the syntax and semantics of *have* is vast, and I cannot do it justice in the space permitted here. Nevertheless, I think certain useful comparisons can be made between the present proposal and recent proposals by Kim (2012) and Myler (2016) that also

[28] The only dependent function that has not been appealed to in Section 3 is TOP (fn. 16). I conjecture that this is operative in uses of *have* such as that in (i), which is not possessive, but merely indicates a relation between the subject and object that is made explicit by the relative clause modifying the object (see also Tham 2004 on 'topic *have*'):

(i) Harriet has a hamster that she likes.

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analyse *have* in terms of underspecification.[29] Whereas many earlier works on *have* restricted themselves to analysing one or two different usages, the analyses proposed by Kim and Myler are more ambitious and detailed than most, and hence represent the main competitors of the present analysis in their aim to cover the major interpretations of *have* (causative, affected experiencer, locative, possessive).[30]

4.2. Kim (2012)

Kim argues, working within the assumptions of Distributed Morphology, that *have* spells out a combination of two functional heads in a local relation, namely Appl(icative) and *v* ('little V'). Her analyses of causative, affected experiencer and possessive *have* are illustrated in (55a–c):

(55) (a) [$_{\text{VoiceP}}$ John [Voice [$_{\text{vCAUSEP}}$ *v*CAUSE [$_{\text{ApplP}}$ Mary [Appl [$_{\text{vP}}$ pick up the book]]]]]]
(b) [$_{\text{vBEP}}$ *v*BE [$_{\text{PeripheralApplP}}$ [Appl [$_{\text{VoiceP}}$ Mary [Voice [$_{\text{vP}}$ punch him in the nose]]]]]]
(c) [$_{\text{vBEP}}$ *v*BE [$_{\text{ApplP}}$ John [Appl a book]]]

As indicated above, the interpretation of the structure spelled out by *have* depends on the specific type of Appl and *v* selected: *v*CAUSE (causative) vs. *v*BE (affected experiencer, possessive), and 'high' Appl (causative) vs. 'peripheral' Appl (affected experiencer) vs. 'low' Appl (where 'high' and 'low' are used in the sense of Pylkkänen 2008).

A first criticism that could be made concerns the analysis of causative *have.* Kim (2012: 77) describes Appl in (55a) as 'denot[ing] a relation between a causee, Mary, and the event vP'. As noted in Section 3, however, the post-*have* DP may be an idiom chunk or an expletive, and hence does not need to bear any semantic relation to the event vP. The postulation of Appl in this case is therefore essentially vacuous, as the only function it serves is to enable spell-out of *have* together with *v.* By contrast, under the present proposal causative *have* instantiates a raising-to-object structure in which the second D-selector of *have* can be satisfied by the post-*have* DP without requiring this DP to be semantically linked to the relevant CS position.

As in the present proposal, Kim's analysis of possessive *have* takes the possessive semantics to be derived from the interpretation of the clausal structure rather than from the possessed DP (as under Myler's analysis; see below). She tentatively proposes (2012: 72–73 fn. 4) that locative *have*, not shown in (55), may have a similar structure, though does not provide details on the position and role of the locative PP. While this suggestion seems plausible within the set of assumptions and framework that Kim adopts, I believe that it leads to problems concerning the analysis of affectee *have*, which neither Kim nor Myler discusses.

Recall the main observations about affectee *have* made in Section 3: the subject of *have* is interpreted as (likely to be) affected but does not need to be sentient, and a locative or inclusion relation must hold between the subject and object of *have.* From the point of view

[29] Underspecification is a feature of many previous analyses besides those discussed in the main text (e.g. Bach 1967; Cowper 1989; Ritter & Rosen 1997; McIntyre 2006; Ackema & Marelj 2012; Marelj 2019).

[30] Other important works analysing some combination of these interpretations include Bach (1967); Brugman (1988); Cowper (1989); Belvin (1996) and Ritter & Rosen (1997). In addition, there are important works focusing on only one or two of its interpretations (e.g. Freeze 1992; Kayne 1993; Belvin & Den Dikken 1997; Tham 2004).

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of Kim's analysis, these observations suggest that a kind of low Appl is involved.[31] For example, (56a) below might have a structure along the lines of (56b) (where the structural position of the controlled VoiceP is left open, as it is not crucial):

(56) (a) The hotel had a Harley-Davidson hit it.
(b) [$_{vBEP}$ *v*BE [$_{ApplP}$ [$_{ApplP}$ the hotel [Appl [a Harley-Davidson]]] … [$_{VoiceP}$ PRO [Voice [$_{vP}$ hit it]]]]]

The question now arises of how to ensure that the subject is 'affected'; for example, that sentences such as (49, 50) above are not generated. Presumably this requires a specific type of low Appl that imposes an affectee interpretation on its specifier, just as, for example, the low Appl in English ditransitives generally requires its specifier to be an (intended) possessor. This, however, raises a problem: just as the low Appl seen in ditransitives can be argued to occur in monotransitives such as *receive*, we would expect the putative 'affectee' low Appl to also occur in monotransitives. While we do indeed have verbs such as *gain* and *lose* (with an inanimate subject), discussed in Section 3, that fit this profile, we do not have 'inverses' of force-transfer verbs such as *hit* (i.e. Gruber's **behit*). The non-existence of verbs such as **behit* was accounted for in Section 3 in terms of the ECOS in (13): theme>goal order results in fewer applications of the linking rules than goal>theme order; hence, the former blocks the latter. By contrast, within DM and related frameworks, the order of arguments is determined 'once and for all' by the order in which functional categories are merged; thus, there is no sense in which the absence of **behit* could be explained in terms of theme>goal order 'blocking' goal>theme order. Furthermore, under Kim's analysis, the only difference between *have* and lexical verbs is the part of the syntactic structure that they spell out. Therefore, it is difficult to see how it could capture the relative freedom of *have* in argument orderings as compared with lexical verbs.

4.3. Myler (2016)

4.3.1. The proposal

Like Kim, Myler adopts a DM-style framework and proposes that *have* spells out a combination of two functional heads, in this case Voice and *v*. He argues that the various uses of *have* are distinguished in terms of (i) the particular semantics assigned to Voice and (ii) the semantics of other functional heads lower in the clause. Thus, consider the structures that Myler posits for one type of causative *have* in (57a), affected experiencer *have* in (57b), possessive *have* in (57c), and locative *have* in (57d):

(57) (a) [$_{VoiceP}$ I [Voice$_{Engineer}$ [$_{vP}$ v [$_{VoiceP}$ John bathe his dog]]]]
(b) [$_{VoiceP}$ we [Voice$_{Expl}$ [$_{vP}$ v [$_{FreeP}$ Free [$_{VoiceP}$ little Johnny run off this morning]]]]]
(c) [$_{VoiceP}$ John [Voice$_{Expl}$ [$_{vP}$ v [$_{DP}$ a [$_{PossP}$ Pred [$_{nP}$ Playstation 3]]]]]]
(d) [$_{VoiceP}$ this tree [Voice$_{Expl}$ [$_{vP}$ v [$_{PredP}$ nests [$_{Pred'}$ Pred [$_{PP}$ in it]]]]]]

[31] That is, the other potential candidates (high Appl, peripheral Appl) would not be suitable here because (i) they require their specifier to be sentient (cf. Bosse et al. 2012) and (ii) they would not capture the locative/inclusion restriction.

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In contrast to Kim's analysis, which does not put any explicit constraints on the occurrence of different 'flavours' of Appl and *v*, Myler argues, following Wood (2015: 30), that the interpretations associated with Voice are determined by linking rules ('rules of allosemy') that refer to the semantics of Voice's complement (Myler 2016: 255, 282):

(58) (i) Voice ⇔ $\lambda x_e.\lambda e_s.$Agent(x,e) / ___ (agentive, dynamic event)
(ii) Voice ⇔ $\lambda x_e.\lambda e_s.$Holder(x,e) / ___ (stative eventuality)
(iii) Voice ⇔ $\lambda x_e.\lambda e_s.$Engineer(e,x) / ___ v_{BE} Eventive-VoiceP$_{<s,t>}$
(iv) Voice ⇔ λx.x / ___ (elsewhere)

Thus, in the case of *have*, the rules in (58i–iii) derive different subtypes of causative *have*, while the rule for 'expletive' Voice in (58iv) derives the remaining uses of *have.* In the latter case, Voice does not assign the subject of *have* an argument interpretation; rather, an unsaturated argument position is 'passed up' from lower in the clause (the head Free for affected experiencer *have*, the head Poss inside the possessum DP for possessive *have*, and the pronoun inside the locative PP for locative *have*).

4.3.2. Causers and engineers

Myler's main reasons for proposing rule (58iii) can be illustrated by the examples in (59) (adapted from Myler 2016: 281):

(59) (a) I had John bathe his dog.
(b) *The prospect of the upcoming dog show had John bathe his dog.
(c) I soon had John bathing his dog.
(d) The prospect of the upcoming dog show soon had John bathing his dog.

The contrast between (59a, b) suggests that, when causative *have* takes a bare VP complement (and is hence interpreted as a dynamic event), the subject must be animate or sentient. By contrast, (59c, d) show that causative *have* with a gerund-participial complement (which is interpreted statively) permits either a sentient or a non-sentient subject (e.g. Belvin 1996; Ritter & Rosen 1997; Harley 1998; see also Marelj 2019 on aspectual restrictions). A second relevant observation concerns the interpretation of the subject in (59a). While the subject could be referred to as an agent, Myler treats it as bearing a distinct role, engineer, because of its interpretation in examples such as (60c) (2016: 582):

(60) (a) I made John fall over.
(b) I tripped John (over).
(c) I had John fall over.

As Myler (2016: 581) notes, in (60c) the subject argument is not a direct causer of the falling-over event but rather 'a sort of backstairs orchestrator of it'. Thus, while (60a, b) can describe an event in which I put my leg out and cause John to fall over, (60c) cannot.

While I would not question Myler's description of the interpretation of (60c), I believe that it is not necessary to postulate what is, in effect, a construction-specific interpretation for the subject of eventive *have.* Rather, I believe that the properties of causative

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have can plausibly be described in terms of 'blocking' (e.g. DiSciullo & Williams 1987). There are broadly two types of situations in which one form is preferred over another to express the same meaning. One could be called 'Gricean blocking'; for example, monoclausal causatives such as (60b) are normally preferred over periphrastic causatives such as (60a) (or, more relevantly, *I used my leg to make John fall over*) because they are briefer (e.g. McCawley 1978). A second type could be called 'structural blocking': Where two forms could occur in a given syntactic position to express the same meaning, the more highly specified form wins; an example is the competition between **goed* and *went.* As has been noted (e.g. Katzir 2008: 22–23), violations of structural blocking are typically much less acceptable than violations of, say, Grice's Maxim of Manner. Applying this logic to eventive *have* would thus explain why, while *I used my leg to make John fall over* can mean what (60b) can (while conveying implicatures as a result of the Maxim of Manner), (60c) cannot mean what (60b) can. More specifically, if causative *make* is lexically specified for CAUSE and FTR, it is more highly specified than *have*, which has no lexical CS, and hence *make* should structurally block *have* to express the same meaning.[32]

The structural blocking approach predicts that *have* should be able to take an inanimate subject where *make* is not available. This is the case in stative gerund-participial cases such as (60d) above, where replacing *have* with *make* would lead to ungrammaticality because *make* does not select for a gerund-participle. It furthermore extends to the cases in (61a, b) (note that (61a) is relatively acceptable under a stative interpretation, but *have* here would not be expected to be blocked by eventive *make*):[33]

(61) (a) The weather made/??had John sad/sick. [eventive]
(b) The accident had/*made John in hospital. [eventive]

This analysis further predicts that eventive *have* should be able to express non-engineer causation – and hence potentially take an inanimate subject – provided that the causing event does not involve force transmission. Indeed, although gerund-participial complements are

[32] A reviewer notes that the 'blocking' idea cannot be taken too far; otherwise, we would, for example, expect *slice* to block *cut*, or *own* or *possess* to block possessive *have.* A possible response to this problem is to adopt the idea proposed by Jackendoff (1990) that lexical semantics should go beyond hierarchical function-argument structures to include a '3D model' specifying more fine-grained information about typical instances of a concept. Supposing certain lexical items (such as *have* and causative *make*) lack a 3D model altogether, we might expect blocking effects to arise in just these cases. Thus, I suggest that *slice* does not block *cut* because both have different, although highly similar, 3D models.

[33] In other cases, such as (i), *make* and *have* appear to be in free variation:

(i) (a) The article had Sue annoyed.
(b) The news had/made John sick with worry.
(c) The weather had/made me really sad.

While I do not have a full account of these cases, I suspect that the possibility of *have* here is related to the fact that the predicates denote a mental state. Thus, like object experiencer verbs such as *annoy*, which were assigned the s-set <$D_{-\theta}$, $D_{+\theta}$> in Section 2, causative *have* can take a $D_{-\theta}$ subject, which links to an 'internal causer' – that is, in this case, to a 'mind-internal causer', namely the mental representation of the article, news or weather. The marginality of (61a) with *sad* would then suggest that unmodified *sad* does not allow this internal causation, the reason for which is not clear to me.

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much more common in Internet searches, there are many examples of *have* + bare VP with an inanimate subject, of which I give some below:[34]

(62) (a) This is a great sport. It can take men from humble beginnings and have them rub shoulders with royalty. (*The Times*, 13 June 2005; https://www.thetimes.co.uk/article/submissive-tyson-takes-plunge-into-retirement-tlr2ccjmg0t)
(b) After an injury that had him reconsider his Badminton career, Mickael travelled in search of a new passion that would help him regain his self-confidence. (https://geninc.eu/en/blog/mickael-lucini-sales-gave-me-my-drive-back/)
(c) Her story is such a great example of how none of us succeed on our own. It takes a village. It had me think – who am I lifting up? (https://www.cathyburke.com/2018/12/13/michelle-obama-is-good-enough/)

Notably, in some of these cases replacing *have* with *make* leads to a perceptibly different meaning. In (62a), using *make* would suggest that the men in question are under compulsion to rub shoulders with royalty, and similarly in (62b), it would suggest that Mickael had no choice but to reconsider his career. In (62c), the difference is less stark, perhaps, but the use of *have* here still seems to suggest that the author chose to have the relevant thought, rather than being compelled. These cases, then, can be accounted for if the eventuality they describe does not involve force transmission, and hence *have* is able to denote a CAUSE function with no dependent FTR, allowing it to circumvent blocking by *make.*

4.3.3. Locative *have* and expletive Voice

Myler (2016: 263) argues that, under the locative interpretation, the locative argument slot is introduced by the locative preposition and passed up as a lambda-abstract to the subject of *have* via expletive Voice (in part following Kratzer 2009). His structure for locative *have* is repeated below:

(63) $[_{\text{VoiceP}}$ this tree [$\text{Voice}_{\text{Expl}}$ $[_{\text{vP}}$ v $[_{\text{PredP}}$ nests $[_{\text{Pred'}}$ Pred $[_{\text{PP}}$ in it]]]]]]

By contrast, under the present analysis, repeated below, the locative meaning arises from assigning *have* the ANC function, which in turn depends on a matrix BE function that is derived from the CS of the complement DP through mutual entailment. This proposal and Myler's thus make different predictions with respect to the obligatoriness of the locative PP: while it must always be structurally present under Myler's proposal, under the present proposal it should be optional in principle, assuming that the LOC function can be interpreted freely as a locative or a possessive. That is, the following analysis should be possible with a locative interpretation of *have*:

[34] A reviewer does not find the use of *have* in these examples felicitous; I find them relatively acceptable but can imagine them being 'stigmatised'. I checked the examples with six native speakers, of whom two expressed no qualms, one didn't find the use of *have* unusual but, when asked, said it seemed 'clumsy', one found *have* 'clumsy' in (62a, b) but not in (62c), and one was not comfortable with the use of *have* in any of the three (saying *have* 'doesn't feel right' in (62a) and it 'should be *made* rather than *had*' in (62b)). While this matter deserves more systematic investigation, I think the bewildering variation in judgements is consistent with the blocking approach, given possible uncertainty over what specific causative interpretation is most appropriate for a given context.

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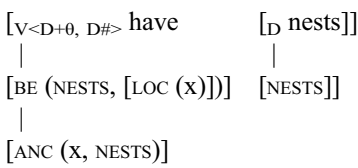
(64)


Some evidence that this is correct comes from dialogues such as the following, in which the PP can be omitted if the context makes it clear that a locative interpretation is intended:

(65) Barry: That handbag has two hamburgers in it.
Brenda: No, it only has one.

Under Myler's proposal, it would be necessary to assume a silent PP in Brenda's response. However, both of the logical options are implausible. Consider first the possibility that it contains a null PP pro-form (PP-*pro*). Although there does not appear to have been much discussion of the issue in the literature (though see Cinque 1990: Chapter 3; Grosu 1996: 289; Szabolcsi & Den Dikken 2002), it is unlikely that English has PP-*pro*, any more than it has NP/DP-*pro.* For instance, this would lead us to expect that no English verb has an obligatory overt PP complement, but verbs such as *put*, *place* and *locate* are clear counter-examples to this. Furthermore, given that PP-*pro*, if it occurred in examples such as (65), would have no internal structure, and would always have an overt coreferential antecedent (hence could not be independently bound), it is difficult to see what kind of positive evidence could be given for its presence.

Another alternative that should be considered is that (65) contains a full PP that has undergone ellipsis (i.e. 'PF-deletion'; Merchant 2001). Unlike PP-*pro*, an elliptical PP would have internal structure that could in theory be probed by syntactic tests. Consider, in this light, the following examples:

(66) (a) Every first-year student gave her essay to at least two professors, and every second-year student did __ too. (*every* > *at least two*)
(b) Every first-year student gave her essay to at least two professors, but I don't know which two professors __. (*every* > *at least two*)
(c) Every first-year student gave her essay to at least two professors, and every second-year student gave her essay __ too. (**every* > *at least two*)

As shown in (66a, b), VP-ellipsis and sluicing allow scope relations between the stranded and elided quantifiers – in particular, (66a, b) allow a reading in which sets of professors covary with students – which can be taken to indicate that the elided quantifiers are still syntactically present (e.g. Merchant 2001). By contrast, in (66c), in which the PP argument of *give* in the second conjunct is 'missing', the covarying reading is not available. This suggests that whatever mechanism is responsible for the missing PP in (66c) is not ellipsis in the sense of PF-deletion.

Thus, I conclude that examples such as (65) do not plausibly contain a PP at all, as this would have to be a specific type of elliptical PP or PP-*pro* that is excluded in other cases in English. Under the present proposal, the PP is expected to be optional in principle, as borne out by cases such as (65). The fact that the PP is apparently obligatory if contextual support is absent must be accounted for by assuming that possessive interpretations of the LOC function

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have a default or unmarked status (perhaps along the lines of the 'feature tree' proposal of Harley & Ritter 2002: 485–486); the presence of a PP thus enables this unmarked interpretation to be overridden through inheritance of a more specific LOC function.

4.3.4. Affectee *have* and overgeneration

A related question concerns how Myler might account for 'affectee' uses of *have*, considered in Section 3. For example, one might combine aspects of his analyses of affected experiencer *have* and locative have in (57b, d) above to analyse example (56a) above as in (67):

(67) $[_{\text{VoiceP}}$ the hotel $[$ $\text{Voice}_{\text{Expl}}$ $[_{\text{vP}}$ v $[_{\text{AffP}}$ Aff $[_{\text{VoiceP}}$ a Harley-Davidson hit it]]]]]

That is, the pronoun *it* in (67) would pass up a lambda-abstract to *the hotel* via expletive Voice, as in (57d) and (63), and a silent functional head Aff(ect) would introduce the affected interpretation, just as Free in (57b) introduces the affected experiencer interpretation. The analysis in (67) would require an extension of the passing-up mechanism, such that the lambda-abstract could pass not just through PP and PredP as in (57d) and (63), but also through VP. Indeed, this is required anyway, given examples such as *The stadium has two pubs flanking it* (Myler 2016: 263), which Myler analyses as involving locative *have.*

Such an analysis, however, would face a problem of potential overgeneration. For example, it would generate not just acceptable affectee *have* examples such as in (67), but also unacceptable examples such as (68), repeated from (49b) and (50b):

(68) (a) #The waves had a boat approach them.
(b) #My coffee had someone drink it.

As discussed in Section 3, affectee *have* appears to require the subject of *have* to be both location-like and affected; (68a) is then problematic because the subject is not plausibly affected, and (68b) because the subject is not location-like. This dual requirement was handled in Section 3 via the (independently motivated) ILC and the requirement of Full Interpretation applying to s-sets. Under a Myler-style analysis such as (67), however, it is not clear how either requirement could be ensured: as a reviewer suggests, it would seem necessary to stipulate that the passing-up of the lambda-abstract is impossible if a bare, non-participial VoiceP is embedded, which would require the use of a head such as Free (or Aff).

5. Conclusion

This paper has proposed an analysis of the major uses of (semi-lexical) *have* in terms of syntactic and semantic underspecification. In contrast to previous underspecification analyses, it accounts for a class of interpretations of *have* that have been neglected in the previous literature, namely affectee interpretations. Furthermore, by positing an explicit parallel between the linking mechanisms for *have* and those for lexical transitives more generally, it is able to account for various properties of *have*-constructions that are problematic for previous analyses, such as Kim (2012) and Myler (2016).

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An obvious extension of the present proposal that suggests itself concerns the properties of *get*, also often described as a semi-lexical verb. If *have* is lexically specified as <$D_{\alpha\theta}$, D> with no CS, we naturally expect that there might be other semi-lexical verbs making use of the possibility of one or three D-selectors per s-set. *Get* fulfils this expectation, as it can occur with one, two or three DP arguments, as shown in (69a–c) together with suggested s-sets:

(69) (a) Andrew got angry. <$D_{(+\theta)}$>
(b) Andrew got Andrea angry. <$D_{+\theta}$, D>
(c) Andrew got Andrea an abacus. <$D_{+\theta}$, $D_{-\theta}$, D>

The arguments of *get* can also apparently be interpreted in all the ways discussed for *have*: in addition to the causative/agentive subjects in (69), it permits an affected experiencer subject as in (70a), an eventive locative subject in (70b) or an affectee subject as in (70c) (note that the affectedness requirement in (70b, c) follows from the ILC):

(70) (a) Andrew got Andrea annoying him.
(b) The sideboard got a stain/#tulip on it.
(c) The food got eaten/#looked at.

A further possible extension of the present proposal concerns the broader cross-linguistic syntax of possessive sentences, as discussed in particular in Myler (2016). A major point of variation is whether languages use (the equivalent of) *have* to express clausal possession, as in English, or (the equivalent of) *be.* For example, consider the possession sentences in (71) (both meaning 'I have a book'):

(71)	(a)	U	menja	est'	kniga.	[Russian]
		at	me.GEN	be_{exist}	book.NOM	
	(b)	Ég	er	með	bók.	[Icelandic]
		I	am	with	book	

It is notable that in '*be*-languages' either the possessor or the possessum typically bears an extra marker: for example, a preposition or case-marking on the possessor, as in (71a), or a preposition on the possessum, as in (71b). While space precludes a fuller analysis here, one possibility is that selectional relations in cases such as (71) are 'distributed' between the verb *be*, which is semantically underspecified and contributes the s-set <D>, and the preposition or case-marker, which contributes the possessive semantics and selects upwards for a verbal projection (cf. Osborne 2019 on this possibility). For example, (71a) could then be analysed as follows (where I use arrows to indicate the direction of selection):

(72) $[_{V<>}\ [_{P<V\uparrow,\ D+\downarrow\#>}$ u menja$]\ [_{V<D\downarrow\#>}$ est' kniga$]]$

More work is required to make this a viable analysis, given the wealth of cross-linguistic observations contained in Myler's work and elsewhere, but I think it shows that the present proposal raises interesting possibilities.

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