

RESEARCH PAPER

Subclasses of Temporal and Spatial Phrases in Portuguese – Location vs. Mere Reference

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This paper deals with the diversity of temporal and spatial phrases – mainly those headed by prepositions or preposition-like connectives – that convey locating information or involve mere temporal/spatial reference. It shows that the different subclasses are quite heterogeneous in Portuguese, and exhibit interesting, syntactically complex, patterns. A certain degree of instability in their use, likely indicative of linguistic change (mainly in Standard European Portuguese), is illustrated through the use of corpora examples. English data is often used for comparison. The formal framework underlying the linguistic analyses is Discourse Representation Theory (cf. Kamp & Reyle 1993).

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1. Categorical diversity of temporal/spatial phrases, expressing location and mere reference

Previous work on Portuguese temporal phrases (e.g. Móia 2000, 2001) has emphasized the issue of categorical diversity within this class, claiming that – when temporal location and temporal reference are considered – two major distinct, though interrelated, subclasses need be distinguished: (i) temporal locating adjuncts, which are used to associate eventualities with time intervals, asserting when things happened; (ii) time-denoting expressions, which are used simply to identify, or denote, time intervals. The former class is prototypically exemplified by prepositional phrases headed by *em* ('in'), as in (1); the second, by nominal phrases as *o século XX* ('the 20th century'), as in (2):

- (1) O Paulo casou em 1990.
the Paulo married in 1990
'Paulo got married in 1990.'
- (2) O século XX foi palco de grandes acontecimentos.
the century XX was stage of great events
'The 20th century was a stage for great events.'

A parallel distinction is relevant in the spatial domain, as underlined by Móia (2001: 47). Thus, spatial locating phrases – as *em Londres* ('in London'), in *o Paulo casou em Londres* ('Paulo got married in London') – differ from space-denoting expressions – as *a Inglaterra* ('England'), in *a Inglaterra foi palco de grandes acontecimentos* ('England was a stage for great events').

From a semantic point of view, temporal/spatial locating adjuncts are used to locate eventualities (ev) in time intervals (t) or spaces/areas (a), that is, in a formal framework like Discourse Representation Theory (cf. Kamp & Reyle 1993) – and using the conventional notation in brackets above –, they are assumed to contribute relational DRS-conditions, such as $[ev \subseteq t/a]$, $[t/a \subseteq ev]$, $[ev \text{ O } t/a]$ to the interpretation of the sentences in which they occur. The relevant temporal/spatial locating entities are, of course, defined within the adjunct itself (e.g. by the complement of the locating preposition *em* – cf. Móia 2000: 89–92). Time/space-denoting expressions, on the other hand, are used simply to identify, or denote, time intervals or

spaces/areas. As such, they have a referential function comparable to that of NPs like *esta cadeira* ('this chair'), or *esse terremoto* ('that earthquake'), for common objects and eventualities, respectively. In the same framework, these expressions can be regarded as contributing relatively simpler DRS-conditions, of the form [DENOTING EXPRESSION (t/a)] (often, a reducible condition – cf. Móia 2000: 206–218), to the interpretation of the sentences in which they occur.

From a distributional point of view, the two subclasses at stake are also very different, an aspect which is crucial for the purposes of the present paper. More precisely, locating phrases occur in adjunct positions, both strictly adverbial and adnominal, as in (3) and (4), respectively:

- (3) O Paulo casou {em 1990 / em Londres}.
the Paulo married in 1990 / in London
 'Paulo got married in 1990 / in London.'
- (4) o casamento do Paulo {em 1990 / em Londres}
the wedding of-the Paulo in 1990 / in London
 'Paulo's wedding in 1990 / in London'

Denoting expressions, on the other hand, occur in nominal (including post-prepositional) positions, like the following four (listed in Móia 2000: 158–159; Móia 2011a: 408): (i) subject position – cf. (5); (ii) complement of an argumental preposition, as *de* or *para* – cf. (6); (iii) complement of a non-argumental temporal preposition, within an adjunct, as *até a* or *desde* – cf. (7); (iv) complement of a non-argumental preposition (*de*), within a nominal modifier or appositive – cf. (8).

- (5) {O século XX / A Inglaterra} foi palco de grandes acontecimentos.
the century XX / the England was stage of great events
 '{The 20th century / England} was a stage for great events.'
- (6) a. O problema data do século XIX.
the problem dates of-the century XIX
 'The problem dates back to the 19th century.'
- b. Os quadros foram levados para a Inglaterra.
the paintings were taken to the England
 'The paintings were taken to England.'
- (7) a. A espécie sobreviveu até ao século XX.
the species survived until to-the century XX
 'The species survived until the 20th century.'
- b. Os contentores foram trazidos por mar desde a Inglaterra.
the containers were brought by sea since the England
 'The containers were brought by sea from England.'
- (8) os problemas de {o século XX / a Inglaterra}
the problems of the century XX / the England
 'the problems of {the 20th century / England}'

Furthermore, denoting expressions are normally ungrammatical in adjunct positions – cf. (9) –, and, conversely, locating adjuncts are normally ungrammatical in nominal positions – cf. (10).

- (9) *O Paulo casou {o século XX / a Inglaterra}.
the Paulo married the century XX / the England
 '*Paulo got married {the 20th century / England}.'
- (10) a. *O problema data de em 1990.
the problem dates of in 1990
 '*The problem dates back to in 1990.'
- b. *Os quadros foram levados para em Londres.
the paintings were taken to in London
 '*The paintings were taken to in London.'

Móia (2000) also underlines that some Portuguese phrases can occur with the same surface form in both adjunct and nominal contexts. These (**apparently**) **ambivalent expressions** therefore act both as locating

adjuncts and as denoting expressions, depending on the context. Relatively simple examples are *hoje* ('today'), *esta semana* ('this week') or *aqui* ('here'), whose occurrence in adjunct and nominal positions is exemplified in (11) and (12), respectively.

- (11) O Paulo casou {hoje / esta semana / aqui}.
the Paulo married today / this week / here
 'Paulo got married {today / this week / here}.'
- (12) a. O problema não data de {hoje / esta semana}.
the problem not dates of today / this week
 'It's not a problem of {today / the current week}.'
- b. Os quadros foram trazidos para aqui.
the paintings were brought to here
 'The paintings were brought here.'

The ambivalence of comparable English or French phrases has, of course, been noted before in the literature (cf. e.g. the observations in Asher *et al.* 1995: 109 about the behaviour of French *hier*, or those in Kamp & Reyle 1993: 623 about English *last N*-phrases).

The hypothesis Móia (2000) advocates, in order to account for the double behaviour of these expressions without resorting to double categorisation, is to postulate a null locating preposition (with the semantic value of *em*) in adjunct position, as portrayed in (13). Ambivalent expressions are then always analysable as mere time/space-denoting expressions.

- (13) O Paulo casou \emptyset_{em} {hoje / esta semana / aqui}.
the Paulo married \emptyset_{in} today / this week / here
 'Paulo got married \emptyset_{in} {today / this week / here}.'

In favour of this analysis, he notes (among many other things – cf. e.g. Móia 2000: 159–161, 179–182; Móia 2001: 46–47) that some ambivalent phrases – like Portuguese *a semana passada* ('last week') – allow for an explicit locating preposition (*em*), but only in adjunct position¹:

- (14) O Paulo casou (n)a semana passada.
the Paulo married (in)-the week past
 'Paulo got married last week.'

As for prepositional phrases, the same author notes that some of them – like those headed by temporal *antes* ('before'), or, I add here, spatial *dentro* ('inside') – exhibit the same ambivalent behaviour of *hoje* ('today') or *aqui* ('here'). These phrases can, in fact, occur both in adjunct – cf. (15) – and in (most) nominal contexts – cf. (16) –, and therefore, in adjunct position, a null locating preposition is also postulated.

- (15) A estátua foi restaurada \emptyset_{em} {antes da guerra / dentro da igreja}.
the statue was restored \emptyset_{in} before-of-the war / inside-of-the church
 'The statue was restored \emptyset_{in} {before the war / inside the church}.'
- (16) a. O problema data de antes da guerra.
the problem dates of before-of-the war
 'The problem dates from before the war.'
- b. A estátua foi trazida para dentro da igreja.
the statue was brought to inside-of-the church
 'The statue was brought into the church.'

¹ Very similar temporal and spatial phrases may behave differently in this respect. For instance, temporal *essa semana* ('that week') is ambivalent, while spatial *esse lugar* ('that place') is not:

- (i) O Paulo casou {essa semana / nessa semana}.
the Paulo married that week / in that week
 'Paulo got married that week.'
- (ii) O Paulo casou {*esse lugar / nesse lugar}.
the Paulo married that place / in-that place
 'Paulo got married in that place.'

- c. os problemas de antes da guerra
the problems of before of-the war
 ‘the problems from before the war’
- d. os azulejos de dentro da igreja
the tiles of inside of-the church
 ‘the tiles inside the church’

The possibility of combining temporal prepositions in this type of sequences has been mentioned for English as well – cf. e.g. references to *since before* or *until after*, in D.C. Bennett (1970: 280–281) and Declerck (1991: 288), or *since. . . ago*, in Móia (2003: 53–54). Declerck (1991), in particular, contemplates a similar type of null preposition-analysis for adverbial *before* and *after* (though he does not elaborate on it): “perhaps we can even consider *before/after the war* as a reduction from something like *at (a time) before/after the war*” (*op. cit.*, *apud* Móia 1998: 3–4, fn. 6).

A corollary of the facts described so far is that temporal/spatial prepositions (and, for that matter, comparable connectives, like complex prepositions, conjunctions, or grammaticalized verb forms like *há* – cf. Móia 2011a) fall into two main syntactic-semantic categories, as given in **Table 1** below: on the one hand, heads of temporal/spatial locating adjuncts, like *em*; on the other hand, heads of time/space-denoting expressions, like *antes* or *dentro*. They are distinguished – as already said – both by their syntactic distribution and their semantic interpretation.

This table expands Móia’s (2000) work by integrating two new features: (i) inclusion of spatial (besides temporal) connectives – and (ii) further subdivision of the heads of denoting expressions, setting apart the distributionally ambivalent and non-ambivalent cases, a topic that will be explored in section 2. Furthermore, in section 3, a reassessment of the class of true locating connectives (as portrayed in the table below) will be made, which shows that it intriguingly possesses a great deal of inner diversity, not yet explored in the literature, to my knowledge.

Before moving on, I will add a new syntactic context that is also worthy of consideration for the aims of this paper: the combination with time/space hypernyms, like *período/área*, in examples like (17) and (18), where the temporal span or spatial area identified by the whole NP is co-extensive with the one identified by the sequence following the hypernym.

- (17) o período {de / *em / depois de} o Natal
the period of / in / after of the Christmas
 ‘the Christmas period / *the period in Christmas / the period after Christmas’

HEADS OF TEMPORAL/ SPATIAL LOCATING ADJUNCTS		HEADS OF TIME/ SPACE DENOTING EXPRESSIONS	
nominal contexts			
		CREATING AMBIVALENT PHRASES	CREATING NON- AMBIVALENT PHRASES
Syntactic distribution of the phrases they head	adverbial/adnominal contexts	(i.e. combined with a null preposition in adverbial/adnominal contexts)	(i.e. combined with an explicit preposition in adverbial/adnominal contexts)
Semantic interpretation (DRS-conditions) of the phrases they head	[ev {⊆, ⊇, O} t/a] ∧ [DENOTING EXPRESSION (t/a)]	[DENOTING EXPRESSION (t/a)]	
Examples	<p>temporal</p> <i>em, a, durante, ao longo de, enquanto, desde, a partir de, até, de/desde. . . a/até</i> (Móia 2000) <p>spatial</p> <i>em, a, ao longo de, desde, a partir de, até, de/desde. . . a/até</i>	<p><i>antes de, depois de, após, entre, quando, há/havia, dentro de, daqui/dáí/dali a, X-TIME antes de/depois de/após</i> (Móia 2000)</p> <p><i>dentro de, fora de, perto de, junto de</i></p>	<p>– (but cf. e.g. <i>meados de, finais de</i>; preposition-like connectives?)</p> <p><i>trás de, a frente de, cima de, baixo de, o lado de</i></p>

Table 1: Partition of temporal/spatial prepositions and similar connectives.

- (18) a área {de / *em / dentro de} a casa
the area of / in / inside of the house
 ‘the house area / *the area in the house / the area inside the house’

Though (arguably) not exactly nominal, this context has comparable properties, in that it does not allow the prototypical locating connective *em* (cf., however, footnote 4), while it allows for heads of time/space-denoting expressions like *antes* or *dentro* (besides the typical preposition for noun modifiers, *de*).

2. Subdividing complex time/space-denoting expressions

In this section, I will analyse the class of complex time/space-denoting expressions, headed by prepositional (or similar) connectives, and show that they come in two different groups, this further subdivision being more relevant for spatial expressions than for temporal ones, as will be shown.

2.1. Ambivalent complex time/space-denoting expressions

Let us start with the subset of (apparently) ambivalent complex phrases, that is, those that occur with the same surface form both in nominal and (in combination with a null locating preposition) in adjunct positions.

As for temporal phrases, these correspond to a relatively large set (cf. Móia 2000). It includes sequences headed by connectives *antes de* (‘before’), *depois de* (‘after’), *após* (‘after’), *entre* (‘between’), *quando* (‘when’), and – in combination with predicates of amounts of time (X-TIME) – *há/havia* [X-TIME] (‘[X-TIME] ago’, ‘[X-TIME] before’), *dentro de* [X-TIME] (‘[X-TIME] from now’), *de Y a* [X-TIME] (‘[X-TIME] from Y’), [X-TIME] *antes de* (‘[X-TIME] before’), [X-TIME] *depois de* (‘[X-TIME] after’), [X-TIME] *após* (‘[X-TIME] after’), and the like. As said, they are all ambivalent and readily appear in adjunct position, with a null locating preposition. Furthermore, they often occur in nominal contexts, as witnessed by the following excerpts from the *corpus* (of Portuguese newspaper texts) CETEMPúblico. Glosses (in these corpora examples, as in any others henceforth) are provided just for the relevant (highlighted) part of the excerpt.

- (19) «Parlamento russo adota como bandeira nacional *o estandarte de antes da revolução de 1917*» (ext27727-nd-91b-5)
the banner from before of-the revolution of 1917
- (20) «Costello (. . .) escolhe *canções de entre os anos 30 e 70* (. . .).» (ext3722-clt-95a-1)
songs of between the years 30 and 70
- (21) «A primeira ficha de Charlot *data de quando se mudou para a aprazível cidade de Vevey* (. . .).» (ext1140449-clt-95a-2)
dates of when [he] SE_{INTRINSIC CLITIC} moved to the pleasant town of Vevey
- (22) «Adivinhava-se que a desunião dos partidos de oposição *nas eleições de há quatro anos* (. . .) seria a grande vantagem de Nino Vieira.» (ext8133-pol-98b-1)
the elections of there-is four years

Though English is not my object language, a similar behaviour of comparable English connectives is easily documented, as in the following examples, taken from the Corpus of Contemporary American English: «Lawyer John Henry Browne said Robert Bales remembers some *details from before and after the killings* (. . .).» (Associated Press, 2012); «What she found were over 26,000 artifacts *dating to between 1840 and 1876*.» (Archaeology, 2011); «That reinforced earlier *bad feelings from when he dropped the proposed “public option” for a government plan to compete with private insurance as part of the health care overhaul*.» (Associated Press, 2011); «*Until moments ago* people were still being rescued from atop the twin towers.» (ABC_2020, 1993).

As for spatial phrases, these correspond to a smaller, though still considerably large set, headed by connectives like *dentro de* (‘inside’), *fora de* (‘outside’), *perto de* (‘near’, ‘close to’), *junto de* (‘beside’, ‘next to’), and the like. Again, they readily occur in adjunct position, as locating phrases (with a null locating preposition), and in nominal position, as mere space-denoting expressions. See the following examples from CETEMPúblico:

– as locating adjuncts

- (23) «(. . .) nove pessoas *morreram dentro de uma igreja* atingida por uma bomba (. . .).»
 (ext68625-pol-93b-1)
died inside of a church

- (24) «(. . .) um outro palestino foi morto junto de um colonato israelita na Cisjordânia.» (ext69701-pol-96b-2)
was killed next to a settlement israeli

– as space-denoting expressions

- (25) «Põe todos na rua e leva o burro para dentro de casa.» (ext29419-pol-92b-3)
takes the donkey to inside of house
- (26) «(. . .) o facto de na loja de artesanato serem vendidas (. . .) esculturas (. . .) que, depois de compradas, têm que ser levadas «à mão» até fora do centro histórico (. . .).» (ext1424057-soc-98b-1)
be taken . . . until outside of-the centre historical
- (27) «O casal (. . .) foi viver para perto de Quarteira.» (ext500783-soc-91b-2)
went live to close to Quarteira
- (28) «O homem pediu ao jovem que o seguisse até junto de um lago (. . .).» (ext271683-nd-96a-1)
him followed until next to a lake

Comparable English examples from the Corpus of Contemporary American English are: «The video then *cuts to inside the bomber's car.*» (CNN_YourWorld, 2006); «[Hamas] was potentially guilty of a war crime by *firing from next to the UN school* (. . .).» (Commentary, 2009).

Now, this group of (apparently) ambivalent spatial phrases includes a few remarkable and rather unique elements in Portuguese (that seem to have no comparable temporal examples). I will mention three especially common ones, though possibly others exist. These are particularly complex sequences – headed by *por cima de*, *para trás de* and *detrás de* – that, despite integrating an initial preposition (*por*, *para*, *de*), followed by another complex preposition (*cima de* or *trás de*), work as a (lexicalized) grammatical unit. In particular, the initial preposition is an element no longer amenable to compositional analysis. The following CETEMPúblico excerpts illustrate the use of these three phrases as locating sequences, in adjunct position (where they combine with yet another, null locating, preposition), and as space-denoting expressions, in nominal position.

– as locating adjuncts

- (29) «(. . .) de modo que a Mir chegue à terra (. . .) a uma boa velocidade para *se desintegrar por cima do oceano.*» (ext1224853-clt-98b-2)
SE_{INTRINSIC CLITIC} desintegrate by above of-the ocean
- (30) «(. . .) *para trás da linha do horizonte* havia apenas o desconhecido (. . .).» (ext217511-soc-98a-3)
to behind of-the line of-the horizon there-was
- (31) «Das duas (. . .) esplanadas *vê-se o mar atrás dos canaviais da praia.*» (ext104116-nd-93b-2)
sees SE_{IMPERSONAL CLITIC} the sea (of-)behind of-the reedbeds of-the beach

– as space-denoting expressions

- (32) «(. . .) movimentos (. . .) que atravessam meia cidade desde o rés dos passeios *até por cima dos telhados.*» (ext1120463-clt-94b-1)
until by above of-the roofs
- (33) (no corpora examples in nominal positions, but cf. the following adapted grammatical sequence) Apesar de terem sete jogadores espalhados desde a baliza *até para trás daquela zona*, os leões nem defender conseguiram.
until to behind of-that area
- (34) «No parque (. . .) *previsto para atrás da estação* (. . .).» (ext420660-soc-93a-2)²
planned for (of-)behind of-the station

² Sometimes, the use of *detrás* in nominal position is marginal (when compared with *trás*): «Agora a parte de *detrás* da cabeça até metia medo.» (ext1115293-soc-95a-1); «Para *detrás* do sucesso internacional de «Sit Down», ficaram sete anos de actividade mais ou menos azarados (. . .).» (ext962181-clt-92a-1).

2.2. Non-ambivalent complex time/space-denoting expressions

The most common time-denoting expressions headed by prepositional (or similar) connectives – listed in the preceding section – are all ambivalent (occurring with the same surface form in adjunct and in nominal positions). No indisputably prepositional temporal connectives seem to behave non-ambivalently, requiring an explicit locating connective (e.g. *em*) in adjunct contexts. There are, however, a few examples, of temporal phrases headed by complex nominal-based expressions – e.g. *meados de* ('middle of') and *finais de* ('end of')³ – that behave in this way:

- (35) O quadro foi pintado em meados do século XV.
the painting was painted in middle_{PLURAL} of-the century XV
 'This painting was painted in the middle of the 15th century.'
- (36) O quadro data de meados do século XV.
the painting dates of middle_{PLURAL} of-the century XV
 'This painting dates from the middle of the 15th century.'
- (37) Este partido foi criado em finais do século passado.
this party was created in end_{PLURAL} of-the century past
 'This party was created at the end of last century.'
- (38) É uma técnica conhecida desde finais do século XV.
[it] is a technique known since end_{PLURAL} of-the century XV
 'It's a technique (that has been) known since the end of the 15th century.'

Now, if we assume that sequences like these are on a grammaticalizing path (cf. e.g. Hopper & Traugott 1993) – albeit at its initial stage – towards a complex preposition-status (cf. Fagard & Mulder's 2007 observations on old and middle French *en/ou milieu de*), their place in **Table 1** would be justified.

What is interesting to note is that the parallel group of (non-ambivalent complex) spatial phrases has a much wider range, and includes extremely common elements, which are – furthermore – indisputably prepositional, as acknowledged even in traditional Portuguese grammars. This fact constitutes a noteworthy asymmetry between temporal and spatial expressions.

In fact, complex spatial phrases that have a different form when used as locating expressions (in adjunct contexts) – with an explicit locating preposition, *em* or *a* – and as denoting expressions (in nominal contexts), includes elements as common as (*a*)*trás de* ('behind'), (*a*) *a frente de* ('in front of'), (*em*) *cima de* ('above'), (*em*) *baixo de* ('below'), (*ao*) *lado de* ('beside'), and the like. Note that the parenthesised preposition (*em*, *a*) appears to be, still today, an autonomous grammatical element (though it is, in some cases, prone to grammaticalization – cf. Lima's 2014: 178–179 observations on *acima de*, or the examples concerning *atrás de* in Brazilian Portuguese below). Here are some CETEMPúblico examples, with phrases headed by (*em*) *cima de* and (*a*)*trás de* in adjunct and in nominal positions:

– as locating adjuncts (with *em*, *a*)

- (39) «Os dois jovens (. . .) acabaram por *ser presos em cima do telhado da moradia vizinha*.»
 (ext8628-soc-93a-1)
be arrested at above of-the roof of-the house neighbouring
- (40) «A testemunha lembra-se (. . .) de *se ter escondido atrás de um carro*.»
 (ext13333-soc-97b-1)
 SE_{INTRINSIC CLITIC} *have hidden (at-)behind of a car*

³ The status of these expressions as complex prepositions in Contemporary Portuguese is debatable, and I will not attempt to discuss it here. Note, however the following: these phrases can occur with or without a definite article – (*os*) *meados de*, (*os*) *finais de* –, a fact that Fagard & Mulder (2007: 45) take as an indication of a lesser degree of "freezing". The context where they more typically behave as connective-like elements is the post-prepositional position; here, they are often used without the article, though its presence is also possible (e.g. CETEMPúblico includes 4828 examples of the sequence *em/desde/para meados de* vs. only 57 examples of *em/desde/para os meados de*). In non-prepositioned positions (e.g. subject or direct object), where, arguably, they do not behave prepositionally, the definite article is normally present («A par do sucesso do termalismo, *os meados do século XVIII* afirmam o valor do banho frio.», ext771514-clt-92a-2); «(. . .) após uma forte recessão que marcou *os meados da década de 80* em Portugal (. . .).», ext974785-eco-92a-2).

– as space-denoting expressions (without *em, a*)

- (41) «(. . .) [o guarda] vira o senhor Rocha *saltar para cima da mota.*»
(ext1479051-soc-96b-1)
jump to above of-the motorbike
- (42) «Além de apostar na *transferência do tribunal para trás do Hotel Cidadela*, o estudo defende a mudança do Pão de Açúcar (. . .).» (ext238339-soc-96b-2)
transfer of the court to behind of-the Hotel Cidadela

Many of these spatial connectives have distributional idiosyncrasies that might be taken as signs of grammaticalization into complex prepositions. I will mention two, that, moreover, distinguish them from their temporal counterparts in the ambivalent group (e.g. *antes de*):

(i) they do not occur in direct combination with space hypernyms (in the type of construction described before), but rather require a locating preposition in that context – (44a) (vs. (44b) and (43)); however, most combine, via the preposition *de*, with the hypernym-like noun *parte* ('part') – (45)

- (43) o período antes da guerra
the period before of-the war
- (44) a. *a área {trás / a frente / cima / baixo / o lado} do edifício
the area {behind / the front / above / below / the side} of-the building
b. a área {atrás / à frente / em cima / em baixo / ao lado} do edifício
the area {(at-)behind / at-the front / at above / at below / at-the side} of-the building
- (45) a parte de {trás / a frente / cima / baixo / *o lado} do edifício
the part of {behind / the front / above / below / the side} of-the building

(ii) at least those that do not have a definite article at the beginning – namely, *trás de, cima de* and *baixo de* – only occur in contemporary Portuguese in post-prepositional positions, not in e.g. subject or direct object positions (cf. also footnote 3) – (47); I will leave a more thorough analysis of these grammatical properties for further investigation

- (46) Antes de ser eleito presidente foi o período em que viveu mais feliz.
before of be elected president was the period in which [he] lived more happy
- (47) *Trás da igreja é a área que precisa de uma intervenção mais urgente.
behind of-the church is the area that needs of an intervention more urgent

Additionally, the assignment of complex spatial expressions to the ambivalent or non-ambivalent classes reveals some amount of variation, evincive of linguistic change. For instance, European and Brazilian Portuguese seem to differ in what concerns the use (and therefore the categorisation) of *atrás de*-phrases. Whereas in Standard European Portuguese, they are systematically associated with adjunct positions only, in Brazilian Portuguese, they also appear in nominal contexts – cf. (48). This is, of course, an indication that the element *a* (in *atrás*) has been grammaticalized in these Brazilian Portuguese sequences, where it is no longer interpreted as a locating (autonomously computed) preposition.

- (48) «(. . .) o líbero Válber *recuava para atrás dos zagueiros*, quando o time era atacado (. . .).» (NILC, Esporte–94a-1); «(. . .) no momento em que um policial *leva o músico Sílvio Calixto para atrás de um muro.*» (Corpus Brasileiro, v. 2.3); «(. . .) machucou a mão ao *ser rebocado* pelo jet ski de volta *para atrás da arrebentação das ondas.*» (Corpus Brasileiro, v. 2.3)
retreated to (at-)behind of-the goalkeepers; takes. . . to (at-)behind of a wall; be towed. . . to (at-)behind of-the breaking of-the waves

No examples of *atrás de* following prepositions were found in the Portuguese corpus CETEMPúblico (which does not necessarily mean that they may not appear in more informal registers), in contrast with more than 20 examples in the Brazilian corpora NILC-São Carlos and Corpus Brasileiro, v. 2.3. Furthermore, no examples of e.g. *para ao lado de, para à frente de, para em baixo/cima de* were found in any of the three corpora. The autonomy of the preposition *em*, in Portuguese sequences like *em cima de*, therefore contrasts

with the dependency of its Spanish counterpart *en*, in *encima de*, which occurs, as a fully incorporated non-autonomous element, in e.g. *por encima de* (cf. Honrubia 1998: 80).

3. Heterogeneity within the class of (temporal) locating connectives

Let us now move to the class of truly temporal locating connectives, which include, according to Móia (2000), the following members (cf. **Table 1** above): *em* ('in', 'on', 'at'), *a* ('in', 'on', 'at'), *durante* ('during'), *ao longo de* ('throughout'), *enquanto* ('while'), *desde* ('since'), *a partir de* ('from'), *até (a)* ('until', 'by'), *de... a/até* ('from... to') and *desde... até* ('from... until'). What I will try to show in this section is that this is, after all, a somewhat heterogeneous class, whose exact boundaries are possibly in need of some revision.

In fact, research in corpora (discussed below) reveals a relatively complex picture, with these connectives displaying a rather intricate syntactic pattern: though the phrases they head behave primarily as adjuncts, they exhibit (more or less) vestigial traits of time-denoting expressions, which are possible signs of linguistic change. Symptomatically, some of these traits – namely those with the connective *durante* ('during'), which will be explored in section 3.2 – are associated with marginal or anomalous corpora cases (with varying degrees of anomaly, from slight to severe anomaly). In other words, the use of locating connectives appears to be a “critical area” – in the sense of Peres & Móia (1995) – in contemporary Standard European Portuguese.

Let us consider each connective separately, since their properties vary a great deal.

3.1. *Em*

As said before, preposition *em* ('in', 'on', 'at') can be regarded as the prototypical temporal locating connective. In fact, it has all the properties of locating connectives and only these, namely it never occurs in nominal (or nominal-like) contexts⁴ – cf. (49). The less frequent, and semantically more specific, temporal connectives *a* ('in', 'on', 'at') – in e.g. *o Paulo nasceu a 10 de Dezembro de 1985* ('Paulo was born on December 10, 1985.') – and *ao longo de* ('throughout'⁵) seem to behave similarly.

- (49) a. *Gosto muito do período no Natal. [OK: *o período do Natal*]
 [I] like a-lot of-the period in-the Christmas [OK: *the period of-the Christmas*]
 b. *Na década de 1980 foi um período muito conturbado.
in-the decade of 1980 was a period very turbulent
 c. *As leis de na década de 1980 eram muito injustas.
the laws of in-the decade of 1980 were very unfair
 d. *A entrada em vigor da lei foi adiada para em 2016.
the entrance in force of-the law was postponed for in 2016
 e. *A lei estará em vigor até em 2016. [até ≡ 'until']
the law will-be in force until in 2016

All other connectives classified by Móia (2000) as temporal locating occur in a very limited number of nominal contexts (see **Table 2**, in section 3.9).

3.2. *Durante*

The preposition *durante* ('during') is semantically similar to *em*, but it readily takes situational complements (e.g. *durante o incêndio*, 'during the fire'), besides strictly temporal ones (e.g. *durante o ano de 2016*, 'during [the year] 2016'). Like preposition *em*, it strongly avoids nominal contexts:

- (50) a. *Gosto muito do período durante as férias. [OK: *o período das férias*]
 [I] like a-lot of-the period during the holidays [OK: *the period of-the holidays*]
 b. *Durante a ditadura foi um período muito conturbado.
during the dictatorship was a period very turbulent

⁴ *Em* (and *a*), in combination with complex prepositions like *trás de*, *a frente de*, *cima de*, *baixo de* and *o lado de*, and following space hypernyms like *área*, are noteworthy exceptions (cf. *a área {atrás / à frente / em cima / em baixo / ao lado} do edifício*), possibly indicating the initial stages of a grammaticalization process.

⁵ Apparently, English *throughout* does not behave as its Portuguese counterpart *ao longo de*, since it can occur in nominal contexts – cf. «Richard Kinderman stops at a conference table on which are displayed boxes of Brite Star Icicles *from throughout the years*.» (Washington Post, 2005, in Corpus of Contemporary American English).

- c. *As leis de durante a ditadura eram muito injustas.
the laws of during the dictatorship were very unfair
- d. *A entrada em vigor da lei foi adiada para durante o ano de 2016.
the entrance into force of-the law was postponed for during the year 2016
- e. *A lei estará em vigor até durante o ano de 2016. [até ≡ 'until']
the law will-be in force until during the year 2016

However, corpora show that the use of *durante* is somewhat unstable, and different from *em* to a certain extent. Namely, it occurs – though in non-standard constructions – in two unexpected situations: (i) in nominal contexts, as head of time-denoting expressions; (ii) explicitly, rather than implicitly, in adjunct position before ambivalent prepositional phrases.

Let us start with the use of *durante*-phrases in nominal contexts, as denoting expressions. I found 11 examples in the corpus CETEMPúblico⁶ (besides 2 possible typos⁷): 4 after argumental preposition *para*, 2 (very marginal) with strictly temporal complements – cf. (51) –, 2 (less marginal?) with situational complements – cf. (52); 1 (slightly marginal?) after preposition *de* in a nominal appositive, with a situational complement – cf. (53); 6 as complement of verb *durar* ('last') – a construction noted in Móia (2011b: 262–263) –, 3 (very marginal) with strictly temporal complements – cf. (54) –, 3 (less marginal?) with a situational complement – cf. (55). In these last three cases, *durante* seems to explicitly signal the conversion of an eventuality-denoting expression (ev) into a strict time-denoting expression (t), emphasizing the condition [t = loc (ev)].

- (51) «(. . .) o líder (. . .) *anunciou* um «pacote» de formas luta (. . .) *para durante o mês de Abril* (. . .)» (ext960137-eco-97a-1); «(. . .) a temperatura (. . .) era de (. . .) três graus, e *esperava-se* ainda uma descida *para durante a noite*.» (ext743982-soc-93b-2)
announced. . . for during the month of April; expected. . . for during the night
- (52) «(. . .) nada consta (. . .) sobre a cimeira extraordinária, *admitida* por Jacques Delors *para durante a presidência portuguesa*.» (ext811275-nd-91b-1); «(. . .) a agenda cultural *prevista para durante a Expo*.» (ext1306569-soc-98a-1)
admitted. . . for during the presidency Portuguese; planned for during the Expo
- (53) «(. . .) *um diário de Bagdad, de durante a guerra* (. . .)» (ext1436846-clt-93a-2)⁸
a diary from Bagdad, from during the war
- (54) «Atiçando a guerra de nervos que *durou durante a semana* sobre a questão da coabitação (. . .)» (ext184147-pol-93a-1); «(. . .) o empréstimo (. . .) pode ter um prazo estabelecido e (. . .) *deverá durar durante esse prazo* (. . .)» (ext1072134-soc-97b-1); «Outro tema de conversa que *duraria quase durante os doze meses do ano* (. . .) foi a construção do maior acelerador de partículas do mundo (. . .)» (ext878226-des-92b-2)
lasted during the week; last during that deadline; would-last almost during the twelve months of-the year
- (55) «Em discussão estava um (. . .) *cessar-fogo* (. . .) que *duraria durante toda a conferência de Haia* (. . .)» (ext645856-pol-91b-1); «A incerteza no marcador *durou apenas durante o primeiro quarto do jogo* (. . .)» (ext1408453-des-91b-2)«(. . .) o encontro (. . .) deveria constituir «uma espécie de mecanismo permanente a *durar durante o resto do processo de paz*».» (ext864972-pol-93b-1)
would-last during all the conference of Hague; lasted only during the first quarter of-the game; last during the rest of the process of peace

⁶ Searches [pos="PRP"] "durante" and [lema="durar"] [] {0,1} "durante". Interestingly, the same searches in the Brazilian corpora NILC-São Carlos and Corpus Brasileiro v 2.3 only produced, besides many possible typos (?), 6 examples comparable to the European Portuguese ones (all of them in the second corpus): 2 with post-prepositional *durante* (*inferiores aos estimados para durante quase todo o crescimento, as entrevistas de durante o meu período no DAU*), 4 with *durar durante* + time-denoting/situational expressions (*durar apenas durante o horário de verão; duraram durante o século 20; vai durar durante todo o final de semana; durou apenas durante o período da Guerra*).

⁷ Possible typos: «Nos outros jogos (. . .), que se realizaram *entre durante* toda a semana, verificaram-se os seguintes resultados (. . .)» (ext747878-des-97a-1); «(. . .) experiências extremas a que Beckmann esteve sujeito *em durante* [o] (. . .) período da primeira guerra (. . .)» (ext509068-clt-97b-1).

⁸ Standardly, a time hypernym would need to be introduced here (*diário da altura da guerra*, 'a diary from the war days'), since the simple form *diário da guerra* ('war diary') has a different meaning.

As for the use of explicit (rather than implicit) *durante* before ambivalent complex time-denoting expressions in adjunct position, I found 5 examples in CETEMPúblico⁹: 3 (marginal) cases before *entre* – cf. (56); 1 (very marginal) case before *quando* – cf. (57); 1 (to me, totally ungrammatical) case before *antes* – cf. (58). These sequences would be perfectly acceptable either by suppressing the preposition *durante* or by using the more periphrastic construction (with a time hypernym) *durante o período* (*entre / em que / antes*):

- (56) «A «Suite 156» foi realizada (. . .) perto de Cannes onde viveu *durante entre 1970 e 1972*.» (ext1264935-clt-98a-3); «(. . .) investigação das transacções de ouro entre os governos português e alemão *durante entre 1936 e 1945*.» (ext852909-pol-98a-1); «*Portfolio* é a designação de um jogo (. . .) que irá decorrer *durante entre seis e 31 de Janeiro próximo*.» (ext543819-pol-91b-1)
during between 1970 and 1972; during between 1936 and 1945; during between six and 31 of January next
- (57) «Uma das maiores perdas de uma empresa *durante quando o seu sistema vai (. . .) abaixo* reside no tempo em que a rede não funciona (. . .).» (ext86056-nd-94b-1)
during when the its system goes down (goes down = 'crashes')
- (58) «Primeiro foi o PCP, (. . .) a questionar o PS se ia (. . .) agendar os projectos de resolução, pois se não o fizesse *durante antes das férias parlamentares* o referendo não poderia ser em Outubro.» (ext1510339-pol-98a-3)
during before of-the holidays parliamentary

Note that the number of non-standard constructions found in the corpus CETEMPúblico (16) is extremely low, taking into account that *durante* is one of the most common words in Portuguese (it ranks 318th in the list provided by Nascimento *et al.* 1987: 689–718), occurring 135821 times in CETEMPúblico (approximately 70 % of which are of the relevant type¹⁰).

3.3. Enquanto

Phrases with *enquanto* ('while') take sentences that represent non-punctual eventualities as complements (cf. e.g. Alves 2003: 130); these embedded sentences determine the location time of the matrix sequence. *Enquanto*-phrases may occur, though somewhat marginally, in subject position – cf. (59) – and in combination with time hypernyms – cf. (60); no examples of these constructions were found in the corpus CETEMPúblico.

- (59) ?Enquanto trabalhei nesta empresa foi o período mais feliz da minha vida.
while [I] worked in-this company was the period more happy of-the my life
'While I worked in this company was the happiest period of my life.'
- (60) ?O período enquanto trabalhei nesta empresa foi muito satisfatório.
the period while [I] worked in-this company was very rewarding
'The period while I worked in this company was very rewarding.'

All other three nominal contexts mentioned before seem incompatible with *enquanto*-phrases (cf., however, section 3.8 below):

- (61) ??as leis de enquanto os socialistas estiveram no governo
the laws of while the socialists were in-the government
- (62) *O problema data de enquanto os socialistas estiveram no governo.
the problem dates of while the socialists were in-the government

⁹ Search “Durante|durante” “antes|depois|após|entre|quando|há|havia|dentro|daqui|daí|dali|de|desde”. Interestingly, the same searches in the Brazilian corpora NILC-São Carlos and Corpus Brasileiro v 2.3 only produced, besides many possible typos (?), 2 examples comparable to the European Portuguese ones, all with *durante entre* (*ficou fora de operação ontem durante entre 0h10 e 10h07; a crítica literária surgida durante entre os séculos XVII e XIX*).

¹⁰ Portuguese preposition *durante* has two homonyms (cf. e.g. Móia 2000, 2010): (i) a locating connective (the type under consideration in this paper), typically corresponding to English *during*, which has time-denoting/situational expressions as complements; (ii) a duration connective, typically corresponding to English *for*, which has predicates of amounts of time as complements. I analysed the first 200 (of the 135821) uses of *durante* in the CETEMPúblico corpus, and the distribution is as follows: locating connective – 139 uses (69,5%); duration connective – 61 uses (30,5%).

- (63) *A lei esteve em vigor desde enquanto os socialistas estiveram no governo até ao ano passado.
the law was in force since while the socialists were in-the government until to-the last year

3.4. Desde

Phrases with *desde* ('since') define location intervals by fixing their lower bound via (nominal or sentential) complements. In most cases, the upper bound of the location interval coincides with the temporal perspective point of the sentence, that is, *desde*-phrases normally act as deictic/anaphoric expressions. They occur grammatically in combination with time hypernyms, as witnessed by the following CETEMPúblico examples:

- (64) «O período desde 1955 caracterizou-se pelo desmoronamento da velha ordem internacional (. . .)» (ext 1567270-pol-98b-3); «(. . .) só tenha sido tido em conta o período desde a adesão à CEE, em 1986 (. . .)» (ext 1098966-eco-94b-2)
period since 1955; period since the accession to-the EEC, in 1986

All other four nominal contexts mentioned before seem incompatible with *desde*-phrases (cf., however, section 3.8 below):

- (65) *Desde a entrada em vigor da lei tem sido um período muito calmo.
since the entrance in force of-the law has been a period very calm
- (66) *As leis de desde 1955 têm sido muito pouco eficazes.
the laws of since 1955 have been very little effective
- (67) *Os problemas datam de desde a entrada em vigor da lei.
the problems date of since the entrance in force of-the law
- (68) *Os problemas têm persistido até desde os últimos meses. [até ≡ 'until']
the problems have persisted until since the last months

3.5. A partir de

Phrases with the complex preposition *a partir de* ('from [. . . onwards]', literally 'to start/leave from') are semantically similar to *desde*, inasmuch as both define location intervals by fixing their lower bound via their complements. They differ syntactically in that *a partir de* only takes nominal complements, and semantically in that *a partir de* does not normally impose any restriction on the upper bound of the location interval (which is often left undefined). Both phrases with *desde* and *a partir de* occur grammatically in combination with time hypernyms – cf. (64) above and (69) below; the latter, contrary to the former, though, may also be used after argumental prepositions (namely *para*) – cf. (70).

- (69) «Do ponto de vista das fontes, é o período a partir do século XVIII que coloca maiores desafios (. . .)» (ext 1434966-clt-98a-2)
period to start of-the century XVIII
- (70) «Os (. . .) testes previstos para a partir do próximo mês seriam (. . .) os últimos de sempre (. . .)» (ext 205966-pol-95b-1); «(. . .) a redução no abastecimento de água (. . .), prevista para a partir de amanhã.» (ext 1142185-soc-95a-3)
planned for to start of-the next month; planned for to start of tomorrow

The other three nominal contexts mentioned before seem impossible for this complex connective:

- (71) *A partir de 1955 tem sido um período muito conturbado.
to start of 1955 has been a period very turbulent
- (72) *As leis de a partir de 1955 têm sido muito pouco eficazes.
the laws of to start of 1955 have been very little effective
- (73) *A lei esteve em vigor desde a partir de 1955 (até dez anos depois).
the law was in force since to start of 1955 (until ten years after)

3.6. Até (a)

Phrases with *até* (*a*) ('until', 'by') define location intervals by fixing their upper bound via (nominal or situational) complements. They occur grammatically in a bigger number of nominal contexts than the other phrases analysed so far in this section. In fact, they may occur: somewhat marginally, and with no corpora

examples, in subject position – cf. (74); grammatically, with time hypernyms – cf. (75) –, after some argumental prepositions – cf. (76) –, and in nominal modifiers/appositives headed by *de* – cf. (77) (cf. also section 3.8 below):

- (74) ?Até deixar de fumar foi o período mais complicado da minha vida.
until leave of smoke was the period more complicated of-the my life
 (leave of smoke = 'stop smoking')
- (75) «A neutralidade das Forças Armadas no período até à realização de eleições será garantida pelas partes angolanas (. . .)» (ext 190907-eco-91a-2)
period until to-the holding of elections
- (76) «A decisão está prometida para até final do mês.» (ext 1446898-eco-96a-3).
promised for until end of-the month
- (77) «Esta paragem forçada veio a desconcentrar Graf, que não conseguiu manter o mesmo ritmo de até então.» (ext 305557-des-93b-2); «(. . .) o duro trabalho de recuperação (. . .) após os vendavais de até Novembro de 75 (. . .)» (ext 313872-nd-95b-2)
rhythm of until then; storms of until November of 75

Of course, the fact that *até*-phrases can grammatically occur in the nominal contexts just mentioned raises the issue of whether this preposition should rather be classified as a regular head of time-denoting expressions (and not as a genuine locating connective). I will leave this issue open, but note, however, that unlike e.g. *antes*-phrases, which may be used after *desde*, *até*-phrases never occur as complements of any other temporal preposition. In fact, none of the connectives considered as genuinely “locating” in Móia (2000) do – cf. **Table 2**, in section 3.9. This fact seems to constitute an important distinguishing property of the class under consideration.

3.7. *De . . . a/até, desde . . . até*

Finally, phrases with discontinuous connectives like *de . . . a/até* ('from . . . to/until') or *desde . . . até* ('from . . . until'), which define location intervals by fixing both their lower and upper bounds via their complements, occur in more or less the same nominal contexts as *até*-phrases, and, therefore, raise the same issue of their possible classification as regular heads of time-denoting expressions. Here are CETEMPúblico examples in subject position, and with time hypernyms, respectively:

- (78) «De Outubro a Novembro é época alta: patos (. . .) e javalis servirão de troféus.» (ext 1394109-soc-97b-1)
from October to November is season high
- (79) «A primeira [exposição] cobrirá o período desde o final dos anos 50 até metade dos anos 60 (. . .)» (ext 1189225-clt-96b-3); «(. . .) [barcos] saem para passeios pelo Tejo, em média, três vezes por mês durante o período de Março a Outubro.» (ext 970287-soc-97b-1)
the period since the end of-the years 50 until half of-the years 60; the period from March to October

When they occur as complement of argumental prepositions and in nominal modifiers/appositives, there is normally (or often) elimination of the first element of the discontinuous connective (which surfaces as ‘X a Y’):

- (80) a. «O processo (. . .) inclui documentos (. . .) datados de 1936 a 1938.» (ext 987276-soc-94b-2)
dated of 1936 to 1938
 b. «(. . .) a importância da visita de Jorge Sampaio à China, prevista para 23 de Fevereiro a 2 de Março (. . .)» (ext 385249-pol-97a-1)
planned for 23 of February to 2 of March
- (81) «(. . .) eles inspiraram-se na música de 1970 a 1982.» (ext 61052-clt-94b-2)
music of 1970 to 1982

When the relevant preposition is *de* (as in (80a) and (81)), the elimination always occurs for obvious identity reasons (i.e. haplogy of the sequence *de de*); when it is a different preposition, as *para*, elimination often

occurs anyway – cf. (80b); however, a few – perhaps slightly marginal – cases with explicit *de* after the argumental preposition *para* can be found in CETEMPúblico¹¹:

- (82) «(. . .) na próxima cimeira (. . .), *marcada para de 8 a 10 de Julho* em Napóles (. . .).»
(ext506341-eco-94a-3); «(. . .) *para de hoje até terça-feira apenas se prevêm aguaceiros fracos.*»
(ext270723-soc-97b-1)
scheduled for from 8 to 10 of July, for from today until Tuesday . . . SE_{PASSIVE CLITIC}
expect (SE_{PASSIVE CLITIC} *expect* = 'are expected')

All other nominal contexts seem incompatible with phrases including these discontinuous connectives:

- (83) *A conferência foi marcada para desde 28 até 30 de Setembro.
the conference was scheduled for since 28 until 30 of September
(84) *As leis de desde 1980 até 1985 foram muito pouco eficazes.
the laws of since 1980 until 1985 were very little effective
(85) *Os problemas persistiram até {de 1980 a 1985 / desde 1980 até 1985}.
the problems persisted until from 1980 to 1985 / since 1980 until 1985

3.8. Combination of durative verbs and durative connectives

As noted in Móia (2011b), durative connectives – namely *desde, de . . . a/até, desde . . . até, até* and *enquanto* – regularly combine with durative verbs. These combinations are quite frequent with the verb *durar* ('last') – cf. (86) –, but may also be found with verbs *passar* ('spend') – cf. (87) – and *levar* ('take') – cf. (88).

- (86) «A revolta curda (. . .) *dura desde a própria fundação do Iraque.*» (ext1042615-pol- 91a-2);
«O bloqueio *durará até quarta-feira* (. . .).» (ext19110-pol-97a-1); «O Governo progressista *durou de 1886 a 1890.*» (ext1235322-clt-94b-1); «As obras *duraram enquanto houve dinheiro.*» (ext1454604-soc-94b-2)
lasts since the very foundation of-the Iraq; will-last until wednesday; lasted from 1886 to 1890; lasted while there-was money
(87) «A sua família *passou desde então* a tentar abanar a opinião pública, iniciando uma campanha de sensibilização contra esta droga sintética (. . .).» (ext370394- soc-96a-2);
«(. . .) Sequeira *passa de 1807 a 1823* a improvisar, altura em que o artista parte para Paris (. . .).» (ext313490-clt-97a-2)
spent since then; spends from 1807 to 1823
(88) Os engenheiros *levaram até Janeiro* para acabar a ponte.
took until January

Comparable constructions exist in English, as witnessed by the following examples from the Corpus of Contemporary American English: «The quarrel between the Arabs and the Nubians *has lasted since the twelfth century.*» (Analog Science Fiction & Fact, 1999); «(. . .) the Holland-O'Connell relationship began prior to 1987 and *lasted until 1993.*» (Christian Science Monitor, 2008); «The moratorium *will last while the Obama administration works on plans to help the housing market* (. . .).» (PBS_NewsHour, 2009); «They've *spent from January until now* attacking Kenneth Starr.» (ABC_GMA, 1998); «It *took Europeans until the early 18th century* to master the difficulties of a porcellanous clay body and the technology of high-fired kilns.» (American Craft, 1997).

These constructions raise some formal (compositional) issues. In fact, the phrases with durative connectives seem to be ambivalent between mere time-denoting expressions, when used as arguments of durative verbs – as in (86)–(88) –, and locating expressions (also contributing the relational locating information), when used adverbially, as in:

¹¹ Searches with [lema = “prever|marcar|agendar”] yielded 5 results with preposition elimination – type (80b) – and the same number with the sequence =“para” “de” – type (82). By far, the most common way to express the relevant type of information, with lower- and upper-bounded intervals, is by resorting to time hypernyms (cf. (17) and (79) above) – or to comparable temporal nouns – in NPs which immediately follow the preposition *para* – (*para*) *o período de X a Y* (literally '(for) the period from X to Y'), (*para*) *os dias/anos X a Y* (literally '(for) the days/years X to Y'), (*para*) *a semana de X a Y* (literally '(for) the week of X to Y'). More than 60 results of these latter constructions were found in the CETEMPúblico corpus.

- (89) O Paulo trabalha nesta empresa desde 1990.
the Paulo works in-this company since 1990
 'Paulo has been working in this company since 1990.'
- (90) O Paulo trabalhou nesta empresa {até 1990 / de 1980 a 1990 / enquanto pôde}.
the Paulo worked in-this company until 1990 / from 1980 to 1990 / while [he] could
 'Paulo worked in this company {until 1990 / from 1980 to 1990 / while he could.'

Now, several technical hypotheses can be considered, in order to translate the semantic contribution of these phrases into a formal language like that of the Discourse Representation Theory. First, that these phrases are genuinely ambivalent, sometimes contributing only a referential condition ([DENOTING EXPRESSION (t)]), as in (86)–(88), sometimes a relational (durative) one as well ([t ⊆ ev]), as in (89)–(90). Second, in order to avoid ambivalence, that they are always mere time-denoting expressions, and occur with a null locating operator \emptyset , with the durative value of e.g. *throughout*, when in adjunct position, as in (89)–(90); in this analysis (parallel to the one described in section 1, apropos sentences like (13), but with a null durative, rather than non-durative, locating connective), they would always contribute merely a referential condition ([DENOTING EXPRESSION (t)]), with the locating relation ([t ⊆ ev]) triggered by $\emptyset_{[+DURATIVE]}$ in adjuncts. I will not attempt to argue for any of these hypotheses here, but leave the issue for further research.

3.9. Diversity within the class of (temporal) locating connectives in a nutshell

Table 2 below summarizes the exceptional possibilities concerning the use of locating connectives in the six nominal or nominal-like contexts that have been presented before. It shows, in a very graphic way, the heterogeneous and somewhat unstable syntactic and semantic behaviour within the class of locating connectives, arguably indicative of various degrees of grammaticalization, that we have been alluding to.

connectives	nominal contexts					
	complement of temporal prepositions (e.g. <i>desde</i> , <i>até</i>)	in subject position	complement of <i>de</i> (in nominal modifiers/ appositives)	complement of argumental prepositions	complement of durative verbs (e.g. <i>durar</i>)	with time hypernyms (<i>período</i>)
<i>em</i>	-	-	-	-	-	-
<i>durante</i>	-	-	- ¹	- ¹	- ¹	-
<i>enquanto</i>	-	?	??	-	+	?
<i>desde</i>	-	-	-	-	+	+
<i>a partir de</i>	-	-	-	+	-	+
<i>até</i>	-	?	+	+	+	+
<i>de...a/até</i> , <i>desde...até</i>	-	+	+ ²	+ ³	+	+

Table 2: Use of temporal locating connectives in nominal or nominal-like contexts (possibly as heads of complex time-denoting expressions).

⁽¹⁾ a few anomalous cases found in corpora

⁽²⁾ always with elimination of the first element of the discontinuous connective

⁽³⁾ often with elimination of the first element of the discontinuous connective; marginally, no elimination may take place (e.g. *marcar para de...a*)

4. Conclusions

In this paper, I argued that temporal and spatial phrases expressing location need to be distinguished from those conveying mere temporal or spatial reference, and that – although a large set of expressions exhibit an ambivalent behaviour (notably those with prepositional heads such as *antes* or *dentro*) – these two classes (locating vs. referential) suffice for a comprehensive categorisation of the relevant sequences. The postulation of null locating prepositions was instrumental in technically formulating this categorisation. Furthermore, I showed that the two classes are quite varied in Portuguese, forming subclasses, and exhibiting

interesting syntactic patterns, indicative of linguistic variation and change. Asymmetries between temporal and spatial referential expressions – which otherwise behave quite similarly – were observed apropos complex connectives like *cima de*, *baixo de* or *trás de*, which lack exact temporal counterparts (though elements like *meados de* are possible candidates). Signs of linguistic change were noted in the lack of autonomous value of the initial preposition (*por*, *para*, *de*, *a*) of sequences like *por cima de*, *para trás de*, *detrás de*, and – in Brazilian Portuguese – *atrás de*. Signs of anomaly, the archetypical herald of linguistic change, were found in present-day newspaper articles regarding the use of the locating preposition *durante* ('during').

All in all, the use of temporal and spatial prepositions, or preposition-like connectives, of the locating/referential domain generates an intricate taxonomy in Portuguese, with subclasses presenting relatively fuzzy or unstable boundaries. The results of this paper – which attempts to shed some light on previously unaddressed or not fully understood phenomena – are easy to generalize to other languages (e.g. in the Romance and Germanic families) where similar grammatical patterns can be observed.

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