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BEYOND THE (IN)DEFINITENESS RESTRICTION: A UNIFIED SEMANTICS FOR *HAVE*

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Abstract

In this paper, the main properties of the verb *have* and their connection with the (in)definiteness restriction are studied. Several varieties are characterized, in addition to the well-known existential-*have* construction: restricted existence, the locative reading, the essential and accidental readings, idiomatic constructions, etc. It is argued that it is possible to provide a uniform semantics for these constructions, starting with the idea that *have* denotes a function attributing essential properties. The proposed analysis is implemented in Generalized-Quantifier Theory.

1 Introduction

One of the cornerstones of the semantic analysis of indefinites has been the study of the (in)definiteness effect(s) and the ensuing distinction among determiner types (weak/strong; indefinite/definite). Probably the most prominent among this constellation of phenomena is the contrast that emerges in existential sentences. Indefinite (or, more generally, weak) determiners can occur in existential constructions whereas strong determiners cannot (Milsark, 1977; Keenan 1987; de Hoop 1992; McNally 1998; Reuland & ter Meulen, 1987,etc.)

(1) a. *There is(are) the/all the/each/every/most student(s) in the garden.
b. There are some/two/fewer than three/many students in the garden.

"Existential-*have*" environments trigger the same contrast and have been claimed to obey the definiteness restriction too (Keenan 1987):

(2) a. John has four/fewer than four/many cousins.
b. *John has most of the/each/every cousin.

Nevertheless, there are several issues that merit further investigation and may lead to a better understanding of the definiteness restriction or of the role that *have*-sentences play in it. First, not all existential-*have* structures are identical, and several different readings can be clearly characterized. In this respect, the issue of their uniformity should also be addressed. This will probably help us in answering the question of whether there is a common core that should be considered the basic content of the verb *have*. Additionally, the distinction between existential/relational readings and non-existential readings will be argued to be a matter of contextual gradience.

A second important issue is related to certain significant evidence coming from cross-linguistic variation in verb choice: The so-called *have/be* alternation or, more properly, the *have/be/∅* alternation. Many languages use *be* instead of *have*. For example, Turkish and Latin use *be* systematically and most other languages (including English) do so at least in certain constructions. There are also languages where a copula is not required (some Bantu languages, Malagasy for certain constructions, etc.) Morphological weakening or "bleaching" of the copular verb correlates with a language's ability to express certain semantic relations

(kin, possession, etc.) through morphological cases. For example, in Turkish the meaning of *have* is expressed by the copula plus a genitive DP —this option is also possible in English, and other languages for possessive constructions: *This is ours = We have this*. In Latin, where the copular verb is *be* (*essere*), possesive meaning is expressed via dative case marking on the postcopular DP: *Libri sunt mihi* ´The books are mine'. Finally, in certain Malagasy *have*-constructions there actually is no copula linking the two terms of the *have*-relation (Keenan & Ralalaoherivony 2000; Paul 2006)

(3) Marary znaka Rabe.
Sick child Rabe
'Rabe has a sick child.'

(4) Be asa manahirana aho
big work bother 1sgNom.
'I have a lot of bothersome work.'

Evidence of this sort is the source for the Benveniste/Kayne generalization (Kayne 1993), which amounts to the claim that *have* is the syntactic amalgam of a light or contentless copula and a preposition. If what is argued here is correct, it can be concluded that this analysis is also on the right track from a semantic viewpoint. This paper presents data fom Spanish, a language of interest because it seems to be strongly on the *have* side of the *have/be*-alternation spectrum, since the use of *have* is widespread to express a multitude of relations between the subject and the object.

2. Existence, proper and restricted

Let us start revising Keenan's (1987) generalization: Existential-*have* sentences are like existential-*there* sentences in expressing an assertion of existence. More concretely, one consequence of this generalization is that sentences such as those in (5) are assertions of existence, as the respective paraphrases in (6) show. In this respect, they are equivalent to those in (7):

(5) a. John has a dog.
b. John has four cousins.

(6) a. A dog (owned by John) exists.
b. John's four cousins exist.

(7) a. There is a dog owned by John.
b. There are four cousins of John.

In considering these equivalences, there is an element that introduces an apparent asymmetry. In most existential-*there* sentences, an XP modifier restricts the assertion of existence to those individuals in the universe under consideration satisfying the denotation of the XP. The assertion of existence does not normally affect the whole universe but rather a "slice" of it. This property makes contrastive statements such as (8) possible:

(8) There are two students in the garden. There is another student inside the house.

The presence of the restricting modifier is critical. If it is omitted, the discourse becomes odd:

(9) There are two students. ??There is another student inside the house.

The only way of improving (9) is to accommodate a restrictive (locative) relation by a pragmatic/rhetorical operation (Asher & Lascarides 2003): contrast (not in the house) or elaboration. On the other hand, it seems that in existential-*have* environments it is more difficult to accommodate such a restriction. For example, (10) is not felicitous if the chair under discussion has four legs, and the second sentence is is not a possible (contrastive or elaborative) continuation:

(10) The chair has three legs. #The chair has another leg too.

Nevertheless, to claim that *have*-sentences are incompatible with an explicit or implicit restriction would be incorrect. A more accurate hypothesis would be that the occurrence of a restriction could be alternatively impossible, possible or even necessary depending on the interpretation of the sentence (on the type of relation expressed by *have*). The modifying adjunct can at times express an explicit spatio-temporal restriction, as in (11):

(11) John has four cousins in the army. Another one is unemployed.

In other instances, the explicit restricting term denotes a property of the object:

(12) The chair has three iron legs. The other one is made of wood.

The restriction delimits the predication relation (the assertion of existence). We can then distinguish two types of assertions of existence: pure (unrestricted) and restricted. In the case of existential-*there* sentences only the restricted existence reading seems to be possible. This idea would receive support from proposals that consider *there* as an expression of a contextual parameter (Freeze 1992; Hoekstra & Mulder 1990; etc.). The presence of this parameter would make possible the 'intrusion'of a pragmatically-conditioned restriction. In other languages, this adverbial element is optional (such as weak *ahi* 'there' in Spanish; cf. Gutiérrez & Silva 1998).

(13) Ahi hay dos libros. 'There are two books'
(14) Hay dos libros 'lit. * are two books'

Nevertheless, as argued by Gutiérrez & Silva (1998) and Gutiérrez-Rexach (1999, 2001), both the weak pronominal and its null counterpart —or the incorporated pronoun *–y* if one is assuming a theory without null elements— encode free contextual variables or context sets (Westerståhl 1985). The presence of a context-set parameter activates the possibility of explicit or implicit restrictions. As will be argued below, *have*-sentences also give rise to restricted existence readings, which can be explained as a by-product of the presence of contextual parameters.

3. Existence and location

It has been observed that *there*-constructions have a locative-deictic reading that is quite different from the existential one. Consider the following contrast (Lakoff 1987):

(15) There is a man on the porch.
(16) There is Harry on the porch.

What sentence (16) asserts is not an existential statement, but one that indicates the (spatial) location of Harry or is uttered while pointing at Harry. In this respect, the locative-deictic interpretation of *there*-sentences is not merely a variant of the restricted-existence reading that we considered in the previous section. The main contrast with existential sentences is that the locative-deictic reading does not obey the definiteness restriction, as the grammaticality of (16) shows —any other variant with a definite or strong determiner would also be grammatical: *There are those books on the table*, etc. Additionally, the postcopular DP is not "discourse new" (Ward & Birner 1995) and the sentence normally has a characteristic intonational contour, where *there* receives the main pitch/focus accent and loses its clitic-like character. This property is shared by many other languages. In Spanish, the presence of strong *ahí* 'there' triggers the locative/deictic reading:

(17) Ahí/ahi está Harry en el porche. 'There is Harry on the porch.'

This reading is also associated with some additional properties, such as the incompatibility with non-dislocated adjuncts (18) or with genericity triggers (Gutiérrez & Silva 1998):

(18) a.*Ahí está Juan en el parque. 'There is John in the park.'(locative)
b. Ahí está Juan, en el parque.

Have-sentences exhibit the same behavior as *there*-constructions in this respect. A sentence such as (19) is a genuine locative-*have* constructions:

(19) There you have the apple.

(19) is generally uttered to indicate the location of the apple under discussion, normally in a deictic fashion, i.e. accompanying its utterance with a pointing gesture. Locative-*have* sentences do not obey the definiteness restriction either and require the insertion of the prosodically strong counterpart of *there*. In Spanish, only the strong adverbial non-clitic pronoun *ahí* is allowed:

(20) Ahí tienes a dos primos de Juan. 'lit. There you have two of John's cousins.'
(21) Dos primos de Juan están ahí. 'Two of John's cousins are there.'

2. Essential vs accidental readings

Hornstein, Rosen & Uriagereka (1995) claim that the predication relation established between the postcopular DP and the PP coda or adjunct is not semantically uniform. They link the two resulting readings to a contrast between what they call *integral predication* and *standard predication*. Consider (22):

(22) There is a Ford motor in my truck.

The above sentence can be interpreted as either (23) or (24):

(23) My truck runs on a Ford motor.
(24) A Ford motor is loaded in my truck (in the trunk).

The reading in (23) corresponds to the integral predication relation. Here we will label this reading the *essential interpretation*. The object of the existential predicate in (23) refers to an essential part of the truck. On the other hand, (24) would be a manifestation of the standard predication relation or what we will be calling the *accidental or contingent interpretation* of (22). In this case, the object is only contingently related to the truck. The associated property is only an accidental property of the truck, subject to contextual variation. This is why we are calling this reading accidental. The predicate in (24) establishes the positional relation of the motor with respect to (inside) the truck. It is important to highlight the fact that we say that the reading is accidental and we are not saying that it emerges "accidentally". We are referring to the philosophical (and semantic) distinction betwen essential and accidental properties, the latter being those non-essential properties that may be associated with an entity. This distinction overlaps but is not equivalent to the individual-level/stage-level distinction, since there might be properties that are essential but are instantiated by a stage-level predicate. This characterization seems to me better than the one proposed by Hornstein et al (1995), since the relation that is established betwen subject and object in (23) is essential: one does not exist without the other. Establishing such a relation would be impossible in (25), and the only available reading would be the accidental one:

(25) There are two cans of soda in my truck.

The preference for one reading or the other is also related to contextual factors. Whether I have two cans of soda, a newspaper or a CD in my truck is subject to circumstantial variation. On the other hand, having a motor is an essential property of this truck or of any truck, and actually having one motor brand or other also identifies the model/type or brand of the truck. It is interesting to note that if we express (22) with a *have*-construction, only the essential reading seems to be allowed:

(26) My truck has a Ford motor.

Nevertheless, as it was the case above, this asymmetry between *there*-constructions and *have*-constructions is only apparent. Adding a circumstantial adjunct/secondary predicate dilutes the difference. For example, adding the modifier *in its trunk* forces the accidental reading and adding the modifier *following factory specifications* would trigger the essential reading:

(27) My truck has a Ford motor in its trunk. (accidental)
(28) My truck has a Ford motor installed following factory specifications. (essential)

Thus, it seems that an apparent asymmetry is again the result of the greater ability of *there* to associate with a contextual parameter. There are other factors determining the emergence of one reading or other, such as the nature of the object. For example, (29) only seems to have the accidental reading:

(29) My truck has a dent (accidental)

5. Varieties of *have*

The essential reading is not uniform in nature. There are several well-known varieties, depending on the relation established between the subject and the object:

- Possession:

(30) He has a house

- Inalienable possession:

(31) Long John Silver only has one leg.
(32) A donkey's skeleton has 300 bones.

- Part-whole:

(33) This house has four windows.
(34) A sonnet has fourteen verses.

- Container-containee:

(35) That glass has wine.

When we say that these relations are essential in nature, we are referring to properties that could in principle be essential for the subject, the object or both. Nevertheless, what we will be defending is that *have*-predication relates the essential attribute directly to the object and only indirectly to the subject. For example, a house and (its) windows are essentially related by the whole-part relation; or a glass and an amount of wine by the container-containee relation. What is not implied, of course, is that it is essential for a house to have four windows or for a glass to have wine, etc. There is an asymmetry in how the predicating relation takes place. Furthermore, the nature of the relation between subject and object is lexically and contextually determined. Sometimes it is difficult to determine to which subtype an essential relation under consideration belongs, as more than one might be instantiated. Not all relations have existential-*there* equivalents. For example the container-containee relation expressed by (35) has an existential-*there* correlate in (36). The same happens with (37), which expresses the same part-whole relation as (33):

(36) There is wine in that glass.
(37) There are four windows in this house.

On the other hand, inalienable-possession relations are normally not expressed through an existential *there*-sentence:

(38) *There is a leg in Luis.

Furthermore, not all essential relations allow the same type of restriction or certain specific restrictions. For example, the possession relation in (30) can be (spatially) restricted as in (39). This possibility is not available for inalianeble-possession and whole-part relations, as shown in (40).

(39) He has a house in New York.
(40) a. *Luis has a leg in...
b. *The glass has wine in...

There are additional semantic constraints that go beyond the definiteness restriction and are a by-product of the nature of the complement. For example, when the relevant essential relation is the container-containee relation, if the containee is expressed by a mass noun, no determiner is allowed (even if it is a weak determiner). Some measure phrases (two tons) and partitive determiners are allowed:

(41) a. The glass has wine/*a wine.
b. The boat has wood/two tons of wood.

A similar restriction seems to be satisfied by inalienable-posession relations: (42a) is grammatical, in contrast with (42b) because *leg* is a count noun. On the other hand, in the Spanish constructions *tener grasa* `be fatty: lit. have fat', the complement behaves as in (41):

(42) a. Peter has one/two legs.
b.*Peter has leg.
(43) Los párpados de Juan tienen grasa/mucha grasa/*una grasa.
`lit. Juan's eyelids have fat/a lot of fat/*a fat'

6. *Have* and idiomatic constructions

The verb *have* is used in many idiomatic consructions (O'Grady 1998; Espinal 1999), in which the sequence 'verb + NP' behaves as a syntactic and semantic unit. This is why it is normally assumed that the NP incorporates into the noun (Baker 1988). The most interesting feature of these constructions for our purposes is that they share with existential-*have* constructions the property of satisfying the definiteness restriction. There is a wide range of cross-linguistic variation in the use of *have* to express essential relations through an idiom. Among the *have/be*-alternation languages, there are some where *have* is dominant in expressing such relations. Consider the following examples with Spanish *tener* `have':

(44) *tener hambre* 'be hungry'; *tener sed* 'be thirsty'; *tener cara* 'have nerve'; *tener ojo* 'be astute'; *tener ideas* 'have ideas'; *tener ganas* 'be eager'

Idiomatic constructions of this sort have been argued to be the result of pseudo-incorporation operations (Massam 2001). Whereas strict incorporation processes only allow the incorporation of a nominal head into a verb ("V+N" sequences), verb-complement combinations resulting from pseudo-incorporation allow for the presence of full DPs under certain circumstances. First, the definiteness constraint is satisfied. *Have* only combines with singular/plural bare nouns and weak determiners, as shown by the following examples:

(45) a. tener ganas/muchas ganas/algo de ganas 'be eager/very eager/somewhat eager'
b. *tener algunas ganas/tres ganas
'be some-spec. eager/three(times) eagerness'
(46) *tener las/muchas de las/la mayoría de las ganas
'have the/many of the/most of the...'

Second, modification of the complement noun is allowed in several restricted cases: modification by prenominal adjectives, as shown in (47) and (48); when the adjective is incorporated into the noun (49); and modification by certain PP modifiers (50).

(47) have a healthy appetite/*have an appetite
(48) a. *tener salud 'be healthy; lit. have health'
b. tener buena/mala salud 'have good/bad health'
(49) a. tener cara 'have nerve; lit. have face'
b. tener caradura
have face-hard 'have a lot of nerve'
(50) a. tener un hambre de mil demonios
'be really hungry; lit. have a hunger of 1000 demons'
b. tener un cuerpo de modelo 'have the body of a model; lit. have a body of model'
c. tener una salud de hierro 'be in perfect health; have a health of iron'
d. tener una borrachera de padre y muy señor mío
'be drunk to the gills; lit. have a drunk of father and my very lord'

Syntactically, the strict limitations on adjectival modification —only prenominal or incorporated modifiers are allowed— indicate that "A + N" sequences are not unrestricted. Some authors have actually proposed that prenominal adjectives also occupy head positions, and their surface position is the result of syntactic incorporation mechanisms (Valois 1991). Semantic restrictions on nominal modification are more interesting. We can claim that "N + modifier" combinations satisfy two principles: (i) They identify a class or prototype (Carlson 1977, 2006); (ii) such prototype is familiar in the common ground. For example, in Spanish *tener cara* `have a nerve' is possible but *tener pie* `lit. have foot'or *tener espalda* `have back' are not. Similarly, compare the grammaticality of (50d) above with (51):

(51) ??Tener una borrachera nocturna/ilimitada/etc. 'Be unlimitedly drunk/drunk by night'

In (50d) the complement noun is modified by an idiom, but postnominal modification is not productive, in the sense that combining with the noun adjectives or PP modifiers with a similar content is not possible. The nature of this restriction is not strictly pragmatic, since there is no contextual or real-world incompatibility beween being drunk and doing so at night or for an extended period. Rather, the idiomatic modifiers in (50) convey protoypes conventionally established in the language, and related to properties such as `excess', etc. Finally, the definiteness restriction is also satisfied:

(52) *tener la sed enorme. `lit have the thirst enormous'

7. *Have* + preposition

Another variety of constructions where the verb *have* exhibits incorporating behavior and is used to express essential properties of the object is the one where *have* and its complement combine through a prepositional element. The role of this preposition is to specialize the meaning of the predicate. Here are some examples:

(53) Have X against: John has something against the Dean
Have X as: We have an incompetent as president

These combinations are more productive in languages with relational *have*. In Spanish, like in most Romance languages, numerous examples can be found: *tener como* 'consider; lit. have as'; *tener por* 'consider; lit . have for'; *tener contra* 'have against'; *tener para* 'have for'.

(54) a. tener a un idiota como padre 'have an idiot as a father'
b. tener a Pedro por idiota 'take Peter for an idiot'
c. tener al portero de la finca por amigo 'consider the janitor a friend'

The term following the prepositon establishes a function or relation of the complement with respect to the subject. In this case, the relation is not objective or extensional. Rather, it is based on a subjective attribution by the individual referred to by the grammatical subject, sometimes with the conversational implicature that such an association is not correct or is misguided (too naive, etc.) Discourse continuations such a the one in (55a) are possible but (55b) would become infelicitous.

(55) a. Juan tenía a Pedro por idiota pero no lo era.
`I considered Pedro an idiot but he was not'
b. ??Yo tenía al portero de la finca por amigo y fue digno de mi confianza.
`I considered the building's janitor my friend and he was trustworthy indeed'

The definiteness restriction is satisfied by the term of the preposition:

(56) a. *tener a Pedro por el/ese idiota 'lit. *take Peter for the/that idiot'
b. *tener a Pedro como su amigo 'lit. *have Peter as his friend'

Only elements that may function as predicates or identify a class or prototype are allowed as terms of this preposition:

(57) a. tener a Pedro y Luis por amigos 'consider Peter & Luis friends'
b. *tener a Pedro y Luis por dos/los amigos '*consider Peter & Luis two/the friends'
c. ??tener a Juan como un amigo 'lit. have Juan as a friend'
d. tener a Juan como un amigo de verdad
'lit. have Juan as a friend of truth (consider Juan a true friend)'
e. tener a Pedro por el tonto de Carabaña 'consider Peter the greatest idiot'
f. tener a sus abuelos por los Reyes Magos'consider his grandparents the Three Kings'

In this respect, we can concluye that, in the *have somebody P XP* construction the predicate identifies a characterizing property of the object.

8. Semantic incorporation revisited

There are several theories that attempt to explain the main structural and semantic data related to *have* and its associated internal argument. A majority of these theories can be described as incorporation theories, although their assumptions and goals are very different. Syntactic incorporation theories are based on the idea that there is an X^0 movement operation incorporating the object noun into the verb. The possibility of having weak DPs as complements is explained by an additional hypothesis on determiner transparency for weak determiners, in other words, those determiners would not prevent the incorporation of the object into the verb (cf. Baker 1988; Masullo 1992). Other authors defend the hypothesis that bare nominal complements are headed by null determiners (Contreras 1986, Longobardi 1994, 1999), so the asymmetry is related to the requirements associated with a null head (government, etc.)

Semantic incorporation approaches also come in two varieties: Type-shifting theories or theories of lexical incorporation (van Geenhoven(1998), Dayal (1999, 2004)); and mode of composition theories (Chung & Ladusaw (2003), Farkas & de Swart (2003)). For both types of theories, indefinites have to be treated a properties. In lexical incorporation theories, a type clash is avoided by shifting the type of the incorporating verb:

(58) *eat* --> λPλx∃y[EAT(x,y) & P(y)]
apples --> λx[APPLES(x)]

By function application we obtain:

(59) *eat apples* --> λx∃y[EAT(x,y) & APPLES(y)]

Thus, an incorporating verb would be one that is specified as combining with properties. In the resulting sequence ("V+NP") the internal argument is bound by an existential quantifier. It follows that the complement's existential force comes from the verb. This idea is not unproblematic. Generic readings of the complements of incorporating verbs would require a different lexical specification for the verb.

Objects in the existential-*have* construction are relational or transitive (Keenan 1987; Partee & Landman 1987; Partee 1999). The noun *friends* —the object of *have* in (60)— is relational in that it has an implicit of hidden argument that is saturated by the subject, as shown by the following contrast:

(60) a. John has friends
b. *John has Peter's friends

According to Van Geenhoven (1998), *have* as an incorporating verb would be different from other incorporating verbs precisely in this requirement: It combines with a relation R (not with a unary property) and the resulting sequence would also inherit its quantificational force from the verb:

(61) *have* $\Rightarrow \lambda R \lambda x \exists y[R(x,y)]$

The specification of *friends* as a relational noun is as in (62):

(62) *friends* $\Rightarrow \lambda y \lambda x$ [FRIENDS(y) & HAVE-relational (x,y)]

The result of semantic incorporation is (63):

(63) *have friends* $\Rightarrow \lambda x \exists y$[FRIENDS(y) & HAVE-relational (x,y)]

The main problem for this approach is that quantificational force comes from the verb, so we would be forced to postulate different entries for the verb depending on the varying quantificational force of the complement. This problem motivates the alternative theory of semantic incorporation introduced above, which is based on the idea that the verb and its complement would combine by a different mode of composition. For Chung & Ladusaw (2003), this mode of composition is restriction (the internal argument restricts the verb but does not saturate an argument position); for Farkas & de Swart (2003) the verb and the complement combine by the operation of unification.

Theories of semantic incorporation focus on the interaction of the verb and its complement and somewhat downplay the importance of the coda. Contrastingly, in Keenan's (1987) proposal, the role of the coda is critical in determining the truth conditions of existential-*have*:

(64) A VP[*have*] of the form [*have* NP XP] is interpreted as a function mapping an individual *x* to True iff the denotation of the XP is a member of the generalized quantifier denoted by the (transitive) NP applied to *x*.

Let us consider the truth conditions for (65) according to the above definition:

(65) John has three friends in the government.

(65) would be True iff the property denoted by *in the government* (the set of individuals serving in the government in a particular situation) is a member of the generalized quantifier denoted by *three friends* (*of John*). The main properties of Keenan's account are the following ones: (i) Quantificational force clearly comes from the complement; (ii) the role of the XP coda becomes critical in determining the interpretation of the structure; and finally (iii) the semantic content of *have* is light (membership). I believe that most of these features are somewhat lost in semantic incorporation accounts. On the one hand, no matter whether we say that quantificational force comes from the verb itself or from an independent mode of

composition at the top (discourse/sentence) level, the following insight is lost: For most complements (especially those headed by lexical determiners), quantificational force seems to be coming from the complement itself. Lexical incorporation (type-shifting) theories cannot explain the interpretation of sentences where the copula is empty, given that the pertinent relation between subject and object is established without the participation of a verb. On the other hand, within an account in the spirit of Keenan's original proposal this fact would actually be predicted, since the content of the copula is semantically bleached. It could actually be inferred even if it did not have a lexical expression. In what follows I will develop a more elaborate account of the semantics of *have* that assumes the main features of Keenan's account. The two arguments of the function denoted by *have* will be treated as generalized quantifiers. The different readings of *have*-structures will be analyzed as a consequence of the flexibility of *have* with respect to the property of introducting an array of different relations (from essential to locative). This follows from the idea that *have* is rather polivalent in nature or, equivalently, it is "bleached" in its core semantic content.

9. *Have* and the attribution of essential properties

I will assume that the basic semantic content of *have* is that of a light or bleached verb. It denotes a function relating two generalized quantifiers (set of properties) (Keenan & Westerståhl 1997, Peters & Westerståhl 2006). This core bleached meaning explains why some languages use a single copula (*be*) for attribution and relational predication and why in some languages no copula is used at all. The hypothesis that a zero element is associated with a bleached meaning seems more accurate than assuming that it can typeshift and be the expression of several (contentwise-heavy) semantic relations. The main issue becomes how to characterize the emergence of a relation between subject and object and why this relation is sometimes characterizing or essential and sometimes it is not. Let us consider the following examples:

(66) Peter has two cousins
(67) Peter has a headache
(68) a. Peter has a tear (???)
b. Peter has a tear in his eye
(69) a. Peter has an apple (???)
b. Peter has an apple in his pocket

In (66) the relation established between the subject and the object is that of kinship. If somebody is a cousin, he necessarily has to be somebody's cousin. Similarly, in (67) for something to be a headache it has to be a physiological process undergone or experienced by an individual. In other words, there is no headache if no individual is experiencing it. In (68) and (69) a coda is neeeded to establish the proper relation. The role of *have* (or of *be*/∅) is to connect the two terms of a relation, but the nature of such relation is given by the object. The relationship that associates object and subject has to be one that is essentially/contingently associated with the object. In sum, a sentence of the form [NP1 $have_{ES}$ NP2] establishes an essential relation between the two NPs: kinship, inalienable possession, etc. When the relation is not essential, the context or the XP modifier can supply the relevant relation, as in (69).

We can say that 'to be in a kinship relation with Peter' is an essential property of *two cousins* in (66); and 'being experienced by Peter' is an essential property of *a headache* in (67). In general, [NP1 $have_{ES}$ NP2] is True iff one of the essential properties of NP2 is to be in an essential relation R with NP1. Formally:

(70) For arbitrary Q and X, Let Q_{NPX} be the generalized quantifier denoted by NPX, and $ES(Q_{NPX})$ the set of essential properties of Q_{NPX}. Then, [NP1 $have_{ES}$ NP2] is True iff $\exists A \in ES(Q_{NP2})$ such that $Q_{SN2}(A) \in Q_{SN1}$

The issue of what counts as an ´essence' or, putting it differently, of which requirements have to be satisfied by a property in order to count as essential has been the subject of an extensive philosophical debate. Here I will adopt Lebiniz's criterion that there is no essence without existence. A property of an individual can be considered essential for that individual iff that individual cannot exist without this property. If this property were lacking, it would be a different individual. Generalizing, we say that a property P is essential for a generalized quantifier Q iff it is a requirement for the existence of Q. In other words, P is an essential property of a generalized quantifier Q iff P is a member of Q iff the property of existence is a member of Q. Formally:

(71) Let Q_{NPX} be the generalized quantifier denoted by NPX and E the property of existence —the denotation of the predicate *exist* (Barwise & Cooper 1981, Keenan 1987). Then, for any property $P \in Q_{NPX}$, we say that P is an **essential property** of Q_{NPX} ($P \in ES(Q_{NPX})$) iff $P \in Q_{NPX}$ iff $E \in Q_{SNX}$.

From this characterization, it would follow that those sentences where the attribution of an essential property takes place satify the definiteness restriction and, in the case of *have*-sentences, Keenan's generalization also holds. Let us see why. Only existential generalized quantifiers (those for which $E \in Q$) occur in existential constructions and that a quantifier be existential would be a requirement for an essential property to be one of its members. If P is essential for Q, then Q has to be a (generalized) existential quantifer. Stating it differently, only generalized existential quantifiers have essential properties as members. The intuition behind this hypothesis seems clear. For example, it would be an essential property of *a cousin* to be in the kinship relations with somene. On the othe hand the same could not be said of *this particular cousin*, of *every cousin* etc. since E is not a member of these quantifiers in every model. This is so either because non-existential quantifers are partial or not defined in some models (such is the case of definites) or because they are vacuously true in empty universes (such is the case with universal quantifiers). From the above discussion, the following semantic characterization of *have* emerges:

(72) $have_{ES}$ denotes the function f such that for any generalized quantifiers Q1, Q2, $f(Q2)(Q1) = True$ iff $\exists P \in ES(Q2)\ [Q2(P) \in Q1]$.

It follows as a theorem that Q2 is existential. Let us go back to sentence (33), repeated here as (73):

(73) The house has four windows.

This sentence establishes an essential predication relation (that of being in a part-whole relation). It is an essential property of windows to be part of a building, i.e. the range of the whole-part relation (or its "passivization" Keenan & Faltz 1985):

(74) $RG(\lambda y \lambda x[WHOLE\text{-}PART(x,y)]) = \lambda y \exists x[WHOLE\text{-}PART(x,y)]$

Let Q1 be the denotation of *the house*. Then, the house has the property 'be in a whole-part relation with four windows,' ie $FOUR\_WINDOWS(\lambda y \lambda x[WHOLE\text{-}PART(x,y)]) = \lambda x \exists_4 y[WHOLE\text{-}PART(x,y) \& HOUSE(y)]$ is a member of THE_HOUSE. In general:

(74) Let Q1, Q2 be generalized quantifiers, R a relation, and for any quantifier Q, ES(Q) the set of essential properties of Q. Then, *haveR-ES* (have R essentially) denotes the function f such that $f(R)(Q2)(Q1) = True$ iff $RG(R) \in ES(Q2) \& Q2(R) \in Q1$.

Consider now the following examples:

(75) a. Peter has a house.
b. Peter has a house in the Bahamas.

(76) Peter has my pencil in his pocket.

The essential property P for *a house* in (75a) is 'being owned by somebody', i.e. the range of the possession/ownership relation: $RG(\lambda y \lambda x[OWN(x,y)]) = \lambda y \exists x[OWN(x,y)]$. Let Q1 be the denotation of *Peter,* (the individual generated by Peter; Keenan 1995). Then, Peter has the property 'own a house,' ie $A\_HOUSE(\lambda y \lambda x[Own(x,y)]) = \lambda x \exists y[OWN(x,y) \ \& \ HOUSE(y)]$. (75a) is only a statement about home-ownership. On the other hand, (75b) and (76) are slightly different. (75b) is also a statement about home-ownership, but restricted to a particular location. Since the definiteness restriction is satisfied (**Peter has the house in The Bahamas*), we conclude that what is being predicated is an essential (characterizing) property (ownership). Although structurally similar, sentence (76) is very different from a semantic point of view. The speaker only states the location of a particular pencil inside his pocket. As a matter of fact, (76) does not entail or implicate that Peter owns my pencil now (quite the contrary). What we can infer from the above contrasts is that we have to distinguish the notions of essence, restricted essence and location. All of them can be expressed with *have*-sentences, but their semantic ingredients are distinct.

I will propose that the transition from one reading to another is a matter of degree, and that it is a by-product of contextual restriction: restriction to a (context) set). The role of the modifying adjunct is to introduce a context set restricting the predicated property. When the restricted property is still an essential property (the property is still in the set ES), then the ´restricted essence' reading arises. When the property is no longer essential (it is not in ES), we get the locative reading.

We will be treating context as a set-theoretical parameter, following Westerståhl (1985) and von Fintel (1994) among others. The notion of restricted essence or of a restricted essential property is defined as follows:

(75) Let Q be a generalized quantifier, E the property of existence and C a context set (usually expressed by the XP adjunct). Then, for any property $P \in Q$, P is an **essential property of Q in C** $(P \in ES^C(Q_{NPX}))$ iff $P \in Q$ iff $(E \cap C) \in Q$ iff $C \in Q$

When *have* is the copula used in restricted essential predication, nothing changes in the characterization of *have*. The only difference is that the relation attributed to the object quantifier is an essential property restricted to a context set. Formally:

(76) Let Q1, Q2 be generalized quantifiers, R a relation, and for any quantifier Q, ES(Q) the set of essential properties of Q. Then, $have_{R\text{-}ES\text{-}C}$ (have R essentially in C) denotes the function f such that $f(R)(C)(Q2)(Q1) = \text{True}$ iff $RG(R) \in ES^C(Q2)$ & $Q2(R) \in Q1$.

Let us see how this would work in a concrete example. In sentence (77), a birthmark is in an essential part-whole relation with John.

(77) Peter has a birthmark on his left leg.

The predicative relation expressed here is not merely between John and his birthmark. The adjunct *on his left leg* situates the appropiate whole where the birthmark is. In our terms, the relevant essential relation is ´whole-part' restricted to ´left leg'. The adjunct PP *on his left leg* determines the relevant context: The property of having a birthmak is an essential property of Peter's leg (i.e. it is an essential property of Peter "restricted" to his leg):

(78) HAVE-ON-HIS-LEFT-LEG(A_BIRTHMARK)(Peter) = True iff

RG(WHOLE-PART) $\in ES^{LEFT\_LEG}$ (A_BIRTHMARK) &
A_BIRTHMARK(WHOLE-PART) $\in$ PETER

In the locative reading, the relevant relation is not an essential property of the object (neither properly nor in a restricted sense). No restriction is imposed with respect to the relation associating subjet and object:

(79) Let Q1, Q2 be generalized quantifiers, and R a relation. Then, $have_{R\text{-}LOC}$ denotes the function f such that f(R)(Q2)(Q1) = True iff RG(R) $\in$ Q2 & Q2(R) $\in$ Q1.

10. Essences as modalities

One question that emerges at this point is how different varieties of essence are related to each other. So far, we have talked about properties in the set ES(Q) for a given quantifier Q. An alternative approach would be to treat essence as a modal notion (Fine 1995). Although lack of space prevents us form developing this idea any further, the gist of this treatment would be as follows. First, following Fine's proposal, essences can be claimed to correspond to a special type of modality introduced by the essence operator ($\Box_e$): $\Box_e$ (F, A) is True iff it is in virtue of the nature of F that A iff it is essential for A that F. A family of operators indicating essence type would have to be introduced to capture the varieties of essential relations associated with the copula. In an existential-*have* construction, the verb *have* denotes a member of this family of essence operators, for example possession ($\Box_{e\text{-}poss}$(Q1, Q2) = True iff it is essential for Q2 to be owned by Q1); whole-part relation ($\Box_{e\text{-}whole\text{-}part}$ (Q1, Q2) = True iff it is essential for Q2 to be a part of Q1); etc. This avenue of inquiry would not be incompatible with what we have established in previous sections. It would further clarify the interplay between the attribution of properties via copular predication and the association of contextual and/or modal parameters.

References

Asher, N. & A. Lascarides.: 2003, *Logics of conversation*. Cambridge University Press.

Baker, M.: 1988, *Incorporation*. Chicago: University of Chicago Press.

Barwise, J. & R. Cooper.: 1981, Generalized quantifiers and natural language. *Linguistics and Philosophy* **4**, 159-219.

Carlson, G.: 1977, *Reference to kinds in English*. PhDdiss. Univ. of Massachusetts, Amherst.

Carlson, G.: 2006, Incorporation of free forms. Talk at NIK, UOttawa.

Chung, S. & W. Ladusaw: 2003, *Restriction and saturation*. Cambridge, MA: MIT Press.

Contreras, H.: 1986, Spanish bare NPs and the ECP. In I.Bordelois, H.Contreras, K.Zagona (eds.), *Generative studies in Spanish syntax*. Dordrecht; Foris.

Dayal, V.: 1999, Bare NP's, reference to kinds, and incorporation. *Proceedings SALT IX.*

Dayal, V.: 2004, Number marking and indefinites in kind terms. *Linguistics & Philosophy* **27**, 393-450.

De Hoop, H.: 1992, *Case configuration and NP interpretation*. PhDdiss., Univ.of Groningen.

Espinal, M.T.: 1999, Property denoting objects in idiomatic constructions. *GoingRomance 99.*

Farkas, D. & H. de Swart.: 2003, *The semantics of incorporation.* Stanford: CSLI Publ.

Fine, K.: 1995, The logic of essence. *Journal of Philosophical Logic* **24**, 241-273.

von Fintel, K.: 1994, *Restrictions on quantifier domains*, PhDdiss., Umass., Amherst.

Freeze, R.: 1992, Existentials and other locatives. *Language* **68**, 553-595.

Gutiérrez-Rexach, J.: 1999, The formal semantics of clitic doubling. *Journal of Semantics* **16**, 315-380.

Gutiérrez-Rexach, J.: 2001, Adverbial weak pronouns: Derivation and interpretation. In J. Gutiérrez-Rexach & L. Silva-Villar (eds.), *Current Issues in Spanish Syntax and Semantics,* Berlín/Nueva York, Mouton De Gruyter.

Gutiérrez, J. & L. Silva.: 1998, Locative and temporal weak proforms. In J. Lema (ed.) *Theoretical Research on Romance Languages*. Amsterdam/NY: John Benjamins.

Heim, I.: 1982, *The semantics of definite and indefinite Noun Phrases.* PhDdiss. UMass.

Hoekstra, T. & R. Mulder.: 1990, Unergatives as copular verbs: locational and existential predication. *The Linguistic Review* **7**,1-79.

Hornstein, N.; S. Rosen & J. Uriagereka.: 1995, Integrals. *Proceedings WCCFFL*.

Kamp, H.: 1981, A theory of truth and semantic representation. In Groenendijk, J. y M. Stokhof (eds.) *Truth, interpretation and information.* Dordrecht: Foris, 1984, pp. 1-41.

Kayne, R.: 1993, Toward a modular theory of auxiliary selection. *Studia Linguistica* **47**.

Keenan, E.: 1987, On the semantic definition of 'indefinite NP'. In E. Reuland & A. ter Meulen (eds.), pp. 286-319.

Keenan, E.: 1995, The semantics of determiners. In S. Lappin (ed.) *Handbook of contemporary semantic theory*. Oxford: Blackwell, pp. 41-64.

Keenan, E. & J. Faltz.: 1985, *Boolean semantics of natural language*. Dordrecht: Reidel.

Keenan, E. & D. Westerståhl, D.: 1997, Generalized quantifiers in linguistics and logic. In J. van Benthem y A. ter Meulen (eds.) *Handbook of logic and language*. Cambridge, Mass.: MIT Press, pp. 837-894.

Keenan, E. & B. Ralalaoherivony.: 2000, Raising from NP in Malagasy. *Lingvisticae Investigationes* **23**, 1-34.

Kratzer, A.: 1995, Individual-level and stage-level predicates. In G. Carlson & F. Pelletier (eds.) *The Generic Book*, pp. 125-175.

Lakoff, g.; 1987, *Women, fire, and other dangerous things.* Chicago: University of Chicago Press.

Longobardi, G.: 1994, Reference and proper names. *Linguistic Inquiry*.

Longobardi, G.: 1999, How comparative is semantics?. Ms.

Massam, D.: 2001, Pseudo noun-incorporation. *Natural Language & Linguistic Theory* 19.

Masullo, P.: 1992, *Incorporation and case theory in Spanish. A crosslinguistic perspective.* Ph.D.diss., University of Washington.

McNally,L.: 1995, Bare plurals in Spanish are interpreted as properties. *Proceedings 1995 ESSLLI Formal Grammar Conference*.

McNally, L.: 1998, Existential sentences without existential quantification. *Linguistics & Philosophy* **21**, 353-392.

Milsark, G.: 1977, Towards an explanation of certain peculiarities in the existential construction in English. *Linguistic Analysis* **3**.

O'Grady, W.: 1998, The syntax of idioms. *Natural Language & Linguistic Theory* **16**, 279-312.

Partee, B.: 1999, Weak NPs in HAVE sentences. In *Van Benthem Feitschrifft*.

Partee, B. & F. Landman.: 1987, Weak NPs in HAVE sentences. Ms.

Paul, I.: 2006, Bare nouns in Malagasy. Talk at NIK, U.Ottawa.

Peters, S. & D. Westerstahl.: 2006, *Quantifiers in language and logic*. Oxford: Oxford UP.

Pustejovsky, J.: 1995, *The generative lexicon*. Cambridge, MA: MIT Press.

Reuland, E. & A. ter Meulen (eds.) (1987). *The Representation of (In)definiteness.* Cambridge, MA: MIT Press.

van Geenhoven, V.: 1998, *Semantic incorporation and indefinite descriptions. Semantic and syntactic aspects of noun incorporation in West Greenlandic*. Stanford: CSLI Publ.

Ward, G. & B. Birner.: 1995, Definiteness and the English existential. *Language* **71**, 22-742.

Westerståhl, D.: 1985, Determiners and context sets. In van Benthem, J. & A. ter Meulen (eds.), *Generalized quantifiers in natural language.* Dordrecht; Foris, pp. 45-71.