

# 'Have' and the link between perfects and existentials in Old Catalan<sup>1</sup>

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**Abstract.** This paper focuses on an aspect of the auxiliary alternation in the perfect in Old Catalan that sets this language apart from other members of the Romance family. In Old Catalan, most of the first occurrences of unaccusative verbs with *haver* ('have') instead of *ésser* ('be') show a series of peculiarities: they present a locative (or dative) PP, a definiteness effect, they are only found in third person, and they show a number mismatch between the verb and the theme-NP of the construction. Overall, they resemble existential constructions, which crucially use *haver* in the language; existential constructions, in turn, look like possessive constructions, which take *haver* as well. These data show that a standard semantics for *have*, coupled with the possibility of quirky subjects and unaccusative participles acting as secondary predicates, not only explain the occurrences of *haver* with unaccusatives in Old Catalan, but also leads to a straightforward account of why *haver* is the existential predicate in Modern Catalan.

**Keywords:** Old Catalan, auxiliary selection, have, existential predicates, unaccusativity

## 1. Introduction

Several members of the Romance and the Germanic families feature what is normally called 'split intransitivity' in the expression of the perfect: some verbs, the ones commonly labelled 'unaccusatives', take 'be' as the auxiliary to create compound tenses, whereas the rest of intransitives ('unergatives') and all transitives take 'have'. Beyond this broad characterization of the phenomenon, individual languages vary as to what features of the verb or the VP are relevant to determine the choice of either auxiliary. The historical record tells us that split intransitivity is a receding trait both in the Germanic and the Romance family. 800 years ago, practically all of these languages displayed some form of it, but nowadays only some do. The rest have lost 'be' as a perfect auxiliary and form the compound tenses only with 'have'. Catalan (like the other Romance varieties in the Iberian peninsula) exemplifies the latter case: compound tenses are always formed with *haver* ('have').

This study began as a survey of how this change took place in Old Catalan<sup>2</sup>; that is, which were the first verbs or contexts that favored the use of *haver* where *ésser* ('be') used to be the default option. The aim was to find a relatively neat pattern whereby *haver*, after sneaking into some *ésser*-taking niche (probably characterizable in terms of 'agentivity' or '(a)telicity'), would gradually take over more and more grammatical contexts until totally superseding *ésser*.

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<sup>2</sup> By 'Old Catalan' I mean the language between the 13<sup>th</sup> and the 17<sup>th</sup> century. On the other hand, 'Modern Catalan' refers to the present stage of the language.

However, the data show that the process is not as linear as one might think<sup>3</sup>: the combination of *haver* and unaccusatives is found already in the first documents, but does not seem to become more frequent as the first five centuries of the written record go by. On the contrary, some verbs that alternate between both auxiliaries at nearly 50% in the 13<sup>th</sup> century clearly favor *ésser* in the 15<sup>th</sup> (the very verb *ésser* and its variant *estar* being a case in point), until the whole system collapses by the end of the 17<sup>th</sup> century, leaving *haver* as the only choice.

Nonetheless, the study of the Old Catalan data reveals an interesting pattern which has not been noticed, to my knowledge, in other medieval Romance varieties: most of the occurrences of *haver* with a prototypical unaccusative show a series of traits that link them to existential constructions<sup>4</sup>. These features are the presence of a locative/dative PP, a definiteness effect, and a number mismatch between the theme-NP of the construction and the verb, which does not occur in any other form than 3<sup>rd</sup> person singular (even when followed by a plural NP; 1<sup>st</sup> and 2<sup>nd</sup> persons are not attested). By collating these data with other uses of *haver* in Old Catalan, namely possessive and existential constructions, this paper argues that a unified semantic account of *haver* successfully explains the Old Catalan data, unveils some connections between the different uses of *have* in Romance, and sheds light on why should a form like *haver-hi* ('there be'), a strange creature from a synchronic point of view, be the existential predicate in Modern Catalan.

The paper is organized as follows. Section 2 briefly outlines the main uses of *ésser* and *haver* in Modern Catalan, and contrasts them with their functions in its medieval stage. Section 3 details out the peculiarities of the Old Catalan data that motivate the present analysis, and section 4 puts forward a possible semantic account of them. Section 5 summarizes the main points of the paper.

## 2. Auxiliaries, existentials and possessives in Modern and Old Catalan

### 2.1. Modern Catalan

As already mentioned, *haver* is the universal auxiliary for compound tenses in present-day Catalan. This sets it apart from other Romance varieties like Italian, French, or even its closest relative, Occitan, all of which show split intransitivity. (1) shows how *haver* is used indistinctly with unaccusatives, transitives and unergatives:

- (1) **He**        **anat**        al        súper    i        **he**        **comprat**    pomes.  
 I.have    gone        to.the    store    and    I.have    bought    apples.  
**He**        **corregut**    per        arribar                    abans    que        tanquessin  
 I.have    run        to        arrive                    before    that        close.3.PL.SUBJ  
 I have gone to the store and I have bought some apples. I have run to get there before they closed.

<sup>3</sup> All the data used in this paper come from a morphologically-tagged corpus of Old Catalan which is currently being developed at the Universitat Pompeu Fabra (<http://parles.upf.edu/llocs/cqp/oldca/>). At the time of writing it comprises ca. 7 million words ranging from the 12<sup>th</sup> to the 18<sup>th</sup> centuries.

<sup>4</sup> In their study of auxiliary selection in Old Catalan, Mateu and Massanell (to appear) have identified the same examples and characterize them in similar, but not identical, terms. See section 3.

The modern language uses *haver* also as the verbal form in the existential predicate *haver-hi*. *Hi* is a grammaticalized locative clitic which must be obligatorily present.

- (2) **Hi ha** dues noies a la porta  
 LOC have.3.SG two.F.PL girls.PL at the.F.SG door  
 There are two girls at the door

Even though some modern dialects allow *haver* to agree in number with the theme-NP (or 'pivot', as it is normally referred to in the literature on existential constructions), this is a fairly recent innovation. In the historical record, the mismatch is systematic.<sup>5</sup>

It has to be noted that, unlike in French, Italian or Occitan, *haver* cannot be used as an independent verb in modern Catalan. Possession, for instance, is expressed with the verb *tenir*. The use of *haver* is wildly ungrammatical.

- (3) **Tens/\*Has** un cotxe nou?  
*tenir*.2.SG/have.2.SG one.M.SG car new?  
 Do you have a new car?

## 2.2. Old Catalan

By and large, medieval Catalan looked a lot more like present-day French and (specially) Italian than the modern language. Focusing firstly on the perfect, we find a full-fledged split intransitivity system, whereby unaccusatives (4a), all reflexives (4b), the perfect of the periphrastic passive (4c) and the perfect of modals *poder* ('be able to') and *voler* ('want') when the main verb was unaccusative (4d) took *ésser*. Transitives and unergatives took *haver* (4e-f).

- (4a) yo **són vengut** de molt longa terra  
 I am come.M.SG from very long land  
 I have come from a far-away land (*Desclot*, 13<sup>th</sup>)

- (4b) **s' eren amagats** en lo dit junquar  
 REFL were.3.PL hidden.M.PL in the said reed bed  
 they hid themselves in the said reed bed (*Cocentaina*, 13<sup>th</sup>)

- (4c) gran injúria **és estada feta** a él  
 great offence is been.F.SG done.F.SG to he  
 A great offence has been done to him (*Sisè seny*, 13<sup>th</sup>)

<sup>5</sup> The literature on existential constructions often cites Catalan as a language that pretty liberally allows 'strong' NPs as pivots. This is true for the modern language, but this possibility only became available in the 18<sup>th</sup> century and didn't become widespread until the 19<sup>th</sup> (Ramos, 2001). We will thus ignore this fact in the discussion about Old Catalan, in which the definiteness effect is robustly attested.

- (4d) no y **era** **volgut** **venir**  
 NOT LOC was.3.SG wanted.M.SG come  
 He had not wanted to come there (*Muntaner*, 14<sup>th</sup>)
- (4e) sí **avia** a molts cavalers grans dots **donats**  
 so had.3.SG to many.M.PL knights.PL great.M.PL gifts.PL given.M.PL  
 he had thus given great gifts to many knights (*Descloit*, 13<sup>th</sup>)
- (4f) après que **hagué parlat** del dit fet  
 after that had.3.SG talked.M.SG of.the said fact  
 after he had spoken about the said fact (*Marquès*, 14<sup>th</sup>)

Let us now focus on the expression of possession. Although the use of *tenir* pops up occasionally in Old Catalan in constructions that could receive a possessive interpretation, the expression of possession was basically a duty of *haver*.

- (5a) **han** més de terra que nós, ...  
 have.3.PL more of land than us  
 they have more land than us (*Feyts*, 14<sup>th</sup>)
- (5b) ... si emperò aquell **haurà** fill o fills  
 if however that.M.SG have.FUT.3.SG son or sons  
 ... but should he have one child or more (*València*, 15<sup>th</sup>)

There is another use of *haver* which looks very much like the possessives sentences in (5), except for the fact that the place of the possessor is occupied by a PP referring to a location (6a-b) or, in its absence, by a locative clitic *hi* referring back to a previously established location (6c).

- (6a) en Aragó **avia** I cavaller qui era  
 in Aragon had.3.SG one knight who was...  
 in Aragon there was a knight who was... (*Descloit*, 13<sup>th</sup>)
- (6b) entre los cals **avia** un cresent dels iretyes  
 among the which had.3.SG a believer of.the heretics  
 among which there was a heretic (*Sants*, 13<sup>th</sup>)
- (6c) per la qual cosa **hi ha** moltes persones abtes  
 for the which thing LOC have.3.SG many persons capable  
 for which there are many competent men (*topic location*: Valencia)  
 (*València*, 14<sup>th</sup> century)

In Modern Catalan, the sentences in (5) and in (6) would look much more different from each other; the possessive ones in (5) would use *tenir*, and the specialized existential predicate *haver-hi* would be used to express the meanings in (6). But in Old Catalan the same verb, *haver*, was

used in both constructions, which look completely parallel if we consider that the language allowed for oblique (or 'quirky') subjects (Zaenen, Maling & Thráinsson 1985), something which has been argued for independently for Old Romance (with a particular focus on Old Catalan) by Fischer (2004), and even for Modern Catalan by Rigau (1997). The presence of an oblique subject tends to trigger default agreement with the verb (3<sup>rd</sup> person singular); notice that, in (6c), the verb does not agree with the NP in the construction. Under the view defended here, this NP is the internal argument of the predicate *haver*, not the subject, so the lack of agreement is not surprising. The claim is then that there was no specialized existential predicate in Old Catalan as there is in the modern language: the same verb that expressed possession was used to convey existence assertions.

In this section we have contrasted the uses of *haver* in Old and Modern Catalan, and we have seen that the modern language formally distinguishes the expression of compound tenses, possessive and existential predicates, in a way that does not correspond to the way its medieval version worked. Bearing that in mind, in the next section we will look into the peculiarity of Old Catalan mentioned above; that is, the fact the many of the occurrences of *haver* + unaccusatives look a lot like the use of *haver* illustrated in (6a-c).

### 3. Unaccusatives with *haver* in Old Catalan and the existential construction

Among the languages that display split intransitivity, there are several grammatical contexts that can make a verb that is normally found with 'be' take 'have'. One of the key features of *be*-taking perfects cross-linguistically is that 'be' is strongly favored in sentences with a telic interpretation. This preference weakens when the verb phrase is detelicized. An Old Catalan example of this is the verb *anar* (to go). It normally appears in VPs with a telic interpretation, and therefore takes *ésser*. However, when an adjunct triggers a process-like interpretation, the auxiliary frequently changes to *haver*. Sentences (7a) and (7b) are taken from the same text:

(7a) per so cor a Roma **era** **anat** e tornat  
 for this since to Rome was.3.SG gone and returned  
 because he had gone to Rome and come back (*Sants*, 13<sup>th</sup>)

(7b) e ya **avien** **anat** per tres dies  
 and already had.IMP.3.SG gone for three days  
 and they had already marched for three days (*Sants*, 13<sup>th</sup>)

A similar behavior has been observed in other Old Romance varieties, like Old French (Burnett and Troberg 2014).

Significant though these facts are for a diachronic study of auxiliary selection, here I will concentrate on a phenomenon that seems to be more specific to Old Catalan. It involves verbs like *venir* ('to come'), *entrar* ('to go in'), *pujar* ('to go up'), *restar* and *romandre* (both meaning 'to remain'), and *arribar* ('to arrive'). Many of the occurrences of *haver* in combination with their perfects display a number of traits which differ from their equivalents with *ésser*:

<b>With <i>haver</i></b>	<b>With <i>ésser</i></b>
Theme NPs: indefinite NPs, downward monotone quantifiers, type-denoting NPs. Definiteness effect.	Theme NPs: no restriction, but statistical preference for personal pronouns, definite NPs, proper names.
No number agreement between the theme NP and <i>haver</i> ; gender and number agreement between the theme NP and the unaccusative past participle.	Number agreement between the theme NP and <i>ésser</i> ; gender and number agreement between the theme NP and the unaccusative past participle.
<i>Haver</i> is limited to 3rd person singular.	<i>Ésser</i> can occur in any person.
Obligatory presence of a locative or dative PP in the sentence.	No obligatory presence of a locative or dative PP in the sentence.

Table 1. Differences between the combinations *haver* + perfect and *ésser* + perfect

The types of NP that occur with *haver* pattern exactly like the kind of NPs that occur in the existential construction in English (Milsark 1974, McNally 1998), as well as with the NPs that make 'bad subjects, good pivots' cross-linguistically in Beaver, Francez and Levinson (2006), or the ones that can appear in so-called existential-*have* constructions (e.g. Keenan 1987, Partee 1999, Sæbø 2009). What is more, they are exactly the kinds of NP that appear in Old Catalan sentences with *haver* that we interpret as existential constructions, as the ones in (6a-c). The examples that follow, ranging from the 13<sup>th</sup> to the 17<sup>th</sup> century, illustrate what these data look like. The sentences in each pair from (8) to (11) belong to the same text. The first example, from the 13<sup>th</sup> century, involves a telic verb of movement like *venir* ('to come').

(8a) a l'emperadriu **ha** **venguts** II cavalers d' Espaya  
to the.empress have.3.SG come.M.PL 2 knights.M.PL from Spain  
two knights from Spain have come to the empress (*Desclot*, 13<sup>th</sup>)

(8b) l' armada de Sissília no **era** **venguda** en Catalunya  
the navy of Sicily NOT was come.F.SG in Catalonia  
The Sicilian navy had not come to Catalonia (*Desclot*, 13<sup>th</sup>)

In the 14<sup>th</sup> and 15<sup>th</sup> centuries we keep finding this alternation, here illustrated with the stative verbs *romandre* and *restar* (both meaning 'to remain'):

(9a) **a** y **romàs** II frares seus  
have.3.SG LOC remained.M.SG 2 brothers his  
two brothers of his have remained (*Muntaner*, 14<sup>th</sup>)

(9b) Et en Tunij **era** **romàs** Miraboaps  
And in Tunis was.3.SG remained.M.SG Miraboaps  
And Miraboaps had remained in Tunis (*Muntaner*, 14<sup>th</sup>)

(10a) car hòmens no n' í **avia** **restats**

since men NOT PART LOC have.IMP.3.SG remained.M.PL  
 since no man had remained (*Tirant*, 15<sup>th</sup>)

- (10b) **foren restats** sols ell e Tirant  
 were.3.PL remained.M.PL only he and Tirant  
 Only him and Tirant had remained (*Tirant*, 15<sup>th</sup>)

Finally, in the 17<sup>th</sup> century the same constructions are still found. Notice, however, that here *haver* starts agreeing in number with the theme NP:

- (11a) A ·l dit governador **avian arribats** embaxadors  
 To the said governor had.3.PL arrived.M.PL ambassadors  
 Ambassadors had come to the governor (*Pujades*, 17<sup>th</sup>)

- (11b) las galeras [...] **eran arribadas**  
 the.F.PL ships [...] were.3.SG come.F.PL  
 the ships [...] had arrived (*Pujades*, 17<sup>th</sup>)

This pattern has already been identified by Mateu (2009) and Massanell and Mateu (to appear), and they have as well established a link between this kind of examples and existential constructions. Their analysis is formulated in terms of a constructional approach to argument structure. They consider that 'existential constructions' are unaccusative argument structures, but that they do not belong to the core of this class by being atelic, and less agentive and more stative than the core constructions, 'subjects of result state'. A connection is then established with the Auxiliary Selection Hierarchy put forward by Sorace (2000) (with the caveat that it should be applied to 'constructions' instead of verbs): 'existential constructions', not being in the core of unaccusativity, are less resistant to *haver*, and figure among the first ones where we see the replacement of *ésser* by *haver* at play. Under this light, the data presented in (8)-(11) are regarded as an intermediate step between a stage where all these examples would have taken *ésser*, and the modern situation, in which all verbs take *haver*.

The analysis I propose deviates from Mateu and Massanell and Mateu's in one crucial point. A key aspect of their approach is that they take for granted that the data in (8)-(11) are perfects which select *haver* that could have selected *ésser* in a previous stage of the language. By doing so, they abstract away from the fact that *haver* is not only an auxiliary for compound tenses, but also the verb that expressed possession and existence assertions in Old Catalan.<sup>6</sup> The view proposed here considers the examples under discussion as manifestations of this same *haver* which get a perfect reading by virtue of the participle of an unaccusative verb acting as a

<sup>6</sup> Here it is crucial to understand that in the framework used by Massanell and Mateu, 'existential construction' does not mean 'existential predicate' in the sense of a specialized verb used to express existence assertions. 'Existential argument structures', as a subset of 'unaccusative argument structures', are a broader concept.

secondary predicate.<sup>7</sup> They are not mere 'innovative' variants of the perfects of unaccusatives; they are a fundamentally different construction that coexisted with the perfect for at least half a millenium. This is not tantamount to say that other well-known *have*-triggering effects were not at play in the language at the same time; this is the case of (7b) above, which crucially involves a third person plural *haver*, in contrast with the invariable third person singular of (8)-(11). However, (7b) and (8)-(11) need to be kept apart: only the former is a well-behaved perfect.

If (8)-(11) exemplified the first link in a chain of replacements of *ésser* by *haver*, we would expect, on the one hand, that they gradually lost the features that separate them from the rest of perfects; that is, we would expect them to lose their restrictions as to definiteness of the theme NP, occurrence with only third persons and lack of number agreement. But these examples precisely show that this only starts happening at the end of the 17<sup>th</sup> century, just before the point where *ésser* was dropped as a perfect auxiliary. On the other hand, we would predict the use of *haver* with unaccusatives to increase century by century. The following chart, based on the corpus data I have gathered for the most frequent unaccusative verbs in the corpus, shows that this is not what we see in the texts. The lines indicate the percentage of times the participle of these verbs combines with *ésser* (as opposed to *haver*) from the 13<sup>th</sup> to the 18<sup>th</sup> century.

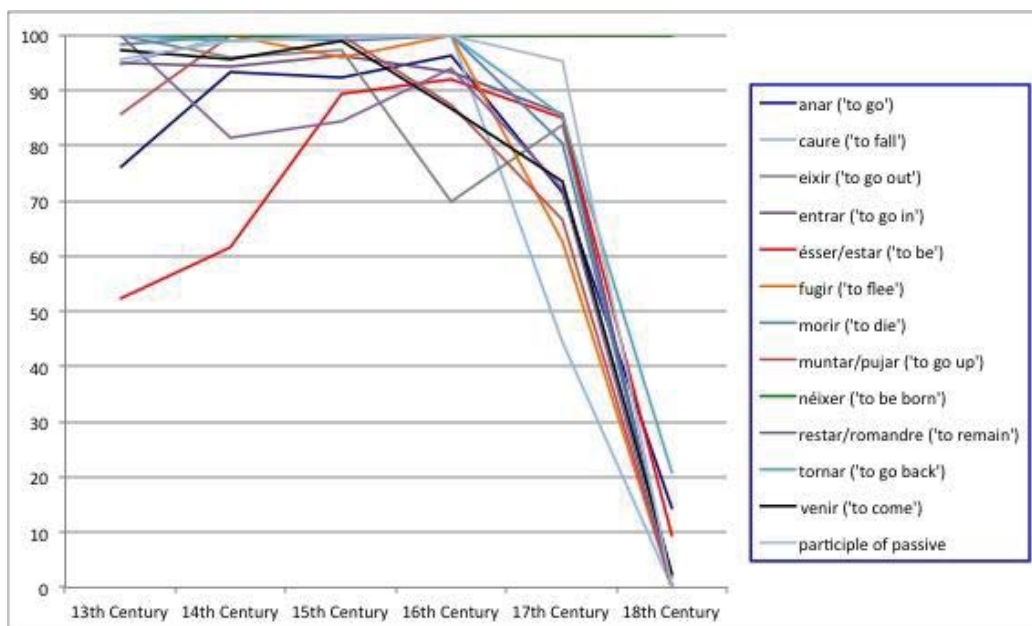


Figure 1. % of occurrence of the most frequent unaccusative participles with *ésser* (as opposed to *haver*)

The very frequent verbs *anar* and *ésser/estar* (which share the same participle, *estat*) illustrate what seems to be the tendency in Old Catalan before the 17<sup>th</sup> century: alternations such as the one exemplified in (7) above tended to be eliminated in favor of a more consistent use of *ésser*, with *haver* becoming more restricted to constructions like (8)-(11), which in fact occur in a similar

<sup>7</sup> Due to the fact that *haver-hi* is the existential predicate in Modern Catalan, and that it can easily be told apart from the perfect, a natural expectation is that an existential sentence with a bare unaccusative secondary predicate should be grammatical in Modern Catalan. The fact is that they are not (*\*hi ha dos cavallers vinguts*). At this point, I do not have an explanation for that.



proportion throughout this period. What happened in the 18<sup>th</sup> century is a subject for future research, and probably calls for a sociolinguistic explanation factoring in the influence of Spanish, which had already lost any trace of split intransitivity, and the fact that the public use of Catalan became severely restricted by that time in favor of Castilian.

At this point I have established several generalizations:

- a. *Haver* is used in Old Catalan as a perfect auxiliary for transitives and unergatives, to express possession and to convey existence assertions.
- b. There are occasional uses of *haver* with unaccusative verbs which take *ser* in the majority of cases. Some of them (7b) involve *have*-triggering traits that are known to operate cross-linguistically, and do not show any particular feature regarding agreement with the theme-NP or the classes of NPs they appear with; others (8)-(11) show the same traits as the uses of *haver* implying an existence assertion.
- c. Data show that the constructions of the kind (8)-(11) are a small but consistent minority from the 13<sup>th</sup> to the 17<sup>th</sup> centuries.

In the following section, I suggest a semantic analysis that shows that, once we have taken the step of assuming that Old Catalan allowed for oblique subjects and that what we see in most instances of *haver* + unaccusatives is actually a case of secondary predication, the Old Catalan data are amenable to a standard treatment of both *have*-predicates and secondary predicates.

## 4. Semantic analysis

### 4.1. *Haver*: a common analysis for different uses

Focusing first on *haver*, I will propose an analysis based on Barker (1991), Van Geenhoven (1998) and Partee (1999) that posits that one and the same verb *haver* is found in possessive and existential predicates (a step also taken in Fontana 2013, 2014), and in the data involving unaccusatives. Under this approach, the denotation of Old Catalan *haver* changes according to the type of NP it is combined with, thus yielding the different interpretations with which it is associated.

Let us first deal with sentences where *haver* behaves like a prototypical transitive (Partee 1999). Unlike some of the contexts where this verb appears, this use does not reject definite NPs; but, on the other hand, it is resistant to relational nouns (Barker 1991, LeBruyn et al. 2013, and references therein). Whatever it is that renders ungrammatical in English sentences like *\*she has the child* or *\*the house has the door*, it seemed to be operating in Old Catalan as well. In these cases, all that *haver* seems to do is to introduce a pragmatically controlled relation, that is sometimes represented by  $\pi$  (Barker 1991). The meaning of this relation 'depends for its value on pragmatic factors determined by the context in which the possessive is uttered' (Barker 1991, p. 53). Let's see an example:

- (12) lo rey hac lo castel de Xàtiva  
 the. M.SG king had. 3.SG the castle of Xàtiva  
 the king had the castle of Xàtiva (*Desclot*, 13<sup>th</sup>)

The denotation in these cases, which can be called 'non-incorporating' (following Van Geenhoven 1998), is  $\|haver_{\text{non-inc}}\| = \lambda y \lambda x [\pi(x, y)]$ . The derivation is rather straightforward:

- (13) a.  $\|haver_{\text{non-inc}}\| = \lambda y \lambda x [\pi(x, y)]$   
 b.  $\|\text{lo castel de Xàtiva}\| = \iota x [\text{castel}(x) \ \& \ \text{de}(x, \text{Xàtiva})]$   
 c.  $\|\text{lo rey hac lo castel de Xàtiva}\| = \pi(\iota x [\text{rei}(x)], \iota x [\text{castel}(x) \ \& \ \text{de}(x, \text{Xàtiva})])$

It might look like we do not actually need the  $\pi$ -relation here. We could claim instead that here *haver* is just a two-place predicate establishing a 'possession' relation. Nonetheless, the relation expressed in these sentences is sensitive to pragmatic determination. In context, (13) is not exactly saying that king 'possessed' the castle in question; it rather says that he came to control it after a battle. If we look at (14), *haver* refers to a completely different kind of relation:

- (14) après ages les gallines e coguen ab carnsalada  
 then have.IMPER the hens and cook.SUBJ with bacon fat  
 then have the hens and let them get cooked with bacon fat (*Soví*, 15<sup>th</sup>)

In this example, taken from a medieval cookbook, the imperative of *haver* is not telling the reader to start 'possessing' hens; it just tells them to go and get the ones that (presumably) they already 'possess' to put them into the stew. To account for these pragmatically-controlled readings is precisely the function of  $\pi$ .

Most examples featuring *haver* do not, however, involve a relation between two definite entities, but are instead instances of 'existential-*have*'. These are cases where the object is an indefinite NP which, in contrast to the previous 'non-incorporating' examples, is quite frequently headed by a relational noun. We will first focus on cases where the object is a bare noun, a quite common situation in Old Catalan, exemplified in (6a) (repeated here as 15a and 15b).

- (15a) si emperò aquell haurà fill o fills  
 if however that M.SG have FUT.3.SG child or children  
 But should he have one child or more (*València*, 15<sup>th</sup>)

- (15b) àn pobretat eternal los pecadors  
 have.M.SG poverty eternal the.M.PL sinners  
 Sinners have eternal poverty (*Doctrina*, 14<sup>th</sup>)

(15a) involves a relational noun and (15b) a non-relational one. Following standard practice (e.g. Barker 1991), the first one translates as a two-place predicate, and the second one as a one-place predicate:

- (16) a.  $\|fill\| = \lambda y \lambda x [fill(x,y)]$   
 b.  $\|pobretat\| = \lambda x [pobretat(x)]$

Following again Van Geenhoven, I will call these uses of *haver* 'incorporating'. Continuing with the composition, *haver* carries out different functions in each of these two cases. In the first case, it just selects a relation already denoted by the relational nominal, it existentially closes its internal argument, inverts it, and passes the relation to the VP level. This denotation can be termed 'relational-*have*':

- (15a') a.  $\|haver_{rel}\| = \lambda R \lambda x \exists y [R^{-1}(x, y)]$   
 b.  $\|haver\ fill\| = \lambda x \exists y [fill^{-1}(x, y)]$   
 c.  $\|aquell\ haurà\ fill\| = \exists y [fill^{-1}(z_i, y)]$  (where the value of  $z_i$  is determined by context)

In the non-relational case, the relation between the two entities is pragmatically determined, as in (12) or (14); let us then call it 'non-relational' *have*. The job of *haver* in this case is to introduce this relation, again represented by  $\pi$ , into the denotation (together with a new variable for its external argument), to link the argument of the monadic predicate to the internal argument of the  $\pi$  relation, and to existentially close it. The composition for (15b) runs then as follows:

- (15b') a.  $\|haver_{non-rel}\| = \lambda P \lambda x \exists y [\pi(x,y) \ \& \ P(y)]$   
 b.  $\|pobretat\ eternal\| = \lambda x [pobretat(x) \ \& \ eternal(x)]$   
 c.  $\|haver\ pobretat\ eternal\| = \lambda x \exists y [\pi(x,y) \ \& \ pobretat(y) \ \& \ eternal(y)]$   
 d.  $\|los\ pecadors\| = \iota x [pecadors(x)]$   
 e.  $\|\grave{a}n\ pobretat\ eternal\ los\ pecadors\| = \exists y [\pi(\iota x [pecadors(x)], y) \ \& \ pobretat(y) \ \& \ eternal(y)]$

We have derived the truth conditions that seem intuitively right for that sentence: 'eternal poverty' is the internal argument of a relation which is pragmatically determined (here it seems to mean something like 'bear' or 'suffer'), whose external argument is 'the sinners'.

Let's now move to cases involving indefinite determiners, like *un* ('a') or *molts* ('many'). For the present purposes I will treat indefinite articles like *un* in the object of *haver* as modifiers. Sentence (17a), with the non-relational noun *ort* (vegetable garden), and sentence (17b), with the relational *german* (brother) are an example:

- (17a) aquell            hom        havia                    un    ort  
 that.M.SG        man        had.IMP.3.SG        a        garden  
 that man had a vegetable garden (*Meravelles*, 14<sup>th</sup>)

- (17a') a.  $\|haver\| = \lambda P \lambda x \exists y [\pi(x,y) \ \& \ P(y)]$   
 b.  $\|un\ ort\| = \lambda x [ort(x) \ \& \ un(x)]$   
 c.  $\|haver\ un\ ort\| = \lambda x \exists y [\pi(x,y) \ \& \ ort(y) \ \& \ un(y)]$   
 d.  $\|aquell\ hom\ havia\ un\ ort\| = \exists y [\pi((z_i \ \& \ hom(z_i)), y) \ \& \ ort(y) \ \& \ un(y)]$

- (17b) Frare Valentinian avia un german  
 Friar Valentinian had.IMP.3.SG a brother  
 Friar Valentinian had a brother (*Gregori*, 14<sup>th</sup>)

- (17b') a.  $\|haver_{rel}\| = \lambda R \lambda x \exists y [R^{-1}(x, y)]$   
 b.  $\|un\ german\| = \lambda y \lambda x [german(x, y) \ \& \ un(y)]$   
 c.  $\|haver\ un\ german\| = \lambda x \exists y [german^{-1}(x, y) \ \& \ un(y)]$   
 d.  $\|Frare\ Valentinian\ avia\ un\ german\| = \exists y [german^{-1}(Frare\ Valentinian, y) \ \& \ un(y)]$

Now we have reached the point where we can relate the semantics of possessives to that of sentences that make existence assertions (corresponding to the modern Catalan use of *haver-hi*). The analysis sketched so far can straightforwardly be extended to existential uses of *haver* by making one further assumption I have already introduced above: we must allow locative and dative prepositional phrases such as *en Ungria* ('in Hungary') in (18) below, or the one implicit in the locative clitic *hi* in (19), to be the external argument of *haver*. That is, some sentences with *haver* have quirky subjects. The intuition is that, whereas 'Hungary' denotes an entity, 'in Hungary' denotes the physical space occupied by that entity. Here we can adapt an aspect of Zwarts & Winter's (2000) semantic analysis of locative prepositional phrases. They put forward a function ( $loc(D_e)$ ) that assigns any physical entity its location in space ('a set of points'). Although a full implementation of Zwart & Winter's analysis would be beyond the scope of this paper, let us tentatively assume that the denotation of a locative/dative phrase is the physical space occupied by the entity referred to by the NP complement to the PP.

Once we have taken this step, the rest of the analysis carries over. We can deal with cases of relational nouns, such as *rey* ('king'), and non-relational cases like *casal* ('house', in the sense of 'dynasty') as in (17):

- (18) En Ungria ach un rey  
 In Hungary had.3.SG a king  
 There was a king in Hungary (*Ungria*, 14<sup>th</sup>)

- (18') a.  $\|en\ Ungria\| = loc(Ungria)$   
 b.  $\|rey\| = \lambda y \lambda x [rey(x, y)]$   
 c.  $\|un\ rey\| = \lambda y \lambda x [rey(x, y) \ \& \ un(y)]$   
 d.  $\|ach\| = \lambda R \lambda x \exists y [R^{-1}(x, y)]$   
 e.  $\|ach\ un\ rey\| = \lambda x \exists y [rey^{-1}(x, y) \ \& \ un(y)]$   
 f.  $\|en\ Ungria\ ach\ un\ rey\| = \exists y [rey^{-1}(loc(Ungria), y) \ \& \ un(y)]$

- (19) hi ha molts casals bons e honrats  
 LOC have.3.SG many houses good. M.PL and honest. M.PL  
 There are many good and honest Houses (*Feyts*, 14<sup>th</sup>)

- (19') a.  $\|hi\| = l_i$  (standing for a location determined by context)

- b.  $\| \text{molts casals bons e honrats} \| = \lambda x [\text{casals}(x) \ \& \ \text{molts}(x) \ \& \ \text{bons}(x) \ \& \ \text{honrats}(x)]$   
 c.  $\| \text{ha} \| = \lambda P \lambda x \exists y [\pi(x,y) \ \& \ P(y)]$   
 d.  $\| \text{ha molts casals bons e honrats} \| = \lambda x \exists y [\pi(x,y) \ \& \ \text{casals}(y) \ \& \ \text{molts}(y) \ \& \ \text{bons}(y) \ \& \ \text{honrats}(y)]$   
 e.  $\| \text{hi ha molts casals bons e honrats} \| = \exists y [\pi(\text{loc}(l_i), y) \ \& \ \text{casals}(y) \ \& \ \text{molts}(y) \ \& \ \text{bons}(y) \ \& \ \text{honrats}(y)]$

The presence of a locative subject is incompatible with the non-incorporating denotation ( $\lambda y \lambda x [\pi(x,y)]$ ). That is, this type of subject is tied to a definiteness effect on the object. Why exactly this is so still remains unclear. For our present purposes, suffice it to say that locative subjects seem to be compatible only with the incorporating denotations proposed above.

#### 4.2. *Haver* when an unaccusative comes in

We can now take the step of expanding the analysis to the cases we have presented involving unaccusative past participles. Let us recall what these sentences looked like:

- (20) hi    havia            vengudes            X    galeas    de    venecians  
       LOC   had.IMP.3.SG   come.F.PL        10   ships    of    Venetians  
       there had come ten Venetian ships (*Muntaner*, 14<sup>th</sup>)

The view defended here is that these sentences involve secondary predication: we have a main predicate, *haver*, and the unaccusative participle (here, *venguts*) acts as a secondary predicate. Rothstein (2011) defines a secondary predicate as a 'one-place non-verbal predicate expression which occurs under the scope of the main verb' (p. 1442). The definition says 'non-verbal', and *venguts* is the past participle of the verb *venir*. However, Old Catalan (and Old Romance in general) past participles have been argued to be of a purely adjectival nature by Fontana (2013, 2014). There are thus independent reasons to consider *venguts* as an adjective in (20). I will assume, following among others Parsons (1990) and Rothstein (2004), that adjectives introduce an event argument and assign a thematic role to their external argument.

A key feature of secondary predication structures is that the main and the secondary predicate share an argument. The analysis developed in the previous sections posits that in sentence (20), 'ten Venetian ships' is the internal argument of the *haver*-relation. Regarding (20) as an instance of secondary predication, these Venetian ships are also the external argument of the adjective *venguts*. What we have is thus an object-oriented secondary predicate. In what seems to be the reading of (20), the property expressed by *venguts* holds of its external argument while the state denoted by the *haver* is going on. *Venguts* is, then, plausibly analyzable as an object-oriented depictive secondary predicate.

Another feature of secondary predicates is that they can be dropped without yielding an ungrammatical sentence. This possibility is illustrated by (21), which parallels (20) but for the fact that no secondary predicate is present.

- (21) hi havia CXX galeas et sens nombre lenys  
 LOC had.IMP.3.SG 120 ships and without number vessels  
 there were 120 ships and an endless number of vessels (*Muntaner*, 14<sup>th</sup>)

The same operation cannot apply in those cases where *haver* appears in an atelically interpreted VP, such as (7b), repeated here as (22a). Although we obviously lack negative data or native intuitions, it is hard to imagine what (22b) could possibly mean:

- (22a) e ya **avien** **anat** per tres dies  
 and already had.IMP.3.SG gone for three days  
 and they had already gone for three days (*Sants*, 13<sup>th</sup>)
- (22b) ?\*e ya **avien** per tres dies  
 and already had.IMP.3.SG for three days  
 and they had already for three days

In order to account for these sentences, I will follow a (simplified) version of Rothstein's (2004, 2011) account of secondary predication. For the sake of clarity, I have until now omitted event predicates in the denotation of *haver*, but from here on I will make explicit that both *haver* and the secondary predicate introduce an event argument (which in both cases is, in fact, a state). In Rothstein's account, the main and the secondary predicate form a complex predicate before combining with the argument they share; the secondary predicate and its external argument do not therefore form a constituent (small clause). The secondary predicate plays the role of an aspectual modifier by introducing a new event and defining a relation between this event and the one introduced by the main predicate.

Following Rothstein, I will make two more assumptions. First, I will adopt her syntactic structure for object-oriented depictive predicates; sentence (23) will have the syntactic structure in (24), with the secondary predicate under V":

- (23) hi havia ben CC cavallers armats venguts  
 LOC have.3.SG good 200 knights armed. M.PL come. M.PL  
 there had come a good 200 armed knights (*Muntaner*, 14<sup>th</sup>)

- (24) [hi[[[[[havia]<sub>V</sub> ben CC cavallers armats]<sub>V'</sub>][venguts]<sub>AP</sub>]<sub>V''</sub>]<sub>VP</sub>]<sub>S</sub>

Second, I will also adopt Rothstein's account of predication, whereby the external argument of predicates remains a free variable until a predicate formation operation takes place at the VP (or AP) level by lambda-abstracting over the variable for this external argument. I have not mentioned this aspect in the analysis so far, but its application to the previous sentences in this section should be straightforward.

Rothstein's account incorporates the fact that, for two predicates to combine via secondary predication, they have to share their run-time (that is,  $\tau(e_1) = \tau(e_2)$ ) and they must share an

argument; those are preconditions for the operation to be licensed. This is captured in her analysis by the Time-Participant Connected relation (or TPCONNECT), which holds if these conditions are met. The fact that predicate formation applies at the VP level and that the secondary predicate is under V" in object-oriented secondary predicates will ensure that the argument they share is the internal argument of the main predicate, not the external one. What we want is to create an eventuality  $e = {}^S(e_1 \cup e_2)$ , which is the sum of two events  $e_1$  and  $e_2$ . This is carried out by the SUM operation between two predicates  $\alpha$  and  $\beta$  (Rothstein 2004):

$$(25) \quad \text{SUM}[\alpha, \beta] = \lambda y \lambda e \exists e_1 \exists e_2 [e = {}^S(e_1 \cup e_2) \ \& \ \alpha(e_1, y) \ \& \ \beta(e_2, y) \ \& \ \text{TPCONNECT}(e_1, e_2, y)]$$

We can now present the derivation of (23). These are the two predicates we want to combine:

- (26) a.  $\|\text{haver}\|_V = \lambda P \lambda e \exists y [\pi(e, x, y) \ \& \ P(y)]$  (predicate formation has not applied yet,  $x$  remains free)  
 b.  $\|\text{venguts}\|_{AP} = \lambda x \lambda e [\text{venguts}(e, x)]$  (predicate formation has already applied)

Now we can apply the SUM operation:<sup>8</sup>

$$(27) \quad \|\text{haver } 200 \text{ cavallers armats venguts}\|_{VP}: \\
\text{SUM}(\|\text{haver}\|_V, \|\text{venguts}\|_{AP}) (200 \text{ cavallers armats}) \\
= \text{SUM}(\lambda P \lambda e \exists y [\pi(e, x, y) \ \& \ P(y)], \lambda x \lambda e [\text{venguts}(e, x)]) (\|200 \text{ cavallers armats}\|) \\
= \lambda P \lambda e \exists e_1 \exists e_2 \exists y [e = {}^S(e_1 \cup e_2) \ \& \ \pi(e_1, x, y) \ \& \ P(y) \ \& \ \text{venguts}(e_2, y) \ \& \\
\text{TPCONNECT}(e_1, e_2, y)] (\lambda z [200(z) \ \& \ \text{cavallers}(z) \ \& \ \text{armats}(z)]) \\
= \lambda e \exists e_1 \exists e_2 \exists y [e = {}^S(e_1 \cup e_2) \ \& \ \pi(e_1, x, y) \ \& \ 200(y) \ \& \ \text{cavallers}(y) \ \& \ \text{armats}(y) \ \& \\
\text{venguts}(e_2, y) \ \& \ \text{TPCONNECT}(e_1, e_2, y)]$$

When we reach the VP level, predicate formation applies (by lambda-abstracting over the free  $x$  variable), allowing the external argument of the main verb to enter the derivation:

$$(28) \quad \|\text{hi } \text{havia } 200 \text{ cavallers armats venguts}\|_{VP}: \\
\lambda x \lambda e \exists e_1 \exists e_2 \exists y [e = {}^S(e_1 \cup e_2) \ \& \ \pi(e_1, x, y) \ \& \ 200(y) \ \& \ \text{cavallers}(y) \ \& \ \text{armats}(y) \ \& \\
\text{venguts}(e_2, y) \ \& \ \text{TPCONNECT}(e_1, e_2, y)] (\|\text{hi}\|) \\
= \lambda e \exists e_1 \exists e_2 \exists y [e = {}^S(e_1 \cup e_2) \ \& \ \pi(e_1, \text{loc}(l_i), y) \ \& \ 200(y) \ \& \ \text{cavallers}(y) \ \& \ \text{armats}(y) \\
\ \& \ \text{venguts}(e_2, y) \ \& \ \text{TPCONNECT}(e_1, e_2, y)]$$

At the end of the operation, existential quantification will apply, yielding:

$$(29) \quad \exists e \exists e_1 \exists e_2 \exists y [e = {}^S(e_1 \cup e_2) \ \& \ \pi(e_1, l_i, y) \ \& \ 200(y) \ \& \ \text{cavallers}(y) \ \& \ \text{armats}(y) \ \& \ \text{venguts}(e_2, y) \ \& \ \text{TPCONNECT}(e_1, e_2, y)]$$

<sup>8</sup> As a result of the analysis of incorporation developed in the previous subsection, note that *haver* and *venguts* are not of the same type. This technical problem could potentially be solved by a modification of the SUM operation. Another option to circumvent it would be to use another semantic analysis of incorporation such as Chung and Ladusaw's (2003).

These are the right truth-conditions for the sentence: there is an event  $e$ , which is the sum of two events  $e_1$  and  $e_2$ .  $e_1$  is the state introduced by *haver*: it denotes  $\pi$ , the pragmatically controlled relation (here loosely referring to 'being located') we have used in the previous subsection for non-relational nouns. Its internal argument is existentially quantified by means of the denotation of *haver*, thus capturing the definiteness restriction that these sentences display. On the other hand, this argument is the external argument of the event  $e_2$ , introduced by the secondary predicate. Note that, as step c above shows, the two predicates combine to form a complex predicate before being applied to the argument they share. By virtue of the Time-Participant Connected relation holding, the two events share a run time and this participant. Finally, the external argument (the locative *hi*) applies to this complex VP.

This analysis simplifies various aspects of Rothstein's account and needs further refinement, but it should give a plausible account of how the Old Catalan examples we are dealing with were interpreted. Space precludes showing the derivations for other sentences. However, if we look at a case such as (30), applying the same method should yield the truth-conditions in (30'):

(30) A l' emperadriu ha venguts dos cavallers  
 To the.SG empress have.3.SG come.M.PL two knights  
 Two knights have come to the empress (*Desclot*, 13<sup>th</sup>)

(30')  $\exists e \exists e_1 \exists e_2 \exists y [e =^S(e_1 \cup e_2) \ \& \ \pi(e_1, \iota x[\text{emperadriu}(x)], y) \ \& \ \text{dos}(y) \ \& \ \text{cavallers}(y) \ \& \ \text{venguts}(e_2, y) \ \& \ \text{TPCONNECT}(e_1, e_2, y)]$

## 5. Conclusions and future research

This paper has presented some data on the use of *haver* ('have') and the system of auxiliary selection in the perfect in Old Catalan. We have seen that, aside from being a perfect auxiliary, *haver* was used in possessive sentences (which would use *tenir* in modern Catalan) and in sentences making existential assertions (equivalent to modern Catalan *haver-hi*); I have put forward that the latter differ from the possessive ones only by having oblique subjects. I have shown data regarding the use of *haver* with unaccusative past participles, and I have argued that some of these examples involve *have*-triggering features that are not unique to Old Catalan. However, most cases of *haver* + unaccusatives have all the features of sentences making existential assertions, including oblique subjects. Data of this latter kind have not, to my knowledge, been found in any other Old Romance language.

I have adopted a standard treatment of *have* (based on Barker 1991, Van Geenhoven 1998 and Partee 1999) to account for the possessive uses of *haver*, as well as the ones which make an existence assertion that captures the definiteness restriction that some of these uses give rise to. Besides, I have adopted a version of Rothstein's (2004, 2011) analysis of secondary predicates to account for the examples where the unaccusative past participle seemingly appears in sentences where the unaccusative participle plays the role of the secondary predicate.



This analysis covers some of the uses of *haver* in Old Catalan, but as it is it does not extend to all of them. It does not, for instance, give an account for the much-debated issue of *have*-perfects of transitives and unergatives, which I have skipped in this analysis. This remains as a challenge for future research. Moreover, the formal implementation adopted here needs further refinement. However, I hope that the Old Catalan data I have presented and the line of analysis suggested can help improve our understanding of split intransitivity in the selection of the perfect auxiliary and the processes whereby it has vanished from many languages, as well as our comprehension of the relation between perfects, possession and existence assertions (which use the same verb in many languages) and on why *haver-hi* is the existential predicate in Modern Catalan. I also hope that this study casts some more light on the semantics of *have* cross-linguistically and on finding out the common core in all its many contexts of use.

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