Not all null *have*-clauses are alike

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Abstract. This paper provides a semantics for overt and phonologically-null *have* predicates. We present a typology that distinguishes null *have*s on two dimensions: prepositional/verbal status and stative/telic status. We argue that evaluative verbs such as *like* can select null *have*-clauses of the telic verbal class. We further argue that *have* semantically requires a relation that is supplied by the object nominal in a Pustejovskian framework.

Keywords: formal semantics, Intensional Transitive Verbs, *have*, qualia roles, evaluatives

1. Introduction

A number of constructions have been argued to contain phonologically-null verbs (Ross, 1976; McCawley, 1974; Larson et al., 1997; Schwarz, 2008, a.o.). These include such disparate constructions as *want*-type Intensional Transitive Verbs (ITVs), shown in (1), and double-object constructions, shown in (2).

(1) a. John needs a cookie. (≈ John needs to have a cookie.)
b. John wants a cookie. (≈ John wants to have a cookie.)

(2) a. John gave Mary a cookie. (≈ John caused Mary to have a cookie.)
b. Mary got a cookie. (≈ Mary came to have a cookie.)

In this paper, we argue that evaluatives such as *like* can also take a null *have*-clause complement.[1]

(3) a. John likes a cookie after dinner. (≈ John likes to have a cookie after dinner.)
b. John enjoys a cookie after dinner. (≈ John enjoys having a cookie after dinner.)

We further show that in each of the above classes of verbs, the *have*-clause behaves differently. Based on verbal diagnostics, we build on Marušič and Žaucer (2006) to argue that *want*-type ITVs and evaluatives take a verbal *have*-clause, while double-object constructions take a prepositional *have*-clause. Then, by examining the semantic relations allowed in these different constructions, we argue that null verbal and prepositional *have* actually each have two forms, telic and stative.

[1] Evaluative do not always take a null *have*-clause (e.g. *John likes Mary*). A *have*-clause reading is often preferred with temporal modification, which we will employ throughout. For details on this contrast, see Zaroukian and Beller (to appear a) and Zaroukian and Beller (to appear b).

While *want*-type ITVs can appear with either form of (verbal) *have*, evaluatives can only appear with telic (verbal) *have*, and double-object constructions can only appear with (prepositional) stative *have*.

2. Verbal behavior

In this section, we examine several diagnostics that have been used to signal the presence of a verbal element. We find that evaluatives pattern overall like *want*-type ITVs, and we argue that evaluatives, like *want*-type ITVs, are best analyzed as taking a verbal complement.

2.1. Adverb ambiguity

In sentences like (4) containing two verbal events, there is an ambiguity regarding which event is modified by the adverbial. The modified event is specified in parentheses.

(4) John said that Mary left after dinner.
   a. 'There was a time after dinner at which John said Mary left.' (*say*)
   b. 'Mary's leaving occurred after dinner.' (*leave*)

If a verb takes a null verbal *have* complement, it should show the same ambiguity. This is true for *want*-type ITVs and evaluatives, but not for double-object constructions, suggesting that only *want*-type ITVs and evaluatives take a verbal *have*. (In what follows, all caps will be used to indicate phonologically-null items.)

(5) John got a cookie after dinner.
   a. 'There was a time after dinner at which John came to have a cookie.' (*COME*)
   b. *'John's 'becoming' was to have a cookie after dinner.' (*HAVE*)

(6) John wanted a cookie after dinner.
   a. 'There was a time after dinner at which John wanted a cookie.' (*want*)
   b. 'John's desire was to have a cookie after dinner.' (*HAVE*)

(7) John liked a cookie after dinner.
   a. 'There was a time after dinner at which John liked a cookie.' (*like*)
   b. 'John was positively disposed toward having a cookie after dinner.' (*HAVE*)

2.2. Allows conflicting temporal adverbs

A sentence like (8) containing two verbal events can contain conflicting temporal adverbs (Ross, 1976; McCawley, 1974; Partee, 1974; Schwarz, 2008, a.o.).

(8) At lunchtime, John said that he took his medicine at dinnertime.

If a verb takes a verbal *HAVE* complement, the sentence should likewise allow conflicting temporal adverbs. This is true for *want*-type ITVs and evaluatives[2], but not for double-object constructions, suggesting that only *want*-type ITVs and evaluatives take a verbal *have*.

(9) At lunchtime, John wants his medicine at dinnertime. (But at dinnertime, he wishes he had taken it a lunchtime.)

(10) #At lunchtime, John gets his medicine at dinnertime.

(11) At lunchtime, John likes his medicine at dinnertime. (But at dinnertime, he wishes he had taken it a lunchtime.)

2.3. VP ellipsis ambiguity

In a sentence like (12) containing two verbal events, the target of ellipsis is ambiguous (Larson et al., 1997).

(12) John asked Mary to leave more often than Bill.
  a. 'John asked Mary to leave more often than Bill asked Mary to leave' (*ask*)

[2]Note that *like* is infelicitous is classical examples like (i) in part because *like* requires modification (e.g. *after dinner*) or an eventive noun (*nap*, *challenge*) to license a *have*-clause reading (Zaroukian and Beller, to appear a).

(i) a. Yesterday, John wanted a new car tomorrow.
  b. Yesterday, John liked a new car tomorrow.

Examples like (ii) remain infelicitous because 'likes' should stay relatively constant (not differ day to day), and this context does not set up reason for alternation.

(ii) a. Yesterday, John wanted a nap (tomorrow).
  b. #Yesterday, John liked a nap (tomorrow).

b. ‘John asked Mary to leave more often than Bill leaves’ (*leave*)

If verbal *HAVE* is present, it should cause the same ambiguity. This is true for *want*-type ITVs and evaluatives, but not for double-object constructions, suggesting that only *want*-type ITVs and evaluatives take a verbal *HAVE*.

(13) John got more toys than Ben. (Marušič and Žaucer, 2006, p. 136)
a. ‘John came to have more toys than Ben came to have’ (*COME*)
b. *‘John came to have more toys than Ben has’ (*HAVE*)

(14) John wants more toys than Ben. (Marušič and Žaucer, 2006, p. 135)
a. ‘John wants to have more toys than Ben wants to have’ (*want*)
b. ‘John wants to have more toys than Ben has’ (*HAVE*)

(15) John likes more cookies after dinner than Ben.
a. ‘John likes to have more cookies after dinner than Ben likes to have’ (*like*)
b. ‘John likes to have more cookies after dinner than Ben has’ (*HAVE*)

2.4. Sentential anaphor ambiguity

In a sentence like (16) containing two verbal events, the target of the sentential anaphor is ambiguous.

(16) John said that Mary left, and Bill allowed it.
a. ‘...and Bill allowed John to say that Mary left.’ (*say*)
b. ‘...and Bill allowed Mary to leave.’ (*leave*)

If a verb takes a null verbal *have*, it should show the same ambiguity. This is true for *want*-type ITVs and evaluatives, but not for double-object constructions, suggesting that only *want*-type ITVs and evaluatives have a verbal *have*.

(17) Joe got some coca leaves (as a birthday present from his friends) even though the law doesn’t allow it. (Marušič and Žaucer, 2006, p. 137)
a. ‘...the law doesn’t allow Joe’s coming to have some coca leaves.’ (*COME*)
b. *‘...the law doesn’t allow Joe’s having some coca leaves.’ (*HAVE*)

(18) Joe wants a second wife, but his mother won't allow it. (Marušič and Žaucer, 2006, p. 137)
   a. '...but his mother won't allow him to want a second wife.' (*want*)
   b. '...but his mother won't allow him to have a second wife.' (*HAVE*)

(19) Joe likes a cookie after dinner, but his mother won't allow it.
   a. '...but his mother won't allow him to like to have a cookie after dinner.' (*like*)
   b. '...but his mother won't allow him to have a cookie after dinner.' (*HAVE*)

2.5. *Too* ambiguity

In a sentence like (20) containing two verbal events, the antecedent of the *too*-clause is ambiguous.

(20) a. Bill said that Mary left, and John said that Mary left too. (*say*)
   b. Bill left, and John said that Mary left too. (*leave*)

If a verb takes a verbal *HAVE*, it should allow the *HAVE* to serve as antecedent of a *too*-clause. At first glance, all three constructions appear to allow this.

(21) John has a cookie, and Mary wants one too.

(22) John has a cookie, and Mary got one too.

(23) John has a cookie after dinner, and Mary likes one too.

Note, however, that *like* is only felicitous if *HAVE* entails 'liking' (you have it because you like it), a reading dispreferred in (24).

(24) #John has a colonoscopy every Thursday, and Mary likes one too.

This behavior leads us to believe that this diagnostic does not test for the presence of a verbal element, but instead relies on similarities in meaning.

2.6. Conclusion

Through the above diagnostics, we have seen that *want*-type ITVs and evaluatives appear to take a verbal *have*, unlike double-object constructions. Any aberrations in the behavior of evaluatives from the behavior of *want*-type ITVs in these verbal diagnostics was shown to be due to independent of verbal status.

(25)

diagnostic	double-object constructions	*want*-type ITVs	evaluatives
1. Adverb ambiguity	no	**yes**	**yes**
2. Allows conflicting temporal adverbs	no	**yes**	**yes**
3. VP ellipsis ambiguity	no	**yes**	**yes**
4. Sentential anaphor ambiguity	no	**yes**	**yes**
5. *Too* ambiguity	**yes**	**yes**	no

We follow Marušič and Žaucer (2006) in assuming that double-object constructions take a prepositional *have* (Harley, 2002).

We will also follow Marušič and Žaucer (2006) in assuming that the *HAVE* complement to *want*-type ITVs is actually one of two special null verbs, V_{have} and V_{get}. They argue for this based on the fact that sometimes only one is acceptable in a given context, (Harley, 2004):

(26)
a. John wants a compliment / kiss / pat on the back.
b. #John wants to have a compliment / kiss / pat on the back.
c. John wants to get a compliment / kiss / pat on the back.

We have seen above that *want*-type ITVs and evaluatives pattern similarly in their ability to take a null verbal complement, but an open question is whether both of the predicates V_{have} and V_{get} that Marušič and Žaucer propose are available with evaluatives. In the next section we will present an analysis of null and overt *have* predicates within the generative-lexicon framework of Pustejovsky (1998). Based on the results of that analysis we suggest evaluatives are restricted to V_{get}.

3. Semantic relations

We ended Section 2 with the conclusion that *want*-type ITVs and evaluatives both take a verbal *HAVE*, whereas double-object constructions take a prepositional *HAVE*. In this section, we investigate the precise semantic contribution of the null forms, focusing specifically on whether *want*-type ITVs and evaluatives share the same verbal *HAVE*s. We conclude that they do not, as evidenced by the contrasting semantic relations allowed by *HAVE* clauses in *want*-type ITVs and evaluatives.

3.1. Pustejovsky's qualia roles

We begin our discussion on semantic relations with Pustejovsky's observations about the evaluative predicate *enjoy*. He points out that the default interpretation of *enjoy* involves a null predicate whose specific value is determined by the object of *enjoy*.

(27) a. Mary enjoyed the movie last night. (*watching*) (Pustejovsky, 1998, p. 88)
b. John quite enjoys his morning coffee. (*drinking*)
c. Bill enjoyed Steven King's last book. (*reading*)

On Pustejovsky's theory, the value of the null predicate is determined by the object's lexical entry, where lexical entries are bundles of specifications and include an argument structure specification and a qualia structure specification. This qualia structure specification includes quale, implementing various qualia roles.

(28) Qualia Roles: (Pustejovsky, 1998, p. 85)
a. CONSTITUTIVE: The relation between an object and its constituents or proper parts
b. FORMAL: That which distinguishes the object within a larger domain
c. TELIC: Purpose or function of the object
d. AGENTIVE: Factors involved in the origin or "bringing about" of an object

For *enjoy*, Pustejovsky proposes that the object's TELIC qualia role determines the value of the null predicate. For example, in (27a) movies are typically for watching, so *watching* is understood to be the null predicate.

We adopt this proposal into our analysis in Section 4. First, however, we explicitly identify which relations *have*-taking predicates express. We then tie these relations to qualia roles.

3.2. Default relations

To see which relations *HAVE* can express, we begin with Vikner and Jensen (2002)'s work on genitive constructions. The key commonality between *have* and genitives is that in both the interpretation crucially involves a non-explicit relation between two entities, and that that relation can take on a large number of values. Three such relations at play in genitives are shown in (29).

(29) a. The girl's sister (kinship)

b. The girl's nose (part-whole)
c. The girl's car (control/ownership)

Overt *have* shows similar flexibility in the relations that it can express. In fact, maintaining the objects from (29) maintains the relations as well, shown in (30).

(30) a. The girl has a sister. (kinship)
b. The girl has a nose. (part-whole)
c. The girl has a car. (control/ownership)

Vikner and Jensen point out that the kinds of relations indicated in (30) are distinguished in being available simply on the basis of the words themselves. Many other relations, potentially an unbounded number, are available but only when provided by the context.[3] Vikner and Jensen classify the handful of relations that are available independent of context as *lexical* relations, and those dependent on context as *pragmatic* relations. The lexical relations are listed below.

(31) Lexical relations
a. inherent b. part-whole c. agentive d. control

In these relations, the genitives and the *have* constructions have two required participants. Vikner and Jensen label the participants in a genitive Ref_1 and Ref_2, picking out the NPs to the left and right of the genitive *'s* respectively. We extend this terminology to *have*-clauses such that Ref_1 is the subject and Ref_2 the object of *have*. We can thus state the generalization across both constructions that the relation encoded is in each case contributed by Ref_2. Let's look more carefully at the lexical relations in turn.

The inherent relation is available when Ref_2 is a relational noun like *sister* or *teacher*. The part-whole relation holds of cases in which Ref_2 is taken to be a part of Ref_1. The agentive relation holds between a created thing (Ref_2) and its creator (Ref_1). The control relation holds between an animate being (Ref_1) and an object (Ref_2) that that being has the use of, this is often assumed to be something like a basic meaning of the genitive and *have* constructions.

Vikner and Jensen provide the following lexical entries for the words in (29), (Vikner and Jensen, 2002, p. 200). Here we represent only argument structure and qualia structure, which includes any lexical specifications for a given qualia role.

[3]For example, with the right contextual support, *the girl's car* might refer to a car that the girl built, or picked out to rent, or decorated, or even a car that is conventionally associated with the girl through no fault of her own.

(32) *girl*
Argument structure: $\lambda x[girl'(x)]$
Qualia structure: ...
sister
Argument structure: $\lambda y[\lambda x[sister'(y)(x)]]$
Qualia structure: ...
teacher
Argument structure: $\lambda y[\lambda x[teacher'(y)(x)]]$
Qualia structure:
TELIC: $\lambda y[\lambda x[teach'(y)(x)]]$
poem
Argument structure: $\lambda x[poem'(x)]$
Qualia structure:
TELIC: $\lambda x[\lambda y[read'(x)(y)]]$
AGENTIVE: $\lambda x[\lambda y[compose'(x)(y)]]$
car
Argument structure: $\lambda x[car'(x)]$
Qualia structure:
TELIC: $\lambda x[\lambda y[drive'(x)(y)]]$
AGENTIVE: $\lambda x[\lambda y[construct'(x)(y)]]$

According to Vikner and Jensen, the inherent relation arises when the Ref_2 is intrinsically relational (e.g. with kinship terms). In these cases the two-place relation required by the genitive will be encoded in the argument structure of Ref_2. But clearly genitives are not restricted to having relational nouns fill Ref_2. It is when Ref_2 is sortal rather than relational that the qualia structure come into play in determining the identity of the genitive relation.

Vikner and Jensen interpret qualia roles to be functions that target specific qualia in the qualia structure of a word. These partial function take a word as input and return one of its subconstituent denotations. One such function is Q_T shown in (33) which takes a word and returns its TELIC quale (if one is specified).

(33) Q_T(poem) = $\lambda x[\lambda y[read'(x)(y)]]$ (Vikner and Jensen, 2002, p. 200)

On their account each of the lexical relations besides the inherent relation is the result of a type shift that conjoins the argument structure of a sortal Ref_2 with one of its quale. The part-whole relation arises from the type shifter Co(W), (34), which conjoins a word's argument structure with its constitutive quale. The agentive relation arises similarly from a type shifter Ag(W) which conjoins a word's argument structure with its agentive quale. (34) shows Ag(W) alone and applied to the word *poem*.

(34) Co(W) = $\lambda y[\lambda x[W'(x)\ \&\ Q_C(W)(y)(x)]]$ (Vikner and Jensen, 2002, p. 207)

(35) a. Ag(W) = $\lambda y[\lambda x[W'(x)\ \&\ Q_A(W)(x)(y)]]$ (Vikner and Jensen, 2002, p. 219)
b. Ag(*poem*) = $\lambda y[\lambda x[poem'(x)\ \&\ compose'(x)(y)]]$

Unlike the part-whole and agentive relations, the control relation does not arise from the qualia structure of a word. Vikner and Jensen instead propose a predicate *control*′ as part of the type shifter Ctr(W) in (36). Despite its dissociation from the qualia the control relation patterns with the other lexical relations in being available even in the absence of contextual support.

(36) Ctr(W) = $\lambda y[\lambda x[W'(x)\ \&\ control'(x)(y)]]$ (Vikner and Jensen, 2002, p. 210)

Finally, we need a type-shift that accesses the TELIC quale. This plays a role in Vikner and Jensen's analysis of *favorite* genitives like those in (37).

(37) a. Mary's favorite chair.
b. Mary's favorite cigarette.

The interpretation of these *favorite* genitives relies on the typical use of the Ref_2 nominal. Thus (37a) picks out the chair that Mary likes best for sitting in, while (37b) picks out the cigarette she like best for smoking. These typical uses are encoded in the TELIC quale, and are conjoined with a nouns argument-structure by the type shifter Te(W).

(38) a. Te(W) = $\lambda y[\lambda x[W'(x)\ \&\ Q_T(W)(x)(y)]]$ (Vikner and Jensen, 2002, p. 218)
b. Te(*chair*) = $\lambda y[\lambda x[chair'(x)\ \&\ sit\text{-}in'(x)(y)]]$

3.3. Comparing verbs

We have seen that genitives can express the following relations: inherent, part-whole, agentive, control, and (for the *favorite* genitives) typical-use. These are shown, with examples, in (39).

(39) ***'s*** agentive | inherent | part-whole | control | typical-use
a. agentive
The girl's poem
'the poem that the girl has written'

b. inherent
The girl's teacher
'the person who is the teacher of the girl'
c. part-whole
The girl's nose
'the nose which is part of the girl'
d. control
The girl's car
'the car which the girl has at her disposal'
e. typical-use
The girl's favorite chair
'the chair which the girl likes best to sit in'

In the current framework these relations are variously encoded in Ref_2's argument structure (the inherent relation), in its qualia structure (the CONSTITUTIVE, AGENTIVE, and TELIC quale encode the part-whole, agentive, and typical-use relations respectively), or within one of the type shifting operators (the control relation). We have also seen that overt *have* can express at least some of the same relations. The next step is to systematically compare which of these lexical relations can be conveyed by various overt- and null-*have* constructions.

Overt *have* can express all of these lexical relations. The typical-use relation is clearest in a simple past.

(40) ***have*** agentive | inherent | part-whole | control | typical-use
a. agentive
The girl has a new poem
'the girl has written the poem'
b. inherent
The girl has a teacher
'the person is the teacher of the girl'
c. part-whole
The girl has nose
'the nose is part of the girl'
d. control
The girl has car
'the girl has the car at her disposal'
e. typical-use
The girl had a cookie
'the girl ate a cookie'

The *HAVE* that has been proposed for double-object constructions like *get* can express the inherent, part-whole, and control relations, but does not appear to be able to express the agentive or typical-use relations.

(41) ***get HAVE*** (DO) ~~agentive~~ | inherent | part-whole | control | ~~typical-use~~

a. ~~agentive~~
   The girl got a new poem
   #'someone caused the poem to have been written'

b. inherent
   The girl got a teacher
   'someone caused the person to be the teacher of the girl'

c. part-whole
   The girl got a (new) nose
   'someone caused the nose to be part of the girl'

d. control
   The girl got a car
   'someone caused the car to be at the girl's disposal'

e. ~~typical-use~~
   The girl got a cookie
   #'someone caused the cookie to be eaten by the girl'

The *HAVE* that occurs with *want* can express the same relations as overt *have* except the agentive relation.

(42) ***want HAVE*** (*want*-type ITVs) ~~agentive~~ | inherent | part-whole | control | typical-use

a. ~~agentive~~
   The girl wants a poem
   #'wants to {create/have created} her poem'

b. inherent
   The girl wants a teacher
   'wants to be in a teacher-student relation'

c. part-whole
   The girl wants a (new) nose
   'wants the nose to be part of her'

d. control
   The girl wants a car
   'wants a car to be at her disposal'

e. typical-use
   The girl wants a cookie
   'wants to eat a cookie'

The evaluative verb *like* is more restricted in only expressing the typical-use relation. To be sure that these cases of *like* occur with a *HAVE* clause we restrict ourselves to cases with indefinite objects that are understood to be non-specific.

(43) ***like HAVE*** (evaluative) ~~agentive~~ | ~~inherent~~ | ~~part-whole~~ | ~~control~~ | typical-use

a. ~~agentive~~
The girl likes a poem in the evenings
#'likes creating/having created her poem'

b. ~~inherent~~
The girl likes a teacher when she's stumped
#'likes being in a teacher-student relation'

c. ~~part-whole~~
The girl likes a (new) nose every so often
#'likes the nose being part of her'

d. ~~control~~
The girl likes a car when she has errands to run
#'likes having a car at her disposal'

e. typical-use
The girl likes a cookie after dinner
'likes eating a cookie'

These data show that overt *have* is capable of expressing the lexical relations identified by Vikner and Jensen for the English genitive. Putting aside the agentive relationship for a moment, we see a split between the three covert *HAVE* constructions. *Want*-type ITVs are able to express all the remaining lexical relations but the double-object and evaluative constructions are more restricted. The latter two cases are restricted in a complementary fashion: evaluatives can only express the typical-use relation while double-objects can express all but that relation. This is reflected in (44).

(44)

want-type ITVs	inherent | part-whole | control | typical-use
double-object constructions	inherent | part-whole | control | ~~typical-use~~
evaluatives	~~inherent~~ | ~~part-whole~~ | ~~control~~ | typical-use

We speculate that the agentive relation is unavailable in these covert *HAVE* constructions because they convey a displacement between Ref_1 and Ref_2. This is clearest in *want* which is infelicitous if Ref_1 currently controls Ref_2. This displacement is incompatible with agentivity, which requires some span of time, the creation period, in which Ref_1 controls at least an early stage of Ref_2.

As a last point, note that the typical-use relation, which differentiates evaluative and double-object constructions, is expressed through the TELIC quale. This will be exploited in the following section.

4. Denotations for *have* and *HAVE*

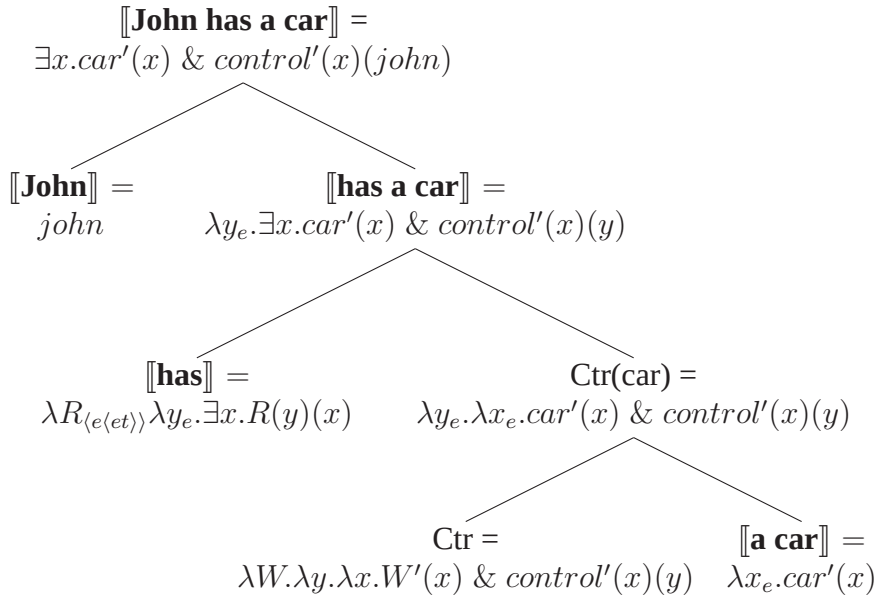
In this section we develop denotations for the various forms of overt and null *have* discussed here. These denotation will provide the contrast represented in (44), as well as explaining seemingly-independent aspectual contrasts.

Following the discussion in the previous section, we propose that *have* takes a relation (supplied by the object, Ref_2) and an individual and returns a truth value.

(45) $[\![\textbf{have}]\!] = \lambda R_{\langle e\langle et\rangle\rangle}\lambda y_e.\exists x.R(y)(x)$

The relation R may be one of the lexical relations (inherent, part-whole, control, typical-use) or, with a sufficiently supporting context, it may be a pragmatically supplied relation. We can see how this works with the example in (46). Here a type-shifting function, Ctr(W) in this case, takes the sortal noun *car* and returns a relational meaning such that it can compose with *have*.[4,5]

(46)



Note that among the lexical relations, all are stative except the typical-use relation (which is en-

[4]Note that the argument structure of *car* only takes a single argument which will lead to a type mismatch with *have* unless a type-shift is applied.

[5]For simplicity we treat the indefinite article as vacuous.

coded via the TELIC quale). Furthermore, note that for nouns that have a TELIC quale, both control and typical-use relations are available but are dependent on tense/aspect.[6]

(47)
a.	Sandra is having a cookie	* control,	✓typical-use
b.	Sandra has a cookie	✓control,	* typical-use
c.	Sandra had a cookie	✓control,	✓typical-use

To account for this, we propose that the TELIC quale, unlike other qualia, has a time-interval argument. For us this means that it has the type $\langle e\langle e\langle st\rangle\rangle\rangle$. This proposal has its roots in Davidson's (1967) idea that what distinguishes stative verbs from eventive verbs is that they lack an event argument. Our lexical entry for *cookie* demonstrates this in (48).

(48) *cookie*

Argument structure: $\lambda x_e.cookie'(x)$

Qualia structure:

TELIC: $\lambda x_e.\lambda y_e.\lambda i_s.eat'(x)(y)$ at i ← typical-use

And accordingly, we will assume the following revised telic type-shift.

(49) Te(W) = $\lambda y.\lambda x.\lambda i.W'(x)$ & $Q_T(W)(x)(y)(i)$

The difference in argument structure between the TELIC quale and other qualia is reflected in *have* itself. We propose that *have* takes one of two forms, given in (50). The stative form combines with a relation of type $\langle e\langle et\rangle\rangle$, whereas the telic form combines with a time-bound relation of type $\langle e\langle e\langle st\rangle\rangle\rangle$.

(50)
a.	$[\![\textbf{have}_{stative}]\!] = \lambda R_{\langle e\langle et\rangle\rangle}\lambda y_e.\exists x.R(y)(x)$	= (45)
b.	$[\![\textbf{have}_{telic}]\!] = \lambda R_{\langle e\langle e\langle st\rangle\rangle\rangle}\lambda y_e.\lambda i_s.\exists x.R(y)(x)(i)$	

The pattern in (47) and the introduction of time-intervals into our semantics requires us to make some assumptions about tense and aspect. We will further use these assumptions to motivate the interpretation of evaluatives. The denotations in (51a)–(51b) implement standard assumptions about aspectual heads (cf. Kratzer, 1998). We further require that evaluation be relativized to a time parameter t. These aspectual heads combine with the entries for *have* in (50) to yield empirical

[6]The typical-use reading in the progressive is only available for 'consumable' nouns, e.g. *cookie*, not *car* (**Sandra is having a car*).

patterns in (47).

(51) Aspectual heads:

a. $[\![\textbf{prog}]\!]^t = \lambda P_{\langle st \rangle}.\exists i_s.P(i)\ \&\ t \subseteq i$

b. $[\![\textbf{pres}]\!]^t = \lambda p_t.p$ at t

c. $[\![\textbf{past}]\!]^t = \lambda P_{\langle st \rangle}.\exists i_s.P(i)\ \&\ i < t$

-or- $= \lambda p_t.\exists i_s.p$ holds at $i\ \&\ i < t$

The derivation of the sentences in (47) is given below. (52) gives the derivation up until the aspectual head, which is added in (53)-(55). The result nicely matches the judgments in (47).

(52) a. $[\![\textbf{have}_{stative}]\!]^t(Ctr(cookie))([\![\textbf{Sandra}]\!]^t) = \exists x.cookie'(x)\ \&\ control'(x)(sandra)$

b. $[\![\textbf{have}_{telic}]\!]^t(Te(cookie))([\![\textbf{Sandra}]\!]^t) = \lambda i_s.\exists x.cookie'(x)\ \&\ eat'(x)(sandra)$ at i

(53) * Stative under progressive: $[\![\textbf{prog}]\!]^t([\![\textbf{have}_{stative}]\!]^t(Ctr(cookie))([\![\textbf{Sandra}]\!]^t)) =$
$[\lambda P_{\langle st \rangle}.\exists i_s.P(i)\ \&\ t \subseteq i](\exists x.cookie'(x)\ \&\ control'(x)(sandra)) \leftarrow$ type conflict!

✓ Telic under progressive: $[\![\textbf{prog}]\!]^t([\![\textbf{have}_{telic}]\!]^t(Te(cookie))([\![\textbf{Sandra}]\!]^t))$
$= \exists i_s.\exists x.cookie'(x)\ \&\ eat'(x)(sandra)$ at $i\ \&\ t \subseteq i$

(54) ✓ Stative under present: $[\![\textbf{pres}]\!]^t([\![\textbf{have}_{stative}]\!]^t(Ctr(cookie))([\![\textbf{Sandra}]\!]^t))$
$= \exists x.cookie'(x)\ \&\ control'(x)(sandra)$ at t

* Telic under present: $[\![\textbf{pres}]\!]^t([\![\textbf{have}_{telic}]\!]^t(Te(cookie))([\![\textbf{Sandra}]\!]^t))$
$= [\lambda p_t.p$ at $t](\lambda i'_s.\exists x.cookie'(x)\ \&\ eat'(x)(sandra)$ at $i') \leftarrow$ type conflict!

(55) ✓ Stative under past
$[\![\textbf{past}]\!]^t([\![\textbf{have}_{stative}]\!]^t(Ctr(cookie))([\![\textbf{Sandra}]\!]^t))$
$= \exists x.cookie'(x)\ \&\ control'(x)(sandra)$ holds at $i\ \&\ i < t$

✓ Telic under past
$[\![\textbf{past}]\!]^t([\![\textbf{have}_{telic}]\!]^t(Te(cookie))([\![\textbf{Sandra}]\!]^t))$
$= \exists i_s.\exists x.cookie'(x)\ \&\ eat'(x)(sandra)$ at $i\ \ \&\ \ i < t$

Furthermore, consider evaluative *like* with temporal modification, as in *Sandra likes a cookie after dinner*. This analysis predicts that such modification would force the use of the *have*$_{telic}$ to accommodate the modifier's temporal argument. And, as shown in Section 3.3, the typical-use relation (provided by the telic relation) is the only available reading.

5. Conclusion

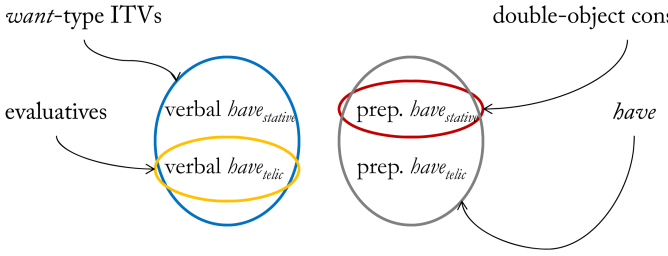
Supporting Marušič and Žaucer (2006), we argue that not all phonologically-null *have*-causes are alike. We maintain the distinction between *want*-type ITVs (which take a verbal *HAVE*) and double-object constructions (which take a prepositional *HAVE*), and in Section 2 we argue that evaluatives pattern like *want*-type ITVs.

We maintained that the two-null-verb account for *want*-type ITVs proposed in Marušič and Žaucer (2006), where we distinguished verbal $have_{stative}$ and $have_{telic}$, and we propose the existence of similar prepositional forms, prepositional $have_{stative}$ and $have_{telic}$. Based on the available semantic relations, summarized in (44), we argue for the distinctions in (56): overt *have* can appear as either prepositional $have_{stative}$ or $have_{telic}$ (allows all relations), double-object constructions select prepositional $have_{stative}$ only (lack typical-use relation), *want*-type ITVs select verbal $have_{stative}$ and $have_{telic}$ (allow all relations), and evaluatives select verbal $have_{telic}$ only (lack control, etc. relations).

(44)

have	inherent | part-whole | control | typical-use
want-type ITVs	inherent | part-whole | control | typical-use
double-object constructions	inherent | part-whole | control | ~~typical-use~~
evaluatives	~~inherent~~ | ~~part-whole~~ | ~~control~~ | typical-use

(56)



This analysis of *have* and *have*-clause-taking predicates explains not only the behaviors summarized in (25) and (44). We also saw that, in assigning the TELIC quale a time-interval argument, it allows us to explain the distribution of semantic relations under different aspectual heads, as in (47).

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