

**verbs  
movement  
and  
prepositions**

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# *External possession in Portuguese*

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## **Abstract**

In this paper we look at external possession structures in Portuguese, which shares some properties with other Romance languages, but shows a much wider range of possessor datives as they are not restricted to human possessors and are possible even with state verbs. Possessor raising structures were also considered and we show that they are restricted to the transitive, non-causative variant of Agent/Possessor Alternation verbs.

In order to understand why the external possession structures common to Romance involve part-whole relations and present the event as a change that affects the possessor, we consider the properties of *affectees* in terms of Proto-Roles, the characterization of the part-whole relation as the semantic *R-integrated relation*, and an *Affectedness* hierarchy defined in terms of a scalar structure measuring the degree of change suffered by the object of the verb.

As for Portuguese external possession structures which depart from the ones found in more restrictive Romance languages, it is suggested that their analysis requires making assumptions about the internal structure of the affected Theme when *possessum* and possessor hold a part-whole relation and about the grammaticalization of the affected feature in some languages.

We suggest that Portuguese encodes affectedness in a functional head of the  $v$ -V system and we assume that this head, of aspectual nature, is a complement of  $v$ , selects VP as its complement, and, following Fernández-Alcalde (2014: 81) for Spanish, “plays a double role: semantically, it is the locus of the affected interpretation found in the dative argument; syntactically, this head is responsible for dative case assignment to the DP via agreement”.

## **Keywords**

External possession, datives, possessor raising, part-whole, affectedness

## **1 - Introduction**

The domain of possession covers essentially three types of relations between what is generally called a possessor and a *possessum*: whole-part relations (e.g., body parts), kinship relations, covering both relations by blood and by marriage, and ownership relations in a strict or looser sense (like being “the owner of”, “the producer of” or “the topic of”). Possession relations are encoded in the grammar of all known languages, although the means used to express them vary crosslinguistically, namely, wrt the patterns and licensing conditions of external possession (Deal, 2013). Variation in the expression of external possession in the Romance area has long been a topic of interest (Guéron 1985, Vergnaud & Zubizarreta 1992, Lamiroy & Delbecque 1998, Lamiroy 2003, Pujalte 2009, Fernández-Alcalde 2014, a.o.; Miguel 1992, Miguel, Gonçalves & Duarte 2011 for Portuguese). This work allowed finding some regularities across Romance and to single out wellformedness conditions of external possession structures, crucially, the part-whole relation between *possessum* and possessor and the affectedness condition on the possessor.

Our goal in this chapter is threefold. First, we will describe the patterns of argument realization found in external possession structures in Portuguese<sup>1</sup>, keeping the type of possession relation constant, but varying the verb classes and the semantic features of the possessor. Secondly, we will discuss and propose a more accurate definition of affectedness, ultimately, one enabling us to understand why the common patterns of external possession across Romance involve specific possession relations, occur with certain verb classes only, and just concern human possessors. Finally, we will suggest a principled account of the external possession structures in Portuguese, a language which does not satisfy the strict conditions met by the external possession structures common to Romance.

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<sup>1</sup> Throughout, the variety of Portuguese considered is European Portuguese.



- (3) a. \**Je lui ai endormi l'enfant.*  
I DatCl.3.sg have.1.sg put.to.sleep the child  
b. *Le adormeci el hijo.*  
DatCl.3.sg put.to.sleep the child  
'I put his/her son to sleep.'
- (4) a. \**Je lui ai perdu le livre.*  
I DatCl.3.sg have.1.sg lost the book  
b. *Le perdi el libro.*  
DatCl.3.sg lost the book  
'I lost his/her book.'

Portuguese behaves like Spanish in this respect (see (5)).

- (5) a. *Lavei-lhe as mãos.*  
washed.1.sg.DatCl.3.sg the hands  
'I washed his/her hands.'
- b. *Adormeci-lhe o filho.*  
Put-to-sleep.1.sg.DatCl.3.sg the son  
'I put his/her son to sleep.'
- c. *Perdi-lhe o livro.*  
Lost.1.sg.DatCl.3.sg the book  
'I lost his/her book.'

Data from Romance show that the core cases of possessor datives require [+human] possessors. The contrast shown in (6) is claimed to be a consequence of this requirement in French.

- (6) a. *Marie, Max lui a lavé les cheveux.*  
Marie, Max DatCl.3.sg has washed the hair  
'Marie, Max washed her hair.'
- b. \**La voiture, Max lui a lavé les vitres.*  
the car, Max DatCl.3.sg has washed the glasses

However, Portuguese allows for [-human] possessors with dative marking.

- (7) a. *O Max lavou-lhe o cabelo (, à Maria).*  
the Max washed.DatCl.3.sg the hair (, to.the Maria)  
'Max washed her hair (Maria's hair)'

- b. *O Max tem um carro novo e lavou-lhe os vidros.*  
 and washed.3.sg.DatCl.3.sg the glasses  
 ‘Max has a new car and he washed its glasses.’

The [+ human] requirement has been considered the result of a condition on external possession: the possessor with dative marking has to be “affected” by the predicate. Once affected, the possessor gets an extra-interpretation: he becomes the benefactive or the malefactive of the event. But an intuitive concept of affectedness is not enough to account for the contrast between (6b) and (7b).

The type of possession relation that possessor datives may encode is another locus of variation that the intuitive notion of affectedness cannot cope with. As already mentioned above (see (2b, c) vs. (3b, c)-(4b, c)), possessor datives are restricted to part-whole relations in French, in particular to body-part relations (Guéron 1985, Vergnaud & Zubizarreta 1992, a.o.); however, in Portuguese, possessor dative structures may be used to encode kinship or loose ownership relations, as the contrast between (8) and (9) shows.

- (8) a. \* *Le médecin lui a sauvé la mère.*  
 the doctor DatCl.3.sg has saved the mother  
 b. \* *Pierre lui a perdu le chien / le parapluie.*  
 Pierre DatCl.3.sg has lost the dog / the umbrella
- (9) a. *O médico salvou-lhe a mãe.*  
 the doctor saved.DatCl.3.sg the mother  
 ‘The doctor<sub>1</sub> saved his<sub>2</sub>/her<sub>2</sub> mother.’  
 b. *O Pedro perdeu-lhe o cão / o guarda-chuva.*  
 the Pedro lost. DatCl.3.sg the dog / the umbrella  
 ‘Pedro<sub>1</sub> lost his<sub>2</sub>/her<sub>2</sub> dog /umbrella.’

The affected reading on dative marked possessors has been claimed to entail that only verbs selecting for affected themes are allowed; this would exclude both event verbs selecting for effected themes and stative verbs, a prediction borne out for French (see (10)).

- (10) a. \* *Leonardo lui a peint le portrait.*  
 Leonardo DatCl.3.sg has painted the portrait





- (13) a. \* *Max a tordu le bras au plateau tournant.*  
 Max has twisted the arm to.the record player  
 b. \* *Juan le torció el brazo al tocadiscos.*  
 Juan DatCl.3.sg twisted the arm to.the record player

However, in Portuguese this restriction seems to be softer, as native speakers invited to judge the well-formedness of (14) did not consider there was a sharp contrast between the a. and the b. sentences.

- (14) a. *O João torceu o braço ao Pedro.*  
 The João twisted the arm to.the Pedro  
 ‘João twisted Pedro’s arm.’  
 b. (?) *O João torceu o braço ao gira-discos.*  
 The João twisted the arm to.the record player  
 ‘João twisted the record players’s arm.’

Another pattern of external possession was, to our knowledge, first discussed in Keenan (1976) for Malagasy. To account for sentences in which a possessor surfaces as the subject of the clause, Keenan proposed a transformation, POSS Raising, that would pick up a genitive internal to an NP and move it to subject position. The same kind of analysis, reframed as possessor ascension, was proposed in Aissen (1987) for Tzotzil, a Mayan language spoken in Mexico. For Brazilian Portuguese, Rodrigues (2010) argued that A-movement was involved in the derivation of transitive sentences with the possessor in subject position and the *possessum* as direct object (see (15)).

- (15) [*o João*]<sub>1</sub> *encontrou* [*o pro*]<sub>1/\*2</sub> *irmão*].  
 (Rodrigues 2010: 469)  
 the João found the *pro*<sub>1/\*2</sub> brother  
 ‘João found his brother.’

We will dismiss here cases like (15)<sup>4</sup> and concentrate on structures like the ones in (16), which Cançado (2010), Munhoz & Naves (2012), Andrade & Galves (2014)

<sup>4</sup> It is doubtful that sentences like (15) involve raising of the possessor to subject position. Indeed, as discussed below, instances of possessor raising in Romance are incompatible with passivization. However, in cases like (15), passive is available, as shown in the passive counterpart of (15):

(i) *O irmão foi encontrado pelo João.*  
 ‘The brother was found by João.’

a.o. consider cases of possessor movement to subject or topic position in Brazilian Portuguese<sup>5</sup>. In European Portuguese, as categorical person-number agreement on the verb shows, the Possessor surfaces as the subject – see (16).

- (16) a. *Tu cortaste o cabelo.*  
you cut.2.sg the hair  
Reading 1: someone cut your hair  
Reading 2: you cut your own hair
- b. *João partiu o braço.*  
João broke.3.sg the arm  
Reading 1: someone/something broke João's arm  
Reading 2: João broke his own arm

Out of the blue, the sentences in (16) are ambiguous between a reading in which the possessor is the Causer of the eventuality (reading 2) and a reading in which the possessor is presented as a Patient (reading 1), the preferential reading depending on encyclopaedic knowledge about the type of eventuality and about the Hearer's/João's lifestyle habits. This is exactly the ambiguity found in the English counterparts of (16).

- (17) a. *You cut your hair.*  
b. *John broke his arm.*

In French and in Spanish, there is no ambiguity between the causative and the non-causative variant, since the former “translates” into an ordinary transitive clause whereas the latter “translates” into a middle-reflexive clause.

- (18) a. *Marie s'est cassé le bras.*  
b. *Maria se rompió el brazo.*

One way to account for the ambiguity in (16) is to consider that *cortar* ‘cut’ and *partir* ‘break’, which are transitive causative verbs, allow alternations in the alignment of  $\theta$ -role and grammatical functions: a causative alternation, in which the Agent  $\theta$ -role is aligned with the grammatical function of subject, and a non-causative

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<sup>5</sup> In the case of (16b), Brazilian Portuguese speakers would use the verb *quebrar* ‘break’, a lexical choice which is irrelevant for the matter under discussion.

alternation, in which the Agent  $\theta$ -role is not projected in syntax and the possessor is aligned with the subject grammatical function. Only certain subclasses of externally caused verbs of change of state (Levin & Rappaport Hovav 1995) accept this alternation, in particular some body care verbs and some *break*-type verbs.<sup>6</sup>

If the causative variant of the verb is selected, three external possession structures will be possible, as shown for body care verbs in (19) and for *break*-type verbs in (20).

- (19) a. *O João*<sub>1</sub>    *cortou*        *o cabelo*        *ao filho*<sub>2</sub>.  
           the João    cut                the hair        to.the son  
           ‘João cut his son’s hair.’
- b. *O João*<sub>1</sub>    *cortou-lhe*<sub>2</sub>        *o cabelo*.  
           the João    cut.DatCL3.sg    the hair  
           ‘João cut his/her hair.’
- c. *O João*<sub>1</sub>    *cortou*    [*pro*<sub>1</sub> *o cabelo*]    *com uma máquina elétrica*.  
           the João    cut            [pro the hair]        with an electric razor  
           ‘João cut his own hair with an electric razor.’
- (20) a. *O João*<sub>1</sub>    *partiu*    *o braço*        *ao Pedro*<sub>2</sub>.  
           the João    broke        the arm        to.the Pedro  
           ‘João broke Pedro’s arm.’
- b. *O João*<sub>1</sub>    *partiu-lhe*<sub>2</sub>        *o braço*.  
           the João    broke.DatCL3.sg    the arm  
           ‘João broke his arm.’
- c. *O João*<sub>1</sub>    *partiu* [*pro*<sub>1</sub> *o braço*]    *com um martelo*  
           [*para não ir para a guerra*].  
           the João    broke [pro<sub>1</sub> the arm]        with a hammer  
           [for    not    go.Inf    to the war]  
           ‘João broke his own arm to avoid going to war.’

A fourth pattern is possible, with a subclass of *break*-type verbs, in which the possessor is assigned the Theme  $\theta$ -role and the *possessum* occurs inside a PP headed by the Locative preposition *em* ‘in, at’.<sup>7</sup> (20d) illustrates this pattern.

<sup>6</sup> Examples of body care verbs with this alternation are: *cortar* ‘cut’, *lavar* ‘wash’, *limpar* ‘clean’, *pentear* ‘comb’.  
 Examples of *break*-type verbs accepting this alternation are: *arranhar* ‘scratch’, *ferir* ‘bruise’, *magoar* ‘hurt’, *partir* ‘break’.

<sup>7</sup> Although further research is needed, it seems that only *break*-type verbs responsible for temporary, easily reversible result states allow this pattern.

- (20) d. *O João arranhou/feriu o Pedro na mão.*  
the João scratched/hurt the Pedro in.the hand  
'João scratched / hurt Pedro's hand.'

On the contrary, if the non-causative variant is selected, only one external possession structure will be available for body care verbs (see (21a)) and for *break*-type verbs (see (21b)).

- (21) a. *O João cortou [~~o~~ João o cabelo] no cabeleireiro.*  
the João cut [~~the~~ João the hair] at.the hairdresser's.  
'João had his hair cut at the hairdresser's.'
- b. *O João partiu [~~o~~ João o braço] a jogar à bola.*  
the João broke [~~the~~ João the arm] playing football.  
'João broke his arm (unintentionally), while playing football.'

With the same *break*-type verbs that allow the pattern shown in (20d), another structure with possessor raising is possible: a middle-reflexive clause, with the possessor aligned with the grammatical function of subject and the *possessum* in a PP headed by the Locative preposition *em* 'in/at', as shown in (21c).

- (21) c. *O João feriu-se na mão.*  
the João hurt.SE in.the hand  
'João hurt his hand.'

Let us now take a closer look at the alternation at stake in (16) to (21), which we will call Agent/Possessor Alternation<sup>8</sup>. At first glance, it is close to the Causative Alternation analysed in Burzio (1986) and Levin & Rappaport Hovav (1995) among many others, illustrated in (22).

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<sup>8</sup> See Cançado (2010), who distinguishes two types of alternation – Agent/Possessor and Body/Possessor –, based on data from Brazilian Portuguese. See also Cançado & Gonçalves (2016), a.o.

- (22) a. *O João abriu a porta / O João abriu-a / A porta foi aberta pelo João.*  
 ‘João opened the door / João opened it / The door was opened by João.’  
 b. *A porta abriu(-se) / Ela abriu-se / A porta abriu-se com o vento.*  
 ‘The door opened / It opened / The door opened with the wind.’

However, a number of significant properties distinguish these alternations. Two such properties concern the causative variant and result from the fact that possessor datives are non-core datives, that is, they are not arguments selected for by the verb<sup>9</sup>. As such, and contrary to core datives, they do not allow passivization and they cannot occur as arguments of nominalizations (Authier & Reed 1992, Boneh & Nash 2013 for French; Demonte 1995, Pujalte 2010 for Spanish, a.o.) – see the contrast between (23) and (24).<sup>10</sup>

- (23) a. *O livro foi dado / enviado à Maria.*  
 The book was given / sent to.the Maria.  
 ‘The book was given/sent to Maria.’  
 b. *Já guardei o livro dado / enviado à Maria.*  
 already stored.1.sg the book given/sent to.the Maria.  
 ‘I have already stored the book given/sent to Maria.’

<sup>9</sup> For tests distinguishing core from non-core datives in Portuguese, see Brito (2009), Miguel, Gonçalves & Duarte (2011), Gonçalves (2016).

<sup>10</sup> However, judgements on the grammaticality of passive possessor dative clauses with dative clitics, although not unanimous, increase significantly, as shown in (a-b’) below.

- a. (?) *O cabelo foi-lhe cortado pelo João.*  
 the hair was.DatCl.3.sg cut by.the João  
 ‘His/her hair was cut by João.’  
 a’. (?) *O braço foi-lhe partido pelo João.*  
 the arm was.DatCl.3.sg broken by.the João  
 ‘His/her arm was broken by João.’  
 b. (?) *Já lhe fotografiei o cabelo cortado.*  
 already DatCl.3.sg photographed the hair cut  
 ‘I have already photographed his/her cut hair.’  
 b’. (?) *Já lhe tratei o braço partido.*  
 already DatCl.3.sg treated the arm broken  
 ‘I have already treated his/her broken arm.’

According to Authier & Reed (1992), it is also the case that judgements of native speakers concerning passive clauses with non-core dative clitics are not unanimous in French. We will not pursue this matter here.

- (24) a. \* *O cabelo foi cortado ao filho pelo João*  
the hair was cut to.the son by.the João  
a'. \* *O braço foi partido ao Pedro pelo João.*  
the arm was broken to.the Pedro by.the João  
b. \* *Já fotografei o cabelo cortado ao filho.*  
[I]already photographed the hair cut to.the son  
b'. \* *Já tratei o braço partido ao Pedro.*  
[I] already treated the arm broken to.the Pedro

Two other properties distinguishing the Causative Alternation from the Agent/Possessor Alternation concern the non-causative variant. First, in the Causative Alternation, the non-causative variant is unaccusative, that is accusative Case is not available, and secondly, the external Causer may be expressed through a PP headed by the preposition which introduces instrumentals and commitatives, *com* ‘with’ (see (22b)); on the contrary, in the non-causative variant of the Agent/Possessor Alternation, accusative Case is still available and the external causer cannot surface as a *com*-PP (see (25)).

- (25) a. *O cabelo, a Maria cortou-o no cabeleireiro.*  
the hair, the Maria cut.Clit-Acc.3.sg in.the hairdresser  
‘Her hair, Maria had it cut at the hairdresser.’  
a'. *O braço, o João partiu-o a jogar à bola.*  
the arm, the João broke-Clit.Acc.3.sg to play.Inf to.the ball  
‘His arm, João broke it playing football.’  
b. \* *A Maria cortou o cabelo com o cabeleireiro.*  
the Maria cut the hair with the hairdresser  
b'. \* *O Pedro partiu o braço com o jogo de futebol.*  
the Pedro broke the arm with the game of football

Table 1 summarizes the patterns of external possession discussed so far, with verbs entering the Agent/Possessor Alternation, for the core possession relation part-whole and human possessors.<sup>11</sup>

<b>Agent/Possessor Alternation</b>	<i>Break-type verbs</i>	<i>Body care verbs</i>
<i>Causative variant</i>		
<b>Pattern 1:</b> Agent <sub>1</sub> <i>a</i> -Possessor <sub>2</sub> Theme <i>possessum</i> subject dative direct object	✓	✓
<b>Pattern 2:</b> Agent <sub>1</sub> Possessor <sub>2</sub> Theme <i>possessum</i> subject dative clitic direct object	✓	✓
<b>Pattern 3:</b> Agent <sub>1</sub> = Possessor <sub>1</sub> Theme <i>possessum</i> subject direct object	✓	✓
<b>Pattern 4:</b> Agent Possessor Theme <i>possessum</i> subject direct object Locative PP	✓/*	*
<i>Non-causative variant</i>		
<b>Pattern 5:</b> Possessor Theme <i>possessum</i> subject direct object	✓	✓
<b>Pattern 6:</b> Possessor SE Theme <i>possessum</i> subject Locative PP	✓/*	*

Table 1 - Patterns of external possession

As mentioned above, possessor datives are possible in Portuguese with event verbs which do not select for affected themes, that is, they select effected themes, and even with some stative verbs. Again, sticking to the part-whole relation, examples of possessor datives with a causative verb selecting for an effected Theme with an unaccusative internally caused verb of change of state and with a phase stative verb are presented in (26)–(28).

- (26) a. *O João desenhou uma pata ao elefante.*  
the João draw a foot to.the elephant  
‘João draw a foot on the elephant.’

<sup>11</sup> With non-human possessors, only patterns 1 and 2 are available.

- b. *O João desenhou-lhe uma pata.*  
the João draw.DatCl.3.sg a foot  
'João draw a foot on it.'
- (27) a. *Os dentes já nasceram ao bebé.*  
the teeth already be.born to.the baby  
'The baby's teeth grew already.'
- b. *Os dentes já lhe nasceram.*  
the teeth already DatCl.3.sg be.born  
'His teeth grew already.'
- (28) a. (?) *Todos reconhecem qualidades ao Pedro.*  
all acknowledge qualities to.the Pedro  
'Everyone acknowledges Pedro's qualities.'
- b. *Todos lhe reconhecem qualidades.*  
all DatCl.3.sg acknowledge qualities  
'Everyone acknowledges his/her qualities.'

Interestingly, possessor datives with effected Themes cannot be paraphrased by internal possession structures with a genitive Possessor, contrary to what happens in general when possessor datives occur with verbs selecting for affected Themes. So, the meanings of (29b) and (29a) are essentially the same, whereas the meanings of (26a) and (29c) are different.

- (29) a. *A Maria lavou as mãos à filha.*  
The Maria washed the hands to.the daughter  
'Maria washed her daughter's hands.'
- b. *A Maria lavou as mãos da filha.*  
The Maria washed the hands of.the daughter  
'Maria washed her daughter's hands.'
- c. *O João desenhou uma pata do elefante. ≠ (26a)*  
the João draw a foot of.the elephant  
'João draw one of the elephant's feet.'

This difference in readings between (26a) and (29c) is due to the different interpretations of indefinites. In the first case the indefinite is a discourse referent introducing a new 'object' (the effected one), whereas in the second case the interpretation is partitive, allowing the inference of a larger set from which the indefinite selects one element.



The examples in (27) illustrate possessor dative structures with an unaccusative verb. Whereas the non-causative variant of Agent/Possessor Alternation verbs allow possessor raising to subject, unaccusative verbs do not, as the ungrammaticality of (30) shows.<sup>12</sup>

- (30) \* *O bebé nasceu os dentes.*  
the baby grew the teeth

As shown in (28), possessor datives are possible with some phase state verbs. However, the *a*-DP pattern is not accepted unanimously by the native speakers. With many stative verbs, particularly non-phase states, possessor datives are entirely out, even when surfacing with a dative clitic. The contrast in (31) shows this difference, as (31a) exhibits a phase state and (31b) a non-phase state.

- (31) a. *Todos lhe detestam a arrogância.*  
(*arrogância da Maria*)  
all DatCl.3.sg hate the arrogance  
(Maria's arrogance)
- b. \* *Eles sabem-lhe a letra. (a letra da canção)*  
they know.DatCl.3.sg the lyrics (the lyrics of the song)

### 3 - Refining the intuitive concept of affectedness

As mentioned before, although some Romance languages are more restrictive than others with respect to the patterns and relations they allow for possessor datives (part-whole, kinship or (loose) ownership relations), all of them accept this type of structure with part-whole relations<sup>13</sup>. The reason possibly lies on the relation being more general than the other possession relations, as it is a mereological relation holding also in nominal and verbal domains. Moltmann's *R-integrated relation*, based on Simmons (1987), helps us understand the relevance of part-whole relations in

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<sup>12</sup> According to Cançado (2010) and Munhoz & Naves (2012), a.o., possessor raising to subject/topic is possible in Brazilian Portuguese with one place unaccusative verbs. On the differences between the Brazilian and the European variety wrt possessor raising to subject / topic, see Cançado & Gonçalves (2016), Gonçalves & Miguel (2017).

<sup>13</sup> The part-whole relation is a much wider relation than the one we are using here. Generally, this relation is used in semantics for distinctions, among others, between individuals, mass-count, plurals. In the context of the present study, this relation is used in a much more restricted way, particularly in body-parts relations.

external possession structures. Defined informally as “An entity  $x$  is an *R-integrated whole* if there is a division of  $x$  such that every member of that division stands in the relation  $R$  to every other member and no member bears  $R$  to anything other than members of the division.” (Moltmann, 2003: 24), the *R-integrated relation* is considered as a set of general parts that exhaust the object.

According to Moltman, the notion of integrated whole has two properties: it is not an absolute property as it is more a matter of degree, that is, “a whole-property may represent a greater degree of integrity than some other whole-property” (Moltmann 2003: 26). A second property is the dimension, as an object may have integrity in some dimension and may fail to have it in some other dimension. This means that an entity may have different sets of parts in different dimensions.<sup>14</sup> Depending on the phenomena the  $R$  relation is applied to, an entity is an integrated whole in a situation or it is an integrated whole essentially or not.

We would like to suggest that there is a correlation between the degree of integration, its dimension and the transitivity of the relation. Indeed, in some cases, the  $R$ -relation cannot be transitive, as shown in the two following examples: a leg is a part of a person and a person is a part of a group, but a leg is not a part of a group; a page is part of a book and a book is part of a library, but a page is not a part of a library. However, the blocking of transitivity does not always take place. There are types of part structures that allow transitivity, and this is the case for body parts: for instance, a hand is part of an arm, an arm is part of a body, and a hand is also a part of a body. So, we suggest that among the possession relations under analysis, the part-whole relation (particularly, body parts-body) is the only one that is transitive and the only one in which the integrated whole is taken to be ‘essential’. Thus, we may speculate that the variation observed in Romance with respect to the types of possession relation allowed in external possession structures is related to the stricter or wider way each of these languages view a possession relation as a type of part-whole relation, that is, whether or not they view the *possessum*-possessor relation as a part of an essentially integrated whole.

Almost all current analyses of external possession structures include the idea

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<sup>14</sup> The definition of an *R-integrated whole* relation has also some auxiliary notions, that is: a mereological division of an entity ( $\forall y$ ) ( $y \in X \rightarrow y < x$ ) & ( $\forall y$ ) ( $y < x \rightarrow (\exists z)$  ( $z \in X$  &  $z O < y$ )); the division must be closed, and it must be connected. The formal definition goes like this, where DIV stands for ‘division’, CL for ‘closure’ and CON for ‘connectedness’:

“For a nontrivial two-place relation  $R$  and an entity  $x$ ,  $x$  is an *R-integrated whole* ( $R$ -INT-WH( $x$ )) iff there is a nonempty set  $X$  such that  $\text{DIV}(X,x)$ ,  $\text{CL}(R_{\text{trans}} X)$ , and  $\text{CON}(R_{\text{trans}} X)$ ” (Moltmann, 2003:25).

that there is an interpretive difference between them and their internal possession counterparts: only in the former is the possessor presented as affected by the eventuality. That the possessor is presented as an entity affected by the eventuality is corroborated by the impossibility of producing an external possession structure in the context given in (32) – see Hole (2005).

- (32) Pedro died one month ago. João, one of his friends, just learnt that Pedro's father died last night and he calls Ana, Pedro's ex-girlfriend.
- a. *Morreu ontem o pai do Pedro.*  
died yesterday the father of.the Pedro  
'Pedro's father died yesterday.'
- b. # *Morreu ontem o pai ao Pedro.*  
died yesterday the father to.the Pedro
- c. # *(O Pedro), morreu-lhe ontem o pai.*  
(the Pedro) died-DatCl3.sg yesterday the father

(32b, c) are infelicitous because, being dead, Pedro can no longer be presented as an entity affected by his father's death, since he is not conscious of the event described in the clause. In work on non-core datives in German, Hole (2005) resorts to Proto- $\theta$ -Roles (see Dowty 1991) to refine the concept of *affectee*. According to him, *affectees* combine properties of the Agent and the Patient Proto- $\theta$ -Role:

(33) Hole (2005: 220)

- a. "Affectees are consciously/sentiently involved in the eventuality at hand, i.e. they have one property of the Agent Proto-Role."  
b. "Affectees are causally affected by the eventuality at hand, i.e. they have one property of the Patient Proto-Role."

Assuming Hole's proposal, the assertion in (33a) helps us understand why in Romance languages in which external possession structures are more severely restricted only human possessors are allowed. On the other hand, it has been generally assumed that the affectedness requirement imposed on both the possessor and the *possessum* entails that only verbs selecting for affected themes are possible in these structures. However, as described in section 2, although this entailment is met by French and to a certain extent by Italian, it is not the case that it is valid for either Spanish or Portuguese. So, a more accurate definition of affectedness is a relevant step to better understand differences among Romance languages with respect to the

verb classes accepted in external possession structures.

Indeed, affectedness has been a key concept in analyzing argument realization and defining direct objecthood (Dowty 1991; Beavers 2006, 2011). It is known to determine telicity (Tenny 1987; Krifka 1989) and it is also correlated with other syntactic operations such as passivization.

Since affectedness usually has to do with change, that is, an event and a state that obtains for some entity as a result of that event and as such conceived as a persistent change of a participant (see Kratzer's 2000 "target state"), two of the tests used to identify affected objects focus on the event or on the resulting state it entails.

The first one was proposed by Cruse (1973) and consists in making the following assertion about the object: "What happened to X is Y". (34b) shows the application of this test to the Theme argument of (34a).

- (34) a. The Romans destroyed the barbarian city. (Beavers 2011)  
b. What happened to the barbarian city is that the Romans destroyed it.

The second test that works rather well is entailment.<sup>15</sup> It consists in continuing the sentence about the object with a contrast clause which denies the predicate; if the contrast clause is infelicitous, the object is affected. (35) shows the application of this test to some of the verbs in the examples presented in section 2.

- (35) a. *O João partiu agora mesmo o braço do Pedro* #*mas o braço não está partido.*  
'João just broke Pedro's arm, # but his arm is not broken.'  
b. *O João cortou agora mesmo o cabelo da filha,* #*mas o cabelo não está cortado.*  
'João just cut his daughter's hair, # but her hair is not cut.'  
c. *O João coçou agora mesmo as costas da Maria,* ?*mas as costas não estão coçadas.*  
'João just scratched Maria's back, ? but her back is not scratched.'

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<sup>15</sup> Effected Themes behave like affected arguments wrt this test (see (i)).

(i) *O João desenhou a casa, # mas a casa não ficou desenhada.*  
'João draw the house, but the house is not drawn.'

However, several authors consider that affectedness is a property exclusive of prior existing entities.

- d. *O João viu agora mesmo o carro da Maria, ? mas o carro não está visto.*  
'João just saw Maria's car, ? but her car is not seen.'

The literature proposes different hierarchies of affectedness determined by various criteria: grades of affectedness can depend on the change of state of the patient or on the movement of a theme along some path; these grades can also depend on the type of change or on the domain to which the change applies, such as existence, location or sensation.

The "Affectedness Hierarchy" proposed in Beavers (2006, 2011) considers that change is related to dynamic predicates and that prior existence is relevant for affectedness. His hierarchy is based on a scalar structure, encoding the degree of change imposed on the theme by the predicate (see (36)).<sup>16</sup>

- (36) a. x undergoes a quantized change  
e.g., accomplishments/achievements (*despedaçar, destruir, partir x; pintar x; comer, consumir, devorar, suprimir x; arranhar, ferir x; lavar, limpar x; transformar x em y*).<sup>17</sup>
- b. x undergoes a non-quantized change.  
e.g., degree achievements (*alargar, encurtar x; aquecer/arrefecer x; cortar x*).<sup>18</sup>
- c. x has a potential for change  
e.g., surface contact/impact (*coçar x; esfregar x; esmurrar x*).<sup>19</sup>
- d. x is unspecified for change  
e.g., other activities/states (*cheirar, ouvir, ver x; conhecer, contemplar, respeitar x*).<sup>20</sup>

(Beavers 2011: (60), 24; adapted)

According to this hierarchy, the most affected objects are the ones that undergo

<sup>16</sup> The implicational "Affectedness Hierarchy" (Beavers 2011: (62), 24): for all  $x, \theta, e$ ,  
 $\exists s[\text{result}'(x, s, g_{\theta}, e)] \rightarrow \exists s \exists g[\text{result}'(x, s, g, e)] \rightarrow \exists s \exists \theta[\text{exists}(x, s, e)] \rightarrow \exists \theta'[\theta'(x, e)]$   
 (quantized) (non-quantized) (potential) (unspecified)

<sup>17</sup> The English counterparts are respectively: *shatter, destroy, break x; paint x; eat, consume devour, suppress x; scratch (=make small hurts), hurt x; wash, clean x, transform x into y.*

<sup>18</sup> The English counterparts are respectively: *widen, shorten x; heat, cool x; cut x.*

<sup>19</sup> The English counterparts are respectively: *itch x; scrub x; punch x.*

<sup>20</sup> The English counterparts are respectively: *smell, hear, see x; know, contemplate, respect x.*

a quantized change, and this happens usually with predicates used to describe telic events. The examples in (37) illustrate the decreasing degree of affectedness contemplated in the hierarchy.

- (37) a. *O Pedro comeu a sopa.* (the soup is completely gone)  
'Pedro ate the soup.'  
b. *O Pedro aqueceu a sopa.* (not necessarily to a particular degree: could be hot or not)  
'Pedro heated the soup.'  
c. *O Pedro pontapeou a bola.* (ball impinged, not necessarily affected)  
'Pedro kicked the ball'  
d. *O Pedro viu a bola.* (ball not affected)  
'Pedro saw the ball.'

However, the Affectedness Hierarchy has been mainly used for objects or oblique complements and not to possessors. But, as Wierzbicka (1988) pointed out, when the speaker chooses an external possession structure over an internal possession one, he is describing the eventuality as something that happened to **the** possessor and not only to his or her possession. This idea, together with the relations and concepts addressed and developed above, help us understand the minimal conditions upon external possession structures common to Romance: the possession relation is of part-whole type, the possessor is human and the verbs are change of state verbs.

Indeed, if a distinctive property of these structures is the fact that they present an eventuality as something that happens to the possessor and not only to the *possessum*, it follows that the type of possession relation which better fulfils this aim is a **part-whole relation**, in particular a body parts-body relation, for this is the one which satisfies Moltmann's *R* relation. Actually, being in an *R* relation, what happens to the *possessum* also happens to the possessor.

Next, the limitation to **human possessors** found in the more restrictive Romance languages follows nicely from Hole's claim that affected arguments share not only properties of the Patient Proto-Role but also properties of the Agent Proto-Role: in particular, they are a conscious or sentient participant in the eventuality, hence it is expected that whenever the world model in which the sentence is evaluated shares the properties of the so-called real world, the possessor will be human.

Finally, Beaver's *Affectedness Hierarchy* is an enlightening contribution, which deepens our understanding of what affected arguments are and relates the

concept of affectedness to the types of verbs that typically select for affected objects or obliques. Possessors in external possession structures are *affectees*, so this hierarchy measures the degree of change they suffer as the integrated whole to which the *possessum* is a part. Thereafter, it is expected that **event verbs**, in particular those used to express telic events, are the highest in the hierarchy.

#### 4 - What about Portuguese?

As shown in section 2, external possession structures in Portuguese in which possessor and *possessum* are *R*-related are not restricted to conscious or sentient possessors or to predicates expressing telic events. Our aim in this section is then to try and find out whether the proposals in section 3 provide a principled way to capture not only the “core” external possession structures common to Romance but also those which seem not to satisfy some of the conditions discussed at length above.

Let us first look at structures with the non-causative variant of an Agent/Possessor Alternation verb, like those in (21), repeated here as (38).

- (38) a. *O João cortou [o-João o cabelo] no cabeleireiro.*  
the João cut [~~the~~João the hair] at.the hairdresser's.  
'João had his hair cut at the hairdresser's.'
- b. *O João partiu [o-João o braço] a jogar à bola.*  
the João broke [~~the~~João the arm] to play.Inf to.the ball.  
'João broke his arm (unintentionally), while playing football.'

These are cases which meet all the conditions mentioned above for the core cases of external possession in Romance. In fact, the possessor must have properties of both the Agent and the Patient Proto-Role: it must be human and it must suffer a change<sup>21</sup>. It suffers a change because it is the integrated whole, a part of which is

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<sup>21</sup> In Brazilian Portuguese, the possessor may just have properties of the Patient Proto-Role, that is, [- human] possessors are allowed in these structures (see Caçado 2010, Munhoz & Naves 2012, Andrade & Galves 2014, Caçado & Gonçalves 2016, Gonçalves & Miguel 2017, a.o.).

the *possessum*, that is, this structure is restricted to part-whole possession relations. Finally, only change of state verbs are allowed in these structures.

But the derivation of these structures present major theoretical challenges. Clearly, as shown above, these Possessor raising structures are not unaccusative. Indeed, despite being non-causative, the verb is still transitive, as the co-occurrence of accusative clitics shows – recall the examples in (25), repeated here as (39).

- (39) a. *O cabelo, a Maria cortou-o no cabeleireiro.*  
 the hair, the Maria cut.Clit-Acc.3.sg in.the hairdresser  
 ‘Her hair, Maria had it cut at the hairdresser.’
- a’. *O braço, o João partiu-o a jogar à bola.*  
 the arm, the João broke-Clit.Acc.3.sg to play.Inf to.the ball  
 ‘His arm, João broke it playing football.’
- b. \**A Maria cortou o cabelo com o cabeleireiro.*  
 the Maria cut the hair with the hairdresser
- b’. \**O Pedro partiu o braço com o jogo de futebol.*  
 the Pedro broke the arm with the game of football

So, one must reconcile the fact that the verbs in (39) are two-place predicates with a hypothesis about the way the semantic relation holding between the possessor and the *possessum* translates into a syntactic configuration. To do so, it is necessary first to adopt a specific proposal about the syntactic representation of the part-whole relation between the possessor and the *possessum*.

As discussed above, part-whole relations are mereological relations, instances of what Moltmann calls an *R-Integrated relation*; hence, this specific relation is not a thematic dependence, contrary to what happens in other types of possession relations. Indeed, it has long been noticed that in out of the blue contexts it is impossible to build *have*-type sentences with constituents holding part-whole relations unless the *possessum* is modified, contrary to what happens with constituents holding other types of possession relations – see the contrast between (40a) and (41).

- (40) a. \**O João tem a cabeça.*  
 the João has the head



- b. *O João tem a cabeça quadrada.*  
 the João has the head square  
 ‘João’s head is square.’
- (41) a. *O João tem o carro / as irmãs.*  
 the João has the car / the sisters  
 ‘João has his car / his sisters.’

This contrast is an argument in favour of the claim that part-whole relations are not to be confused with thematic dependencies.<sup>22</sup> So, we suggest that the Theme DP selected for by the non-causative variant of these verbs is projected syntactically as a small clause, with the possessor (or a DP linked to the possessor) merged in its subject position, a proposal first made for Portuguese in Miguel (1992), adopted for Brazilian Portuguese by Andrade & Galves (2014). Now, as (39a, a’) show, the non-causative variant of these verbs is transitive, that is, they are two-place predicates, with two  $\theta$ -roles to discharge: (affected) Theme and Benefactive/Malefactive. We leave open, for further research, the question of deciding whether the possessor is raised through A-movement to the Spec position in which the Benefactive/Malefactive is discharged and further moved to subject position or whether the association between the possessor and the subject position of the small clause is a case of control.

Let us now consider possessor datives. Although in these structures the possessor is clearly interpreted as a semantic dependent of the Theme *possessum*, it behaves as a complement of the verb with respect to extraction, as several authors have shown (Brito 2009, Miguel, Gonçalves & Duarte 2011). This behaviour contrasts with the one shown by genitive PPs ((42) vs. (43)).

- (42) a. *O João partiu o braço ao Pedro.*  
 the João broke the arm to.Dat.the Pedro  
 ‘João broke Pedro’s arm.’
- b. *A quem é que o João partiu o braço?*  
 to.Dat whom is that the João broke the arm?  
 ‘Whose arm did João break?’
- c. *Foi ao Pedro que o João partiu o braço.*  
 was to.Dat.the Pedro that the João broke the arm  
 ‘It was Pedro’s arm that João broke.’

<sup>22</sup> To our knowledge, Guéron (1993: 191) was the first to adopt this view and went still further, claiming that “the grammar does not contain the term Possession as a categorial, theta-role or any other Formal Feature”.

- (43) a. *O João partiu o braço do Pedro.*  
the João broke the arm of.Gen.the Pedro  
'João broke Pedro's arm.'
- b. *\*/? De quem é que o João partiu o braço?*  
of whom is that the João broke the arm?
- c. *\* Foi do Pedro que o João partiu o braço.*  
was of.Gen.the Pedro that the João broke the arm

First, the contrast between (42b, c) and (43b, c) points to a structural difference between possessor datives and their internal possession counterparts, an issue we will come back to. Secondly, the example in (42a) is a core case of a possessor dative structure in Romance: the possession relation is an *R* relation and the possessor has mixed Agent and Patient Proto-Role properties (it denotes a sentient entity who suffered a quantized change).

Sentences like (44) meet the same conditions, except for the Agent Proto-Role property of the possessor.

- (44) *O João lavou os vidros ao carro/ lavou-lhe os vidros.*  
the João washed the glasses to.Dat.the car/ washed.Clit.Dat.3.sg  
the glasses  
'João washed his car's glasses / its glasses.'

The grammaticality of sentences like (44) shows that the conditions on the possessor are relaxed in Portuguese: the possessor need not be a conscious or sentient entity. It is enough that, being an integrated whole, it suffers a change caused by a positive or negative action on its *possessum*.<sup>23</sup>

Other non-core cases of grammatical possessor datives in Portuguese are illustrated in (28), repeated here as (45).

- (45) a. *(?) Todos reconhecem qualidades ao Pedro.*  
all acknowledge qualities to.the Pedro  
'Everyone acknowledges Pedro's qualities'

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<sup>23</sup> This is also the case in Spanish. É. Kiss (2014) considers that "sentences describing the violation of the integrity of an object" qualify as external possessor structures in Hungarian.

- b. *Todos lhe reconhecem qualidades.*  
all DatCl.3.sg acknowledge qualities  
'Everyone acknowledges his/her qualities.'

As the verb is a state verb, these sentences describe eventualities in which the Theme argument does not suffer a change. Interestingly, what seems to have suffered a change here is the perception the speaker had of Pedro's qualities.

So, cases like (44) and (45) are not easy to accommodate under the concept of affectedness discussed and adopted in section 3. We suggest that a principled account of these unexpected cases is indeed related with language change.

In an extensive paper about the loss of external possession structures in Romance and West Germanic, an ongoing process in French and Dutch, already concluded in English, van de Velde & Lamiroy (2017) challenge Haspelmath's view that external possession is a trait of the Standard Average European and convincingly argue that its loss is not a direct result of language contact or of substrate influences. And they propose that such a loss, with differential rates in each of the three languages, is a consequence of the rise of NP configurationality. They take the following properties of the grammar of French to be consequences of the rise of NP configurationality: the dissociation between the article and the demonstrative, preventing the article to licence NP ellipsis, the grammaticalization of the partitive article and the impossibility of co-occurrence of the article/the demonstrative and the possessive (see (46)). On the contrary, Spanish does not show this rise of NP configurationality (and neither does Portuguese, see (47)).

- (46) a. *La voiture de Jean / \*la de Jean / celle de Jean.*  
(van de Velde & Lamiroy 2017: (120))  
the car of Jean / the of Jean / that of Jean  
'Jean's car'
- b. *Il a fait ça avec de l'amour.*<sup>24</sup>  
(van de Velde & Lamiroy 2017: (123))  
he did this with of the love  
'He did this with love.'

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<sup>24</sup> As the authors point out, the fact that the partitive article must be used in French with abstract nouns shows that it has lost its original partitive interpretation. One might say that it is there just to pinpoint the D position.

c. (\**ce* / \**le*) *mon livre*

(van de Velde & Lamiroy 2017: (123))

this / the my book  
'my book'

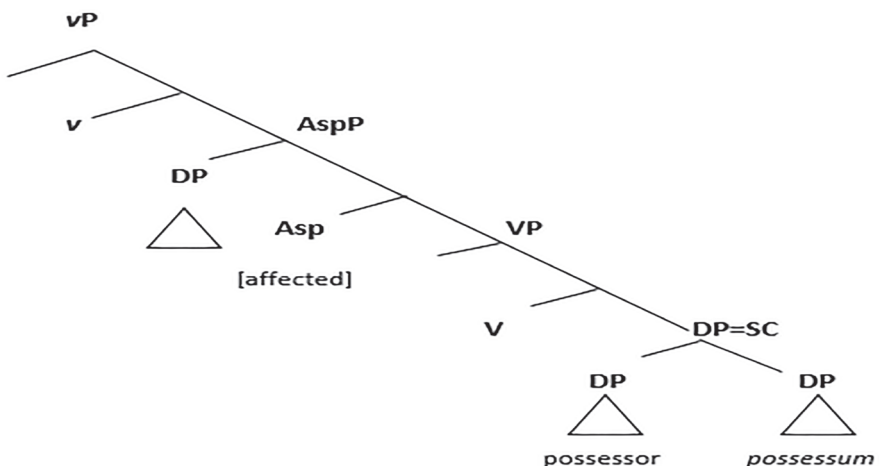
- (47) a. *el coche de Juan / el de Juan*  
a.' *o carro do João / o do João*  
b. *Lo a hecho con amor.*  
b.' *Fê-lo com amor.*  
c. *el libro mío*  
c'. *o meu livro*

As van de Velde & Lamiroy (2017) point out, the rise of NP configurationality inversely correlates with the frequency and wide use of external possession structures.

Bearing this in mind, we would like to suggest that language change in Portuguese and Spanish pursued a different path: it encodes affectedness in a functional head of the *v*-V system. Following Fernández-Alcalde (2014: 81), we assume that this head, of aspectual nature, is a complement of *v*, selects VP as its complement, and “plays a double role: semantically, it is the locus of the affected interpretation found in the dative argument; syntactically, this head is responsible for dative case assignment to the DP via agreement”. This matches the idea that affectedness and aspect are related, as several authors have pointed out.

If this analysis is on the right track, possessor datives contain a substructure like the one shown in (48).

(48)



If the possessor is a full DP, it is attracted by Asp and is A-moved to *Spec, Asp*, where its Dative case is checked, surfacing as *a*-DP; if, on the contrary, the possessor is a clitic, it H-moves to Asp for Case checking reasons. In both situations, the affected interpretation of the possessor is obtained by means of the local relation of the possessor with the Asp node.

## 5 - Conclusions

The survey of external possession structures available in Portuguese corroborates what has been described for other Romance languages: external possession structures with change of state verbs and with dative clitics are less restricted than external possession structures with other verb types or with *a*-DP. However, Portuguese shows a much wider range of possessor datives: these are not restricted to human possessors and are possible even with state verbs. On the other hand, possessor raising structures also occur in this language, though restricted to part-whole relations, human possessors and a specific type of verb: the non-causative, transitive variant of the Agent/Possessor Alternation.

To understand why the external possession structures common to Romance involve part-whole relations and present the event as a change that affects the possessor, three types of contributions were deemed: (i) the properties of *affectedees* in terms of Proto-Roles, (ii) the characterization of the part-whole relation as the semantic *R-integrated relation*, and (iii) an *Affectedness* hierarchy defined in terms of a scalar structure measuring the degree of change suffered by the object of the verb.

The above mentioned theoretical tools were taken into account in the analysis sketched for those Portuguese external possession structures which depart from the ones found in more restrictive Romance languages. So, it was suggested that such an analysis requires making assumptions about the internal structure of the affected Theme when *possessum* and possessor hold a part-whole relation and about the grammaticalization of the affected feature in some languages. The former is particularly relevant to understand the way possessor ascension works in (both European and Brazilian) Portuguese, and, on the basis of the characterization of the non-causative variant of body-care and *break*-type verbs, to decide whether this process is better understood as a case of raising or one of control. The latter concerns possessor datives and suggests that the inverse correlation between rise of NP configurationality and possessor datives may, in fact, be rephrased as the inverse

correlation between NP configurationality and grammaticalization of the *affected* feature in the  $\nu$ -V system.