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Relativized temporal phrases: Language variation and change in contemporary Portuguese

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This paper discusses the use of relativized temporal phrases as a domain of particularly intense variation and change in contemporary Portuguese. Various phenomena indicative of competition among linguistic forms (with a special focus on the standard variety of European Portuguese, as documented in newspaper texts) are highlighted and examined. Two main sets of constructions take centre stage in the paper. In one, the much-discussed tendency to omit the preposition *em* ('in') in relativized constituents expressing simple temporal location is assessed, using large corpora. In the other, the relativization of duration phrases (or comparable locating phrases, containing predicates of amounts of time) is scrutinized. These latter structures – very poorly studied in the literature – reveal intriguing restrictions, and associate with various types of anomalies, viz., non-standard suppression, addition or change of prepositions. Furthermore, one remarkable innovation is documented in Portuguese newspaper texts: the relativization of time-anchored duration adjuncts with the (preposition-like) connective *há* (a verb form equivalent to 'there is', currently undergoing a grammaticalization process, and shifting into a preposition) – 31: *são os anos há que não ganhamos uma medalha* ('31: this is the number of years {we haven't won a medal/since we last won a medal}').



1. Introduction

1.1. Presentation of the topic

This paper discusses sentences with relativized temporal phrases as instances of linguistic variation, and ongoing grammatical changes, in contemporary Portuguese. The main focus is on the standard variety of European Portuguese (EP), as documented (mainly) in newspaper texts available in large corpora online, though some considerations about Brazilian Portuguese (BP) are also made. The paper is divided into two parts, under one common theme: the instability affecting the use of temporal prepositions, or preposition-like connectives, observed in the particular context of relativized constituents, where long-distance relations involving WH-movement apply.

The first part (section 2) deals with the question of the preservation or loss of the preposition *em* ('in') in relativized constituents expressing temporal location, as those in (1). Its main purpose is to document in greater detail – using large corpora – the widely-discussed issue of preposition omission in these contexts, in Portuguese, underlining syntactic and semantic peculiarities that, in my opinion, have not been sufficiently taken into account in the literature. Though this omission is not an emergent change in the grammar of Portuguese (but rather a relatively old one), the issue of its wider dissemination in the future can be pondered.

- (1) o dia **(em) que** eu cheguei atrasado
 the day in that.REL I arrived.PERF late
 'the day I arrived late'

The second part of the paper (section 3) deals with an issue that is largely unexplored in the literature: the relativization of constituents expressing duration – or very closely related forms of temporal location that systematically allow duration inferences – such as those in (2)–(3):

- (2) as duas horas **que** eu passei na biblioteca
 the two hours that.REL I spent.PERF in.the library
 'the two hours I spent in the library'

- (3) as duas horas **(em) que** eu estive na biblioteca
 the two hours in that.REL I was.PERF in.the library
 'the two hours I was in the library'

The group of structures that instantiate this relativization represents an area of intense variation in Portuguese. They may involve relativized complements, as in (2), or relativized adjuncts, as in (3); furthermore, adding greatly to the complexity, three forms of duration need to be distinguished, as we will see later on. The presence or absence of temporal prepositions preceding the relative pronoun will again be the focus of the analysis; note, for instance, that *em* ('in') before *que* ('that') is impossible in (2), and fully optional (in standard Portuguese) in (3). In

this part, one truly emergent change in Portuguese – corresponding to a novel construction – is identified, and several potential changes underway are examined.

1.2. Methodology and data

Throughout the paper, I will use data from the online corpora available on the website of Linguateca,¹ mainly CETEMPúblico (190 million words; Portuguese newspaper texts), for European Portuguese, and NILC/São Carlos (34 million words; Brazilian – mostly newspaper – texts) or Corpus Brasileiro (nearly 1 billion words; very diverse genres), for Brazilian Portuguese. Data from English is also used, for comparative purposes, especially in section 3. I will resort chiefly to the British National Corpus,² henceforth abbreviated BNC, a corpus containing 100 million words.

The searches in these corpora target the specific constructions under analysis, and provide qualitative and quantitative data to support the claims made. As for the constructions discussed in section 2, searches – summarized in **Table 1** – are essentially aimed at obtaining a rate of preposition omission in relative clauses of the type in (1), and variants of it, in newspaper writing in EP and BP. As for the constructions discussed in section 3, automatic searches are used to justify the claim that relativized duration adjuncts, and comparable expressions, are associated with particularly strong variation. As can be seen in the synoptic **Table 2**, at the end of section 3, the novel construction with *há que*, and 5 anomalous constructions are documented with corpora examples.

In the paper, I provide glosses³ and translations for the Portuguese examples. For long sequences taken from corpora, they will only be provided for the relevant parts (e.g., the relative clause and its antecedent). In some cases, when the pertinent grammatical issues have been presented and discussed at length, only the translation (of the whole sequence, or of its relevant part) is provided.

For the formal semantic analysis necessary in some parts of the paper, I will use the logic language of Discourse Representation Theory (DRT), as presented in Kamp and Reyle (1993), with the adaptations to Portuguese of Mória (2000). Familiarity with these instruments is a plus, but I will make this text autonomous by summarising the relevant concepts when required (mainly in section 3).

¹ <https://www.linguateca.pt/ACDC>.

² <https://www.english-corpora.org/bnc/>.

³ When glossing verbs, I systematically use PERF vs. IMPERF to distinguish Portuguese “pretérito perfeito simples” from “pretérito imperfeito”, respectively. In order to facilitate understanding, when the subject is null, I use labels for person-number (3SG, 3PL, etc.) in the gloss of the verb form.

2. Omission of the preposition *em* ('in') in relativized constituents expressing simple temporal location in standard Portuguese

2.1. Omission of the temporal preposition *em* ('in') in relative clauses: discussion in the literature

The tendency to suppress prepositions in relativized constituents is a well-documented, and widely explored, phenomenon in the literature, where the designation “relativas cortadoras” (‘chopping relatives’) is widespread.⁴ Besides reference grammars, and the pioneer work of Tarallo (1983), numerous (relatively recent) papers and dissertations explore different aspects of the phenomenon, including historical, dialectal, and sociolectal ones (cf., e.g., Lessa-de-Oliveira, 2009; C. Santos, 2014; J. Santos, 2015; Silva, 2018). Peres and Mória (1995, pp. 291–300) dedicate a whole section to this tendency in the standard variety of European Portuguese, considering mainly newspaper texts. Castilho (2010, pp. 367–368) observes that “the adjectival chopping clause already occurs in written vehicular BP”, as in the following example from the newspaper *Folha de São Paulo*, with a relativized spatial location adjunct:

- (4) Não há uma área em São Paulo **que** a polícia não entre.
 NEG there.is an area in São Paulo that.REL the police NEG enters.SBJV
 ‘There is no area in São Paulo where the police don’t enter.’

He furthermore stresses that “examples of chopping relative clauses are found among Portuguese classic writers”, which potentially indicates some degree of “tolerance” regarding the preposition omission – at least in certain contexts – in the standard varieties.

Preposition omission in relativized constituents is not equally accepted in all grammatical contexts, a complex issue that I will not explore here. The focus in this paper will only be on phrases with temporal value, more specifically – in this section – in adjuncts with simple temporal location value,⁵ as expressed typically by the preposition *em* (‘in’). In these specific contexts, there seems to be a significantly lower degree of rejection (even in the standard variety), when compared with, e.g., arguments, temporal or other. The conservative grammarian Napoleão Mendes de Almeida, for instance, considers that the use of the preposition *em* in sequences like *no*

⁴ In my opinion, the name “relativas cortadoras” (‘chopping relatives’) is unfortunate. Since the clauses at stake are affected by preposition omission, a more perspicuous term would be “relativas cortadas” (‘chopped relatives’), or, more clearly, “relativas com supressão de preposição no constituinte relativo” (‘relative clauses with preposition omission in the relativized constituent’).

⁵ I will only consider structures expressing simple temporal location, not, e.g., an association of temporal location and explicit quantification, as in *todos os dias (em) que eu cheguei atrasado* (‘every day I arrived late’). Though preposition omission also occurs in these structures, it is rather rare in newspaper texts (the search in CETEMPúblico «[T,t]odos|[T,t]odas» «os|as» «dias|manhãs|tardes|noites|fins.*|[S,s]ábados|[D,d]omingos|. *feiras» «em» «que» yielded 6 relevant results, and the parallel search without *em* yielded no relevant results), and deserves an analysis of its own.

dia em que [in.the day in that.REL] is optional (Almeida, 2001, p. 456). The following observation in Neves (1999), a well-known reference grammar, deserves particular consideration:

- (5) “em estruturas adverbiais locativas (espaciais ou temporais) que contêm pronomes relativos, ocorrem, normalmente, duas preposições locativas [e.g., *na rua em que trabalha*] ... [e] nesses casos ... é freqüente a omissão de preposição antes do pronome” (Neves, 1999, pp. 382–383)
- [‘in (spatial or temporal) locating adverbial phrases containing relative pronouns, two locating prepositions normally occur [e.g., *na rua em que trabalha* (gloss: in.the street in that.REL [he] works) ‘in the street he works’] (...) [and], in those cases, the preposition preceding the pronoun is often omitted]

In line with what is suggested in this passage, it is vital to separate the various relevant grammatical contexts in order to adequately characterize the phenomenon of preposition omission in relativized constituents. Neves singles out the suppression in adjuncts with two identical prepositions, i.e., structures where the relative clause occurs within a temporal location adjunct headed by *em*, as in (6) – let us call it *EM-ADJUNCT CONTEXT*.

- (6) O Pedro desfez as malas
 the Pedro undid.PERF the suitcases
 no dia (em) que regressou de férias.
 in.the day in that.REL returned.PERF.3SG from holidays
 ‘Pedro unpacked the day he came back from holidays.’

However, as we will see, the frequency of preposition omission is very similar when no two identical prepositions are involved, namely when the relative clause is part of an argument, e.g., a direct object or a subject, as in (7), or of an adjunct not headed by *em* – let us call it *ARGUMENT/NON-EM-ADJUNCT CONTEXT*.

- (7) O dia (em) que o Pedro regressou de férias foi
 the day in that.REL the Pedro returned.PERF from holidays was.PERF
 muito agitado.
 very agitated
 ‘The day Pedro came back from holidays was a very busy day.’

It is also worth considering separately the contexts where the relative clause is technically restrictive, but where its combination with the preceding noun (*dia* ‘day’, in this case) act as an apposition to the previous nominal phrase (i.e., what Peres & Mória, 1995, p. 275 term “oração relativa de aposto de nome” [‘nominal apposition relative clause’]) – let us call it *APPPOSITION CONTEXT*. As we will see too, preposition omission in these contexts is *ceteris paribus* significantly rarer than in the previous two contexts.

- (8) O Pedro desfez as malas no dia 10,
 the Pedro undid.PERF the suitcases in.the day 10,
 dia (**em**) **que** regressou de férias.
 day in that.REL returned.PERF.3SG from holidays
 ‘Pedro unpacked on the 10th, the day he came back from holidays.’

It must finally be noted that only restrictive relative clauses are relevant for the discussion of the phenomenon at stake, since genuine non-restrictive clauses do not normally exhibit preposition omission in the standard varieties as documented in newspaper writing (no examples having been found either in the Portuguese corpus CETEMPúblico or in the Brazilian corpus NILC/São Carlos⁶).

2.2. Omission of the preposition *em* (‘in’) in relativized constituents expressing simple temporal location: corpus data

Let us consider the omission of *em* (‘in’) in relativized constituents expressing simple temporal location in corpus data. For the sake of simplicity, I will focus on relative clauses with antecedents that have a temporal meaning (like *dia* ‘day’). The omission of *em* with eventuality-denoting nouns, like *jogo* (‘game’, ‘match’) or *reunião* (‘meeting’), is rather infrequent in written texts of standard EP. In order to better describe the frequency of omission of this preposition in standard varieties of Portuguese, I analyzed corpus data from several sources. Let us start with newspaper texts from Portugal, as a window into standard EP. Searches in the corpus CETEMPúblico show that the omission of the preposition *em* in relativized constituents of the sort under analysis is very infrequent in Portuguese newspapers, namely around 1% for the noun *dia* (‘day’) – for which I conducted searches in all three syntactic contexts mentioned in 2.1 –, and the hypernymic nouns *altura/momento/período* (‘time/moment/period’) – for which I conducted searches only in *em*-adjunct and in apposition contexts.⁷ Examples of texts with preposition omission (before the bolded relative pronoun) in each context are provided below:

⁶ It is not easy to conduct an automatic search in those corpora that singles out all the relevant structures, and therefore it is not possible to guarantee that no examples exist. Anyway, none was found in the multiple searches I conducted.

⁷ Note that, besides the mentioned hypernymic nouns, only the singular noun *dia* (‘day’) was searched (as indicated in Table 1). However, there is no reason to suspect that the results would be significantly different for the plural *dias*, or for other comparable nouns like *domingo* (‘Sunday’), *fim-de-semana* (‘weekend’), *semana* (‘week’), *mês* (‘month’), or *ano* (‘year’). There may, however, exist specific types of antecedents that favour the omission of the preposition: such seems to be the case, at least, of predicates of amounts of time within definite NPs (as *os dois dias e meio* ‘the two and a half days’ + MODIFIER, *os cinco anos* ‘the five years’ + MODIFIER), where the preposition is dropped in more than 25% of the cases in CETEMPúblico, as is mentioned in fn. 18.

- (9) No dia **que** foi preso
 in.the day that.REL was.PERF.3SG arrested
 despediu-se da sogra com dois beijos... (ext57156-soc-96a-1)
 [EM-ADJUNCT CONTEXT]
 ‘the day he was arrested’
- (10) Mas raro era o dia **que** não tinham de dar quase tudo
 but rare was the day that.REL NEG had.IMPERF.3PL to give almost everything
 o que ganhavam aos mais fortes.
 what earned.IMPERF.3PL to.the most strong
 (ext515823-nd-94a-1) [ARGUMENT CONTEXT]
 ‘hardly a day went by without them having to give everything they earned to the strongest’
- (11) Os problemas... da região algarvia... completam o elenco de matérias escolhidas para
 preencher a agenda presidencial
 até sábado, dia **que** a Presidência Aberta chega ao fim.
 until Saturday, day that.REL the Presidency Open arrives to.the end
 (ext131927-pol-96a-1) [APPOSITION CONTEXT]
 ‘until Saturday, the day “Open Presidency” comes to an end’

Crucially, there are no significant rate differences in preposition omission between *em*-adjunct and argument (or other adjunct) contexts, contrary to what Neves (1999), referring to BP, suggests. However, there are striking differences between those two contexts and apposition contexts (in “relativas de aposto de nome”), as **Table 1** below shows.

If we compare Portuguese and Brazilian newspaper texts – the latter via the corpus NILC/São Carlos –, we observe that, in this type of register, there is a higher prevalence of the construction with preposition omission in Brazilian Portuguese: nearly 7% or nearly 4% (depending on the type of antecedent), in the Brazilian corpus NILC/São Carlos vs. under 1% in the Portuguese corpus CETEMPúblico. The highlighted boxes in **Table 1** indicate the prevalence rate: all but residual in EP (0.6%; 0.7%), slightly more frequent, though clearly secondary, in BP (6.6%; 3.7%). Marginally, we should note that some examples in the (Portuguese and Brazilian) newspapers represent direct (sometimes informal) speech, and are therefore not truly representative of the register at stake, whence the relevant numbers are likely even smaller.

Furthermore, searches in both corpora show a similar behaviour in the two varieties with respect to the three contexts considered: on the one hand, *em*-adjunct contexts and argument/non-*em*-adjunct contexts have very similar percentages; on the other hand, apposition contexts stand out, since the omission of the temporal preposition *em* only very seldom occurs there.

It is also interesting to consider – though I can only do it briefly here – two other types of register (available in online corpora): the literary register, and the informal oral register of

| | | constructions without omission of <i>em</i> ('in') | | constructions with omission of <i>em</i> ('in') | |
|--|--|--|--------------------------|--|--------------------------|
| | | CETEMPúblico [PE] | NILC/ São Carlos [PB] | CETEMPúblico [PE] | NILC/ São Carlos [PB] |
| with <i>dia</i> (‘day’) | <i>em</i> -adjunct context (relative clauses within adjuncts headed by temporal <i>em</i> , ‘in’) | <i>no dia em que</i> (‘in the day in that’) | | <i>no dia em que</i> (‘in the day in that’) | |
| | | 2411 | 197 | 14 0.6% | 16 8.1% |
| | argument/non- <i>em</i> -adjunct context (relative clauses within arguments, or within adjuncts headed by other prepositions) | <i>o/do/a/o/pelo dia em que</i> (‘the/of the/to the/for the day in that’) | | <i>o/do/a/o/pelo dia em que</i> (‘the/of the/to the/for the day in that’) | |
| | | 1337 | 226 | 14 1.0% | 17 7.0% |
| | apposition-context (relative clauses within “nominal apposition relative clauses” [“relativas de aposto de nome”]) | <i>, dia em que</i> (‘, day in that’) | | <i>, dia em que</i> (‘, day in that’) | |
| | | 861 | 41 | 2 0.2 % | 0 |
| total (with antecedent <i>dia</i>, ‘day’) | | 4609 | 464 | 30 0.6% | 33 6.6% |
| with <i>altura</i> , <i>momento</i> , <i>período</i> (‘time/ moment/ period’) | <i>em</i> -adjunct context (relative clauses within adjuncts headed by temporal <i>em</i> , ‘in’) | <i>na/no altura/momento/período em que</i> (‘in the time/moment/period in that’) | | <i>na/no altura/momento/período em que</i> (‘in the time/moment/period in that’) | |
| | | 4806 | 606 | 51 1.1% | 24 3.8% |
| | apposition-context (relative clauses within “nominal apposition relative clauses” [“relativas de aposto de nome”]) | <i>, altura/momento/período em que</i> (‘, time/moment/period in that’) | | <i>, altura/momento/período em que</i> (‘, time/moment/period in that’) | |
| | | 4583 | 63 | 15 0.3 % | 2 0.3 % |
| total (with hypernymic antecedents <i>altura/momento/período</i>, ‘time/moment/period’) | | 9389 | 669 | 66 0.7% | 26 3.7% |

Table 1: Omission of the preposition *em* (‘in’) in relativized constituents (with selected strictly temporal antecedents) expressing simple temporal location, in Portuguese and Brazilian newspaper texts.

speakers with low education levels. As for the literary register, a search in the corpus Vercial, only for *em*-adjunct contexts, shows that there are examples of preposition omission in literary texts from different epochs (at least from the 16th century to the 19th century), though always in low numbers (below 10%), some of which, again, reproduce oral informal speech. In this corpus, there are 14 instances of *o dia que* (‘the day that’), instead of *o dia em que* (‘the day in that’), representing 9.9% of the total relevant structures, and 6 instances of *no/na altura/momento/período que* (‘in the time/moment/period that’), instead of *no/na altura/momento/período em que* (‘in the time/moment/period in that’), representing only 0.3% of the total relevant structures.⁸ Here are three examples, two from prominent Portuguese writers of the 19th century, and one of the 16th century (with the translation of the relevant sequence):

⁸ The difference in prevalence according to the type of antecedent (in the literary register) is not explored here.

- (12) A velhinha casou com o rato, e **no dia que** ela foi à missa deixou-o perto da panela do jantar... (Teófilo Braga, *O Povo Português nos Seus Costumes, Crenças e Tradições*, 1885) [‘the day she went to mass, she left the mouse close to the cooking pot’]
- (13) Afastei-me discretamente... e **no momento que** pisava a rua areada que levava ao pavilhão, senti a porta do jardim ranger... (Eça de Queirós, *Mistério da Estrada de Sintra*, 1870) [‘the moment I set foot in the sandy street that led to the pavilion, I heard the garden door creak’]
- (14) Acodiolhe loguo bom quinhã de gemte: e **no dia que** elles cheguaram homde estaua dom Fuas, chegou meesmo elRey Gamy com todas suas gemtes sobre Porto de Moos. (Duarte Galvão, *Crónica de El-Rei D. Afonso Henriques*, 1505) [‘the day they arrived where Dom Fuas was, King Gamy arrived with all his people in Porto de Mós’]

As for oral informal registers from speakers with low education levels, they show, unsurprisingly, a clear predominance of preposition omission. In the Portuguese corpus Cordial-SIN within Linguatca (with around 850,000 words of transcribed oral texts obtained in interviews in Portugal), there are at least 27 relevant examples of *o dia que* (‘the day that’), instead of *o dia em que* (‘the day in that’), representing 77% of the total relevant structures – cf. example in (15). In the Brazilian corpus C-Oral-Brasil (with around 260,000 words, containing oral informal BP), there are at least 40 relevant examples of *o dia que* (‘the day that’), instead of *o dia em que* (‘the day in that’), representing 100% of the total relevant structures – cf. example in (16).

- (15) ... não havia casa... que não tivesse a morcela para comer com o inhame quente **no dia que** se cozia os inhames. (CDR13-3) [‘the day yams were cooked’]
- (16) ... acho que **no dia que** eu fazia cinco anos de padre, me soltaram ... [‘the day I celebrated five years as a priest’]

2.3. General considerations on the omission the preposition *em* (‘in’) in relativized constituents expressing simple temporal location

In this subsection, I will briefly discuss a few general facts about the constructions with and without the locating preposition *em* (‘in’) in relativized constituents. The first and most important is that the omission of this preposition does not normally cause interpretation problems, given that (in the absence of any other explicit temporal connective) the information conveyed by *em* can be inferred, or, in other words, the preposition is implicit (which correlates with the relatively high frequency of its omission, especially in oral speech). In terms of Discourse Representation Theory (cf. Kamp & Reyle, 1993), the information at stake is that the location interval *t* of the whole sentence (describing an eventuality *ev*) coincides with the interval *t'* associated with the complement of the preposition (i.e., the relative pronoun, in this case), and the location mode

is either inclusion (DRS-condition: $[ev \subseteq t]$), for telic eventualities, or mere overlapping (DRS-condition: $[ev \circ t]$), for atelic ones. This is well known for non-relativized temporal adjuncts (cf., e.g., Mória, 2000, 2001, 2016, for Portuguese), and is clearly the case for relativized ones too. To put it simply, in a sequence like (17), regardless of the presence of *em*, the event of receiving privileged information (*ev*) is described as occurring within the mentioned day (*t*): $[ev \subseteq t]$.

- (17) dia **(em) que** ele recebeu informação privilegiada
 day in that.REL he received.PERF information privileged
 ‘day he received privileged information’

The fact that this information is default, and therefore inferable, is clearly related to the fact that other more specific types of information (expressed by other connectives, like the counterparts of *before*, *after* or *until*) are always explicit.⁹ Observe, for instance:

- (18) dia **antes do qual**¹¹ ele recebeu informação privilegiada
 day before of+“O” which he received.PERF information privileged
 ‘day before which he received privileged information’

- (19) dia **até ao qual** ele recebeu informação privilegiada
 day until to+“O” which he received.PERF information privileged
 ‘day until which he received privileged information’

Secondly, the absence of counterparts of *em* is also frequent – and sometimes even the norm, or the non-marked situation – in many other languages, as is notably the case of English (cf. most English sentences given as translations in the examples so far). A conspicuous difference between English and Portuguese is that in English the omission of the relative pronoun itself (*that*) is extremely common (and standard) in these structures (cf. (20) vs. (21) below), whereas the pronoun *que* always persists in Portuguese. Observe the following examples from the British National Corpus, illustrating three different relativization strategies, of which the first one is by far the most common:

- (20) The new claim comes on [**the day** the princess returned home from a disastrous tour...].

- (21) Even on [**the day that** the final agreements were due to be signed...], there were delays.

⁹ Since these connectives always combine with the pronoun *o qual* (not with *que*), the preposition omission would be ruled out also by morphosyntactic restrictions (*em* is also not normally omitted before *o qual*), besides the semantic ones.

¹⁰ *o qual* is a complex relative pronoun that contains two graphic elements. The first element is homonymous with the definite article *o*, but cannot be analysed as a (semantically or syntactically) independent unit; hence, I will gloss *o qual* simply as *which*, in this paper. However, that first element *o* is graphically contracted with some prepositions that precede it (e.g. *em + o = no*, *a + o = ao*, *por + o = pelo*). For the sake of perspicuity, in the three instances where these contractions occur – (18), (19) and (23) –, I use “O” in the glosses to signal its presence in the contracted form.

- (22) ...the time periods laid down for these notices do not commence until the end of [**the day in which** notice is given].

Thirdly, it is a noteworthy fact that the omission of *em* only occurs before the invariable relative pronoun *que* ('that'), never (at least in standard varieties) before the variable (complex) pronoun *o qual* ('which'), as seems to be the case, for that matter, of *in* before *which* in English:

- (23) dia *(n)o qual ele recebeu informação privilegiada
 day (in) + "O" which he received.PERF information privileged
 'day he received privileged information'

No examples of the sequence *dia o qual* ('day which') – instead of *dia no qual* ('day in which') – were found either in the corpus CETEMPúblico (EP), or in the corpus NILC/São Carlos (BP). In all the Linguateca corpora (representing 1.3+ billion words), only one instance was found, given in (24) below, possibly documenting an even broader tendency to omit the preposition. It occurs in a corpus of (mostly) informal Brazilian Portuguese – Corpus Brasileiro (in Linguateca):

- (24) O nome foi tirado da pequena irmã de Jónsi que
 nasceu no mesmo dia o qual banda foi formada.
 was-born.PERF.3SG in.the same day which the band was.PERF formed
 '(who) was born the same day the band was formed'

The fact that the preposition omission under analysis appears to be an old phenomenon in the language (as witnessed by the literary examples in (12)–(14) above), and never managed to establish itself as predominant in the standard variety, allows us to conjecture that no significant changes in the status of the construction are likely to happen in the near future. Thus, in spite of the predictability of the semantic information conveyed by the preposition, the omission of *em* is expected to remain a somewhat marginal phenomenon in formal (and neutral) registers.

Finally, a brief word regarding the locative preposition *durante* ('during') is in order. In many temporal location contexts, the prepositions *durante* ('during') and *em* ('in') can be roughly equivalent (cf., e.g., Mória, 2000, 2011a). See, for instance:

- (25) Choveu {no / durante o} fim-de-semana.
 rained.PERF {in.the / during the} weekend
 'It rained during the weekend.'

With the (trisyllabic) preposition *durante* only the relative pronoun *o qual* ('which') can be used, the sequence *durante que* ('during that') being ungrammatical. Now, the (rather formal) relativized locative constituent *durante o qual* ('during which') is relatively common in newspaper writing. This construction is, in fact, a stylistic alternative to the standard sequences (N) *no qual*, and (N)

em que, and, obviously, to the somewhat informal construction (with the temporal preposition omitted) (N) *que*. It seems particularly frequent in apposition contexts, where the preposition suppression is, as we saw, very exceptional in the type of registers under analysis. Observe the following example:

- (26) Aí se manterá de 1954 a 1979,
 período **durante o qual** publicará a sua obra de referência,
 period during which will publish.3SG the his work of reference
 “História do Antisemitismo”... (ext779415-clt-97b-1)
 ‘the period he would publish his reference work’

3. Relativization of constituents expressing duration and comparable forms of temporal location involving predicates of amounts of time

In this section, I will address the topic – very scarcely explored in the literature, as far as I know – of the relativization of duration phrases, and of location phrases containing predicates of amounts of time, that are comparable inasmuch as they allow systematic inferences concerning duration. The focus will again be on the prepositions, or preposition-like connectives, that precede relative pronouns within the relativized constituent. The issues at stake are sometimes intricate and complex. In order to fully understand the facts, it is necessary to discuss some basic notions concerning duration, and some (often subtle) related categorial distinctions. I will do this in section 3.1. Subsequently, I will examine the expression of three forms of duration – time-anchored duration of atelic eventualities, non-time-anchored duration of atelic eventualities, and duration of telic eventualities –, and their comparable forms of temporal location, in three autonomous subsections: 3.2, 3.3, and 3.4.

3.1. Basic notions concerning duration

3.1.1. The notion of duration and three different forms of duration

I will adopt here a restricted notion of duration, following Mória (2006, pp. 37–42). In this restricted sense, which is in line with Kamp and Reyle’s (1993) definition of “temporal measurement” (of eventualities), duration involves reference to the amount of time a situation lasts (for atelic eventualities), or takes to culminate (for telic eventualities). In Discourse Representation Theory (DRT) – which I will be using here to formally describe the semantic differences under scrutiny –, duration is represented by a one place functor *dur*, which maps eventualities (*ev*) – or intervals (*t*) – on the amounts of time (*mt*) they last, occurring in conditions like [dur (*ev*) = *mt*] (cf. Kamp & Reyle, 1993, p. 648). This definition excludes from the class of duration adjuncts, for instance, phrases with Portuguese *desde* or *até*, and their English counterparts, *since* and *until*, which some authors group together with the prototypical (atelic) duration adjuncts

(i.e., phrases with Portuguese *durante*, or English *for*). Phrases with *desde/since* or *até/until* will be regarded as just particular forms of temporal location adjuncts – typically associated with durative location, a concept not to be confused with strict duration – and will therefore not be investigated here (though, as we will see, a partial analysis of *desde/since*-phrases needs to be made at some point, for comparative purposes). Duration – unlike temporal location – is in principle established independently of the position of the described eventualities on the time axis. However, one particular form of duration (that I will term time-anchored duration) additionally involves systematic anchoring to the time axis. The adjuncts signalling this form of duration, thus function, for all intents as purposes, both as duration and as temporal location adjuncts. However, formally they belong to the grammatical category of duration adjuncts, and are also analysable with the DRT’s functor *dur*. They correspond to Portuguese adjuncts with the form *haver* X-TIME (in the variants *há* X-TIME, by far the most common, and *havia* X-TIME), where X-TIME stands for a predicate of amounts of time like *dois anos e meio* (‘two and a half years’) – cf. (29) below –, and their English counterparts *for* X-TIME (when they are equivalent to *for* X-TIME *now/then*).

Assuming the restricted notion of duration above (and the grammatical distinctions discussed in Mória, 2006), three different forms of duration need to be considered: telic duration, non-time anchored (or simple) atelic duration, and time-anchored atelic duration. These are crucial to understanding the grammatical facts explored in this paper. These three forms of duration are typically associated with different prepositional connectives in Portuguese, but two of them – anchored and non-anchored atelic duration – share the same prepositional connective (*for*) in English, and are therefore not so easily and immediately told apart in that language. The following three sentences illustrate the three forms of duration in question, with the relevant prepositional connectives bolded:

- (27) A ponte foi construída **em** dois anos e meio.
 the bridge was.PERF built in two years and half
 ‘The bridge was built **in** two and a half years.’
 [TELIC DURATION]
- (28) A ponte esteve em obras **(durante)** dois anos e meio.
 the bridge was.PERF in works for two years and half
 ‘The bridge was under repair **for** two and a half years.’
 [NON-ANCHORED ATELIC DURATION]
- (29) A ponte está em obras **há** dois anos e meio.
 the bridge is in works HÁ (‘there.is’) two years and half
 ‘The bridge has been under repair **for** two and a half years now.’
 [ANCHORED ATELIC DURATION]

Note, marginally, that the duration connectives *em* and *durante* have homonyms that express pure location, as in *podem fazer-se visitas guiadas {no Verão/durante o Verão}* ‘guided tours are available {in the Summer/during the Summer}’. Whenever necessary, I will use subscripts DUR and LOC – e.g., *durante*_{DUR}, *durante*_{LOC} – to distinguish these homonyms.

Let us briefly summarise the main grammatical aspects to have in mind. The duration of telic and atelic eventualities is expressed with adjuncts headed by different connectives both in Portuguese and in English, a well-known and much-discussed fact in the literature. To refer to the amount of time (*mt*) it takes, or took, for a given telic situation (*ev*) to be completed, as in (27), Portuguese uses phrases headed by *em*, and English uses phrases headed by *in*. The relevant truth condition imposed on sentences with this type of duration can be represented, in the language of DRT, via the (already mentioned) condition $[\text{dur}(\text{ev}) = \text{mt}]$. To refer to the *whole* duration of a given atelic situation, not anchored to any specific point of the time axis, as in (28), Portuguese uses *durante* (or – mainly in Brazilian Portuguese – *por*), though the preposition can normally be omitted, and English uses *for*, which can also sometimes, under the right conditions, be omitted. The relevant truth condition for sentences with this form of duration is represented, in the same logic language, also via the condition $[\text{dur}(\text{ev}) = \text{mt}]$. Finally, to refer to the duration a given atelic eventuality (*ev*) reaches at a certain point of the time axis (say, an anchor point, A_{pt}), as in (29), Portuguese uses a partially grammaticalized form of the verb *haver* (‘there be’), which behaves much like a prepositional connective. Formally, the asserted amount of time (two and a half years, in example (29)) is not necessarily the duration of the whole described eventuality (*ev*), but just of the *part* of it (*ev'*) that extends up to the anchor point, i.e., sentences with this type of duration state $[\text{dur}(\text{ev}') = \text{mt}]$ (thus allowing the possibility that *ev* continues after A_{pt}) (cf. Mória, 2011a). To express this form of duration, English resorts to *for*-phrases as well (though the preposition can sometimes be omitted). This latter form of duration – that I term time-anchored – is also distinguished in the English literature from the previous one – that I term non-time-anchored (or simple). For instance, Declerck (1991, p. 323) uses the term “continuative” (reading) – as opposed to “indefinite” or “existential” –, and Hitzeman (1997, p. 88) uses the term “position-definite” (reading) – as opposed to “non-position-definite” – to refer to it. However, as said, English, unlike Portuguese, does not distinguish these two forms of atelic duration – time-anchored, and non-time-anchored – via the use of different connectives; rather, it relies on other linguistic cues to tell them apart. For instance, in English, adding a deictic or anaphoric expression (*for two years now/then*), or preposing the adverbial, leaves only the time-anchored reading available; tense differences are also explored in English to tell the two readings apart – continuous forms are associated with time-anchoring (*John has been living in Paris for two years*), preterite forms are associated with non-time-anchoring (*John lived in Paris for two years*), and perfect non-continuous forms typically give rise to ambiguity (*John has lived in Paris for two years*). Indeed, ambiguities between the two readings are a much-discussed topic in the semantic

literature – cf., among others, Dowty (1979, p. 343), Richards (1982, p. 96), Heny (1982, p. 143 ff.), Mittwoch (1988, p. 203 ff.), Declerck (1991, p. 322 ff.), Kamp and Reyle (1993, p. 567 ff.), Hitzeman (1997, p. 87 ff.).

Furthermore, with respect to the ways of expressing duration – in any of its three forms –, two grammatical strategies need to be distinguished: duration can be expressed via a temporal adjunct, as in the three examples above (adjunct duration), or it can be expressed via a predicate-argument combination, as in the three examples below (argumental duration). In this second case, the sentence has as its main predicate a durative verb (e.g., *take*, *spend*, *last*, and their Portuguese counterparts); this verb selects as one of its arguments a predicate of amounts of time and as the other argument a sentence or nominal phrase identifying the relevant (telic or atelic) eventuality (whose duration is asserted).

- (30) O problema **levou/demorou** dois anos e meio a/para ser resolvido.
 the problem took.PERF two years and half to be solved
 ‘It **took** two and a half years to solve the problem.’
 [TELIC DURATION]
- (31) O cientista **passou** dois anos e meio a estudar o problema.
 the scientist spent.PERF two years and half to study the problem
 ‘The scientist **spent** two and a half years studying the problem.’
 [NON-ANCHORED ATELIC DURATION]
- (32) As obras na ponte já **levam** dois anos e meio.
 the works in.the bridge already take.PRES two years and half
 ‘The repair work on the bridge **has been going** on for two and a half years (now).’
 [ANCHORED ATELIC DURATION]

Typically, different verbs are used to express the different forms of argumental duration (e.g., *take* for telic duration, and *spend* for atelic duration), but some verbs can be used to express more than one form of duration, as is strikingly the case of Portuguese *levar* (‘take’), in (30) and (32) – cf. Mória (2015) on this issue. I will revisit this ambivalence below.

3.1.2. Predicates of amounts of time vs. time-denoting expressions containing predicates of amounts of time

I will discuss here the distinction between two closely related grammatical categories: that of pure predicates of amounts of time like *two and a half hours*, and that of time-denoting expressions (definite NPs) that contain predicates of amounts of time, like *the two and a half hours I was waiting for you at the airport*, or *those two and a half hours*. These categories are sometimes hard to tell apart. However, they describe entities with different ontological statuses: amounts of

time, which can be conceived of as properties of intervals, and time intervals, or stretches of the time axis, respectively. These entities are formally distinguished in Kamp and Reyle (1993), who mark them with different discourse referents: *mt* and *t*, respectively (a notation I will follow henceforth, and often use in subscript, for clarity purposes). The categorial distinction at stake runs parallel to the distinction between genuine duration adjuncts (*for/in two and a half hours*), and temporal locating adjuncts (*for/in the two and a half hours I was waiting for you at the airport*) that are comparable in that they allow systematic inferences concerning duration (cf. Mória, 2000, pp. 135–154). As we will see, these categorial distinctions appear to play a crucial role in some of the grammatical regularities and restrictions we will be discussing later in this section (cf. **Table 2**, at the end of this section).

The antecedents of all the relative clauses I will be analysing here either include or coincide with predicates of amounts of time. As said, predicates of amounts of time are expressions that represent properties of intervals of equal duration, marked by discourse referents of type *mt* (cf. Kamp & Reyle, 1993, p. 648). They can be quantified phrases without a determiner (abbreviated here as X-TIME), like *duas horas* ‘two hours’, *duas semanas e meia* ‘two and a half weeks’, or *quase cinco anos* ‘nearly five years’. For the purposes of this paper, I will focus on structures where this type of predicate is modified by a relative clause, i.e., where it integrates definite NPs like (33) (though it can also be modified by PPs, as in *as duas horas de conversações* ‘the two hours of talks’). As we will see, the whole NP in (33) can itself be a complex predicate of amounts of time (*mt*), though it can also be a time-denoting expression (*t*).

- (33) [_{NP} DEFINITE DETERMINER + X-TIME + RELATIVE CLAUSE]_{mt/t}
 (e.g., *as duas horas que eu passei na biblioteca* ‘the two hours I spent in the library’)

Furthermore, predicates of amounts of time can be formed with the hypernymic noun *tempo*, or with the hypernymic lexeme *quantidade de tempo* ‘amount of time’, as their nucleus. In this case, they always correspond to a definite NP with a modifier (e.g., a relative clause, in the cases we will be interested in), as (34). Since the hypernymic noun *tempo* (though not *quantidade de tempo* ‘amount of time’) is ambivalent, NPs with the superficial form of (34) and the noun *tempo* can also be time-denoting expressions, rather than predicates of amounts of time, as we will see.

- (34) [_{NP} DEFINITE DETERMINER + {*tempo* ‘time’ / *quantidade de tempo* ‘amount of time’} + RELATIVE CLAUSE]_{mt (sometimes t, with tempo)}
 (e.g., *o tempo que eu passei na biblioteca* ‘the time I spent in the library’; *a quantidade de tempo que os soldados passaram perto de zonas com elevada radioatividade* ‘the amount of time the soldiers spent near areas of high radioactivity’)

As said, the complex NPs with the structure in (33) are ambivalent, since they can globally identify a time interval (*t* discourse referent, in DRT) – qualifying as a time-denoting expression

–, or an amount of time (*mt* discourse referent, in DRT) – qualifying globally as a predicate of amounts of time. A phrase like *the two hours I spent in the library* (like its Portuguese counterpart *as duas horas que eu passei na biblioteca*) can refer to either type of temporal entity, with the wider context (showing the predicates the NP combines with) normally allowing for a non-ambiguous interpretation – cf., e.g., *during [the two hours I spent in the library]_t nobody called me/n[as duas horas que eu passei na biblioteca]_t, ninguém me telefonou* (definite NP as a time-denoting expression) vs. *[the two hours I spent in the library]_{mt} were not enough to study the subject/[as duas horas que eu passei na biblioteca]_{mt} não chegaram para estudar o assunto* (definite NP as a predicate of amounts of time).

In the first case, the definite NP refers to the stretch of the time axis that corresponds to the location (or *loc*, sensu Kamp & Reyle, 1993) of the eventuality described in the relative clause (*ev*). The DRS-conditions associated with the interpretation of the nominal phrases at stake are those in (35). Note that, in this case, the relativized constituent – if adjunct – does not classify as a duration adjunct, but rather as a temporal location adjunct, though the distinction (to which I will return later) is subtle, and in many cases inconsequential.

- (35) [_{NP} DEFINITE DETERMINER + X-TIME + RELATIVE CLAUSE] (*t*)
 $\Rightarrow \exists t: [\text{dur}(t) = mt] \wedge [\text{X-TIME}(mt)] \wedge [\text{ev}: \dots [\text{GAP } t] \dots]$

In the second case (perhaps less frequent, but not at all rare), the definite NP refers to an amount of time, namely the amount of time associated with the eventuality described in the relative clause (*ev*). The DRS-conditions associated with the interpretation of the nominal phrases at stake are as follows:

- (36) [_{NP} DEFINITE DETERMINER + X-TIME + RELATIVE CLAUSE] (*mt*)
 $\Rightarrow \exists mt: [\text{dur}(ev) = mt] \wedge [\text{X-TIME}(mt)] \wedge [\text{ev}: \dots [\text{GAP } mt] \dots]$

The following two examples from the corpus CETEMPúblico illustrate each of the values at stake: time intervals in (37), amounts of time in (38).

- (37) Durante [as cinco horas que demorou a viagem de regresso]_t,
 Drazen agarrou-se à imagem vista na televisão como a uma bóia.
 (ext176687-nd-91b-1)
 ‘(during) the five hours the return trip took
 (Drazen clung on to the image seen on TV as to a lifebuoy)’
- (38) Confessa-se apenas um pouco cansado, porque não tem conseguido dormir
 [as sete horas que necessita por noite]_{mt}. (ext271325-pol-95b-2)
 ‘(he confesses he is a bit tired because lately he hasn’t been able to sleep)
 the seven hours a night he needs’

As for the complex NPs with the structure in (34) – with *amount of time*, or with *time* meaning ‘amount of time’ –, they always refer to amounts of time, i.e., they always associate with the conditions in (39), as is clear in the corpora examples (40)–(41):

- (39) [DEFINITE DETERMINER + (*quantidade de tempo* ‘(amount of) time’ + RELATIVE CLAUSE] (mt)
 $\Rightarrow \exists mt: [\text{dur}(\text{ev}) = mt] \wedge [\text{X-TIME}(mt)] \wedge [\text{ev}: \dots [\text{GAP } mt] \dots]$
- (40) ... aquilo que chama a atenção... é
 [a quantidade de tempo que Nixon passou a pensar na política...]_{mt}. (ext729920-pol-96b-1)
 ‘(what draws one’s attention is) the amount of time Nixon spent thinking about politics’
- (41) Mas [o tempo que uma carraça passa no hospedeiro ...]_{mt}
 depende da família a que pertence. (ext31675-soc-97b-1)
 ‘(but) the time a tick spends on its host (depends on the family it belongs to)’

However, since the noun *tempo* ‘time’ can also be the hypernym of a time-denoting expression, meaning ‘interval’, or ‘period’, rather than ‘amount of time’, a phrase superficially identical to (34) (with *time*, though not with *amount of time*) can have a different interpretation, namely one parallel to (35). Observe, for instance, the following example from the corpus CETEMPúblico:

- (42) Durante [o tempo que passei em Díli]_t vi mais algumas patrulhas nocturnas.
 (ext20472-pol-92b-1)
 ‘(during) the time/period I spent in Dili (I saw a few more night patrols)’

When amounts of time are present, in adjuncts or as arguments of durative verbs, genuine duration (formal condition $[\text{dur}(\text{ev}) = mt]$) is conveyed – cf., e.g., *o cientista passou dois anos e meio a estudar o problema* ‘the scientist spent two and a half years studying the problem’. When time-denoting expressions containing predicates of amounts of time are present, in adjuncts or as arguments of durative verbs, formally, temporal location rather than genuine duration is conveyed – cf., e.g., *o cientista passou os dois anos e meio que viveu em Stanford a estudar o problema* ‘the scientist spent the two and a half years he lived in Stanford studying the problem’; however, in these structures, duration is inferable: the locating condition $[\text{loc}(\text{ev}) = t]$ (if exact location is expressed), or $[t \subseteq \text{ev}]$ (if inexact location is expressed, allows the inference $[\text{dur}(\text{ev}) = \text{dur}(t)]$, or $[\text{dur}(\text{ev}) \geq \text{dur}(t)]$, and *dur(t)* is known, since it coincides with the given predicate of amounts of time (i.e., two and a half years in the example above). In other words, the dividing line between the two domains – duration and durative location – is somehow blurred (and somehow conflates), when predicates of amounts of time are involved, as is the case with the structures I will be analysing in this paper.

Let us now consider – in the next three subsections – the expression of the mentioned three forms of duration, and comparable forms of temporal location, both via adjuncts and via

argument-predicate combinations, in relativized constituents in Portuguese. I will start with the most complex case – time-anchored (atelic) duration – and then analyse the other two.

3.2. Relativization of constituents expressing time-anchored atelic duration

As said before, time-anchored duration is the duration that an atelic (i.e., homogeneous) eventuality reaches at a given anchor point in time, typically coinciding with the temporal perspective point (TPpt, henceforth), *sensu* Kamp and Reyle (1993) – cf. Mória (2006, 2011a, 2015).

- (43) Os sindicatos estão em negociações **há** **mais de dois anos**.
 the unions are in negotiations HÁ ('there.is') more of two years
 'The unions have been in negotiations for more than two years (now).'
- (44) As negociações já **levam** **mais de dois anos**.
 the negotiations already take.PRES more than two years
 'The negotiations have been going on for more than two years (now).'

In (43), the measured eventuality – the unions being in negotiations up until the anchor point (which is the utterance time here, given the use of the present tense) – is not the whole atelic eventuality (the negotiations between unions), but just part of it; the eventuality (i.e., the negotiations in question) likely continues beyond the anchor point, whence some authors refer to these structures – or rather, their counterparts in English – as involving a “continuative reading”. In (43), duration is expressed via an adjunct, *há mais de dois anos*. Prototypical time-anchored duration adjuncts in Portuguese are headed by *há* (or sometimes *havia*, for past anchor points). *Há* is an intriguing connective which originates as a (present) verb form of *haver* (literally ‘have’, but equivalent to ‘there be’), and has to a large extent grammaticalized as a preposition-like connective (cf. Mória, 2011b, 2020). It is the counterpart of English *for*, in the relevant uses of this preposition in time-anchored contexts, i.e., in sentences with the so-called “continuative reading” (cf., e.g., *for X-TIME now/then, HAVE been -ing for X-TIME*).

In (44), duration is expressed via a predicate-argument combination (rather than via an adjunct). This sentence – like (32) above – uses the verb *levar* (literally ‘to take’, but closer in meaning to ‘to be going on’, as evinced in the translation). This is indeed one of the most common verbs used to express argumental time-anchored duration. *Levar* can combine with a predicate of amounts of time as its internal argument and an eventuality-denoting expression (typically an NP) as its external argument. It must be noted that, in order to have the relevant reading, this verb needs to be inflected in tenses expressing overlapping (of the described eventualities) to the TPpt of the sentence, as present – e.g., *levam* – or imperfective past (“pretérito imperfeito”), abbreviated IMPERF in the glosses – e.g., *levavam*. In sentences with the same verb, but tenses expressing anteriority, as preterite (“pretérito perfeito simples”), abbreviated PERF in the glosses

– e.g., *levaram* – or pluperfect (“pretérito mais-que-perfeito”) – e.g., *tinham levado* –, the reading is different (and involves telic duration) – cf. (30) above.

Let us now consider the use of time-anchored duration-phrases as relativized constituents, separating adjuncts, like (43), the more complex situation, from arguments, like (44) (sections 3.2.1 and 3.2.2, respectively). It is a quite striking and noteworthy fact that the expression of time-anchored duration via adjuncts in relativized constituents is extremely restricted (and often not possible) in standard Portuguese. This stands in contrast with what happens in English, where relativized time-anchored duration adjuncts are ordinary (as we will see in the excursus after 3.2.1). The English structures in question thus pose very interesting challenges for English-Portuguese translation. This situation also stands in contrast with what happens in argumental duration, in the sense that relativized predicates of amounts of time (as arguments of durative verbs) do commonly occur, both in Portuguese and in English, for that matter. Indeed, as we will see, resorting to argumental rather than to adjunct duration is one of the most explored ways to circumvent the restrictions to relativizing time-anchored duration adjuncts in Portuguese.

3.2.1. Relativization of adjuncts expressing time-anchored atelic duration

Relativization of time-anchored duration adjuncts is by far the most interesting, and complex, situation from a grammatical perspective. At least four constructions (some with subvariants), plus two very closely related structures not directly involving relative clauses (but rather adjuncts with *desde* ‘since’ or *de* ‘of’), need to be considered (identified below as A–F). All of them are found, with more or less frequency, in the corpora analysed, but – crucially – not all of them are regarded as standard. Let us go through the menu of possibilities for expressing time-anchored duration in relativized constituents, and comparable constructions.

Consider, as a starting point, the meaning conveyed by the following (non-relative) sentence with a time-anchored duration adjunct *há* X-TIME (*há dois anos e meio* ‘for two and a half years’).

- (45) A Ana e o Pedro são amigos há dois anos e meio.
 the Ana and the Pedro are friends HÁ (‘there.is’) two years and half
 ‘Ana and Pedro have been friends for two and a half years (now).’

- Relativization with *há que* (*há que_{mt}* and *há que_r*, in constructions A1 and A2, respectively)

If the predicate of amounts of time in (45) is relativized, since Portuguese, contrary to English, (i) does not have preposition-stranding (hence, the preposition-like connective *há* cannot stay in situ), and (ii) does not allow omission of the relative pronoun (*que*), one might expect that a relative clause conveying the relevant part of the meaning of (45) would be the one in the

second line of (46), with the relativized duration constituent *há que_{mt}*¹¹ (henceforth, referred to as Construction A1). (46) is, however, not standard Portuguese.

- (46) Dois anos e meio é o tempo **há** **que** a Ana e o
 two years and half is the time HÁ ('there.is') that.REL the Ana and the
 Pedro são amigos.
 Pedro are friends
 'Two and a half years is the time Ana and Pedro have been friends.'
 [CONSTRUCTION A1: with *há que_{mt}*]

In (46), the relative pronoun stands for a genuine predicate of amounts of time (*two and a half years*), whence the subscript *mt* in *há que_{mt}*. But we need to consider a variant of this construction (say Construction A2), where the relative pronoun stands for a time-denoting expression of the type described in (33) above (i.e., a definite NP like *os dois anos e meio que eles viveram juntos*, 'the two and a half years they lived together'), in a context that elicits the relevant time-denoting interpretation, as (47) below. Since this type of time-denoting phrases – in fact, any type of time-denoting phrases – cannot be the complement of *há* (a connective that only combines with genuine predicates of amounts of time), the resulting construction would be expected to be even more anomalous than the one in (46).

- (47) Nos dois anos e meio **há** **que** a Ana e o Pedro
 in.the two years and half HÁ ('there.is') that.REL the Ana and the Pedro
 são amigos, muita coisa aconteceu.
 are friends many thing happened
 'In the two and a half years Ana and Pedro have been friends, a lot has happened.'
 [CONSTRUCTION A2: with *há que_t*]

As said, the constructions in (46) and (47) are felt as odd by Portuguese speakers. However, they seem to be emerging (at least in Portugal) as a novelty. In the 190 million-word Portuguese corpus CETEMPúblico, relative clauses with *há que* only occur twice: example (48), which illustrates construction A1, and example (49), which illustrates construction A2. These are the only two examples found in that big corpus, and – very curiously – these are the only two examples found in all corpora of the Linguatca website, that totals more than 1.3 billion words (and includes, besides CETEMPúblico, very large corpora of Brazilian Portuguese, one with nearly 1 billion words). Its rarity is likely correlated with the sense of anomaly it brings about, but I believe that this construction (at least the variant A1) may become more widespread in the future. Indeed, it

¹¹ In principle, a relativized constituent with the variable pronoun *o qual* ('which') – i.e., with the form *há o qual* – would also be possible, but this construction was not observed in any corpora, and I will ignore it henceforth, for simplicity.

is very useful in face of the restrictions affecting the other relativization strategies (that we will discuss below – cf. also **Table 2** at the end of section 3). Furthermore, this construction seems to represent a step forward in the grammaticalization process affecting *há*, which – as said before – is turning it into a preposition-like connective (and as a preposition is expected to regularly move together with relative pronouns).

- (48) 31 – são os anos **há** **que** o FC Porto não ganha um
 31 – are the years HÁ ('there.is') that.REL the FC Porto NEG wins a
 campeonato nacional [de andebol]... (ext124680-des-98b-1)
 championship national of handball
 'FC Porto hasn't won a handball national championship for 31 years now' /
 31 years have passed since FC Porto last won a handball national championship'
- (49) Nos seis anos **há** **que** estamos na Comunidade
 in.the six years HÁ ('there.is') that.REL are.1PL in.the Community
 nunca ... vi [a Alemanha] de costas para Bruxelas (...). (ext442328-pol-92a-2)
 'in the six years we have been a member of the European Community
 (I never saw Germany turn its back on Europe)'

The only standard alternative to construction A1 using a relative clause seems to be the one where a predicate of amounts of time selected by a durative verb, like *ter* or *levar*, is relativized, i.e., structures with argumental – rather than adjunct – duration (cf. 3.2.2 below) – cf. *dois anos e meio é o tempo que a Ana e o Pedro têm de amizade, dois anos e meio é o tempo que a Ana e o Pedro já levam como amigos*. A similar alternative to construction A2 is also possible – cf. {*nos dois anos e meio que a Ana e o Pedro têm de amizade/nos dois anos e meio que a Ana e o Pedro já levam como amigos*}, *muita coisa aconteceu*. However, with respect to construction A2, no less than three other alternatives involving relativization (constructions B, C and D below) can be considered.

Furthermore, two constructions without relativization, using adjuncts with the connectives *desde* ('since') or *de* ('of'), which can convey similar information via different syntactic means, need also be taken into account (constructions E and F below).

- **Relativization with *que* and *em que* (constructions B and C, respectively) + tenses expressing overlapping to TPpt**

Let us now consider two variants of the construction in (47), which are also non-standard. In one, say Construction B, illustrated in (50), only a relative pronoun representing the time-denoting expression surfaces at the head of the sentence. In another one, say Construction C, illustrated in (51), the locating preposition *em* ('in') is used before the relative pronoun. It must be emphasized that these two constructions (just like construction A2, for that matter) include a tense that

expresses overlapping of the described eventualities to the temporal perspective point of the sentence (i.e., typically, present or imperfective past). In all three constructions, time-anchoring (to the perspective point) is guaranteed via the interpretation of that verb tense (bolded in the examples below).

- (50) nos dois anos e meio **que** a Ana e o Pedro **são** amigos
 in.the two years and half that.REL the Ana and the Pedro are friends
 [CONSTRUCTION B: *que*_t + tenses expressing overlapping to TPpt]
- (51) nos dois anos e meio **em que** a Ana e o Pedro **são** amigos
 in.the two years and half in that.REL the Ana and the Pedro are friends
 [CONSTRUCTION C: *em que*_t + tenses expressing overlapping to TPpt]
 ‘in the two and a half years Ana and Pedro have been friends’

The construction with the simple relativized constituent *que* and tenses expressing overlapping (B) is probably the one most likely found in informal oral speech (to convey the relevant meaning), and is perhaps the one with better acceptance among speakers. Curiously, this construction is often used in automatic translation platforms – like Google Translate, Systran Translate, or DeepL Translator – to translate the equivalent (standard) English constructions. Indeed, though simple predicates of amounts of time are never used in non-relative clauses of the type of (45) (cf. **a Ana e o Pedro são amigos dois anos e meio*), using a relativized simple predicate of amounts of time is a (non-standard) strategy often used to sidestep the limitations we have been discussing. In written formal Portuguese, it’s a rarity though, and in my opinion the structure is highly anomalous. I came across only 1 example in the corpus CETEMPúblico (in a newspaper, but reproducing oral speech) – given in (52) –, and found another example in a translated text (a published Portuguese translation of a Norwegian thriller, *Sorgenfri*; it is not stated in the publication if the original version was the source of the Portuguese translation) – given in (53).

- (52) [As estradas portuguesas] têm melhorado bastante
 durante os 37 anos **que** eu **conheço** o país.
 during the 37 years that.REL I know the country
 (ext289625-opi-98b-1)
 ‘(Portuguese roads have improved a lot) in the 37 years I’ve known the country’
- (53) – De vez em quando, pergunto-me como passaste
 os trinta e cinco anos **que** dizes **que** **estás** vivo,
 the thirty and five years that.REL say.PRES.2SG that.CONJ are.PRES.2SG alive
 Harry.” (Jo Nesbø, *Vingança a Sangue Frio*, translated text, Leya, 2020, p. 76)
 ‘(sometimes, I wonder how you lived through) the thirty-five years you say you have
 been alive’.

The construction with the relativized constituent *em que* and tenses expressing overlapping (C) is particularly odd, in my opinion. I found no examples in the corpus CETEMPúblico, but I heard one use in Portuguese National TV (*Telejornal*), from a Brazilian ambassador:

- (54) Eu nunca vi,
 nos anos **em que** moro na Grécia, um calor igual.
 in.the years IN that.REL live.PRES.1SG in.the Greece
 ‘(I never experienced such an intense heat wave) in all the years I’ve lived in Greece’

Furthermore, I came across one comparable example in the translation of the same book referred to above in (53), indicating that the Portuguese translator hesitates between strategies:

- (55) A televisão portátil encontrava-se na prateleira ... –
 há tanto tempo quanto aquele
 Há (‘there.is’) so much time as that.DEM = that amount of time
em que ele ali vivia.
 in that.REL he there lived.IMPERF
 (Jo Nesbø, *Vingança a Sangue Frio*, translated text, Leya, 2020, p. 76)
 ‘(the portable TV had been on the shelf) for as long as he had been living there’

This example differs, however, in that strict duration, rather than temporal location, seems to be at stake (i.e., this is apparently a construction akin to type A1, with *em que*_{mt} rather than to type A2). Since *em* is never used instead of *há* in atelic duration adjuncts, the use of *em que* with an imperfective past form *vivia*, is highly anomalous, and sounds truly ungrammatical.

- **Relativization with (*em*) *que* + tenses expressing anteriority to TPpt + overlapping to TPpt deduced from pragmatic information (construction D)**

In contrast with the previous two non-standard possibilities, a strategy needs to be considered, which is fully standard, and I believe is sometimes used by speakers as an alternative to all the three above (A, B, C): it is similar to constructions B and C, but it uses in the relative clause tenses that express anteriority to TPpt, rather than overlapping (i.e., preterite¹² or pluperfect, rather than present or imperfective past, respectively). In this case, the preposition *em* is optional,

¹² A (putative) variant of this construction involves the use the “pretérito perfeito composto” (PPC): *nos dois anos e meio (em) que a Ana e o Pedro têm sido_{PPC} amigos*. This verb form is morphologically parallel to English present perfect (since it uses an auxiliary verb in the present, plus a past participle), but it is semantically very different from it. When combined with stative descriptions, Portuguese PPC allows overlapping of the described situation to the TPpt (cf., e.g., Peres, 1995). So, one would expect that the use of this verb form, rather than preterite, might tone down the suggestion that the situation is no longer in place (i.e., that Ana and Pedro are no longer friends) possibly emerging in (56) because of the use of the preterite (a tense that expresses simple anteriority to TPpt). However, the construction with PPC appears to be very rare (or unused); I found no examples of it in the corpus CETEMPúblico, and I will ignore it henceforth.

though I'd say it frequently occurs (so, for the sake of simplicity, I will conflate these two possibilities – relativized constituent *que*, or *em que* – under the single designation Construction D). It is crucial to note that, in this construction D, the fact that the relevant situation still holds at the perspective point, and has not ended before it (i.e., for the examples under scrutiny, that Ana and Pedro *are still* friends), is *not asserted*, but is rather deduced from pragmatic or world knowledge information; therefore, there is room for ambiguity (or vagueness) in the sentences illustrating this construction: between the situation holding at the perspective point (time-anchored duration), or not (simple duration). This ambiguity is, for that matter, parallel to the one that exists in English when the present perfect or the past perfect occur without linguistic cues that coerce a time-anchored interpretation (cf. the classic ambiguous examples *Sam has been in Boston for 20 minutes*, or *Mary had lived in Amsterdam for four years*). Formally, this construction is identical to those that will be explored in section 3.3 involving relativized non-anchored duration adjuncts. Not all verbs seem to work well in this construction, though (e.g., *conhecer* ‘to know’ doesn’t¹³), albeit most do.

- (56) nos dois anos e meio **(em) que** a Ana e o Pedro **foram** amigos
 in.the two years and half in that.REL the Ana and the Pedro were.PERF friends
 ‘in the two and a half years Ana and Pedro were friends’
 [CONSTRUCTION 4: (*em*) *que*_t + tenses expressing anteriority to TPpt]

Sentence (56) can be uttered either in a situation where Ana and Pedro are no longer friends – expressing simple duration – or, despite the preterite *foram* ‘were’, in a situation where they are still friends, but somehow only the past stretch of their friendship is relevant¹⁴ – formally, simple duration, but corresponding to a time-anchored duration interpretation, like in constructions A2, B and C. The latter interpretation is the one relevant here. The fact that this construction D is a possibility can be easily seen with the following example, that sounds perfectly natural, even though speakers know that Marcelo Rebelo de Sousa is the current President of Portugal:

- (57) Nos seis anos **(em) que** o Marcelo **foi** Presidente,
 in.the six years in that.REL the Marcelo was.PERF President
 muita coisa mudou em Portugal.
 ‘In the six years Marcelo has been President, a lot has changed in Portugal.’

As for the use of this construction in the corpus CETEMPúblico: in many examples with the relevant tenses, contextual information clearly indicates that the described situation no longer

¹³ Cf. the oddity of *nos dois anos e meio (em) que te conheci* as a translation for *in the two and a half years I've known you*.

¹⁴ The use of a demonstrative (*estes [dois anos e meio]* ‘these’) rather than a definite article (*os [dois anos e meio]* ‘the’) is one way of suggesting that the situation is still in place, i.e., that the equivalent to time-anchored duration is meant. I will not explore this fact (or ‘linguistic cue’) here.

holds at the TPpt, i.e., that duration is not time-anchored (and therefore not an example of construction D) – cf. the use of *ex* (*ex-refém* ‘ex-hostage’) in the following excerpt:

- (58) O ex-refém norte-americano Terry Anderson... pode dar hoje por bem empregues os 2.422 dias **que permaneceu** prisioneiro no Líbano.
 the 2,422 days that.REL remained.PERF.3SG prisoner in.the Lebanon
 (ext106792-soc-92a-1)
 ‘(Today, the North American ex-hostage Terry Anderson may consider well-spent) the 2,422 days he was held captive in a prison in Lebanon.’

In many other examples, there is ambiguity, in the sense that they are compatible with anchored and non-anchored duration. The example below, for instance, might be used to refer to a situation where the mentioned former mayor of Lisbon (Abecassis) is still the mayor (i.e., anchored duration). Only a wider analysis of the context of the news would offer clarification:

- (59) Se Abecassis “não construiu um lugar de estacionamento” em Lisboa durante os dez anos **que dirigiu** a autarquia, ...
 the ten years that.REL lead.PERF.3SG the municipality
 (ext107113-pol-97b-2)
 ‘(If Abecassis did not create a single parking slot in Lisbon during) the ten years he {was / has been} the mayor’

My suspicion is that in most of these contexts the intended meaning is non-anchored duration, i.e., that the construction D is seldom used to refer to a situation that still holds at the TPpt, though this possibility exists. The following example seems to be one where the intended meaning involves time-anchoring (i.e., where the referred famous broker – Caldeira – is still in prison, though only the stretch preceding the TPpt is highlighted, a fact reinforced by the use of *já* ‘already’) – cf. the equivalent construction using argumental duration, *os meses que já leva de prisão preventiva*:

- (60) Caso Pedro Caldeira seja considerado culpado de todos ou de parte dos crimes que lhe são atribuídos, poderá beneficiar dos meses **que já esteve** em prisão preventiva...
 of.the months that.REL already was.PERF.3SG in prison preventive
 (ext838127-eco-96b-2)
 ‘the months he has remained in preventive detention’

- Use of an adjunct with *desde* (‘since’) + subordinate clause, describing (respectively in constructions E1 and F1) a telic situation marking the beginning of the location time, and an atelic situation overlapping the end of the location time (i.e., overlapping TPpt)

Other structures deserve consideration here. The use of counterparts of *since*-adverbials applied within definite NPs containing predicates of amounts of time is particularly interesting, since the resulting NPs can convey the same information as those containing the four constructions analysed before, despite *not containing* a relative clause. See:

(61) nos dois anos e meio **desde que** a Ana e o Pedro
 in.the two years and half since that.CONJ the Ana and the Pedro
ficaram amigos
 became.PERF friends
 ‘in the two and a half years since Ana and Pedro became friends’
 [CONSTRUCTION E1: (DEFINITE DETERMINER + X-TIME +) *desde* + telic clause]

(62) nos dois anos e meio **desde que** a Ana e o Pedro **são** amigos
 in.the two years and half since that.CONJ the Ana and the Pedro are friends
 ‘in the two and a half years (*since) Ana and Pedro have been friends’¹⁶
 [CONSTRUCTION F1: (DEFINITE DETERMINER + X-TIME +) *desde* + atelic clause]

In my opinion none of these two structures is ungrammatical (the value of *desde* being typical and ordinary here), though the second one is hardly ever used (and therefore may sound slightly unnatural), and the first one is infrequent. These assertions are substantiated by searches in the corpus CETEMPúblico, where only 3 instances of construction E1 were found (cf. (63) below), and no example of construction F1 seems to occur.

(63) A verdade, porém, é que em Portugal [o livro] passou completamente despercebido ...
 e bastam os dedos da mão para contar os exemplares vendidos
 nos dois anos **desde que** o livro foi editado.
 in.the two years since that.CONJ the book was.PERF published
 (ext187430-clt-92a-1)
 ‘in the two years since the book was published’

Therefore, though construction E1 is grammatical in Portuguese, it may be the case that it does not sound as natural as its English counterpart (the morphosyntactically parallel construction with *since* being extremely common – cf. excursus below). A closely-related but arguably more natural-sounding construction involves using the *desde*-sentence as the complement of the verb *passar* or *decorrer* ‘elapse’ inside a relative clause, with *que* representing an argumental predicate

¹⁵ As we will see in the excursus at the end of this section (but can already be observed in the translations provided), constructions parallel to (61) with English *since* exist, and are in fact very common. Contrarily, (62) apparently does not have a grammatical English counterpart with *since*. In other words, when atelic descriptions are involved, English resorts to structures with relative clauses (and often implicit relative pronouns) like the one in the translation of (62), but not to sentences with *since*.

of amounts of time (i.e., formally associated with relativization in the context of argumental duration): *nos dois anos que passaram desde que o livro foi editado* ('in the two years that have elapsed since the book was published'). English also accepts this combination with a relative clause, instead of a direct application of the *since*-phrases. The corpus CETEMPúblico contains at least 7 examples of these structures. Here is one:

- (64) Nos 20 anos **que** **decorreram** **desde** que o Dalkon Shield
 in.the 20 years that.REL elapsed.PERF since that.CONJ the Dalkon Shield
 foi retirado do mercado
 was.PERF withdrawn from.the market
 ... muita coisa aconteceu. (ext501252-clt-soc-93b-1)
 'in the twenty years that have elapsed since Dalkon Shield was taken off the market'

- Use of an adjunct with *desde* ('since') + telic NP marking the beginning of the location time (construction E2), or of an adjunct with *de* ('of') + atelic NP covering the entire location time (construction F2)

For the sake of completeness, two constructions need to be added to the previous two constructions with *desde*. One (that I will refer to as E2) is very similar to E1, except that it does not involve a clausal complement, but rather a nominal eventuality-denoting one, with telic (or telic-like) properties (e.g., an NP with the nucleus *início* 'beginning', or *encontro* 'meeting' – cf. *nos dois anos e meio desde o seu primeiro encontro* 'in the two and a half years since their first meeting').

- (65) nos dois anos e meio **desde** o **início** da sua amizade
 in.the two years and half since the beginning of.the their friendship
 'in the two and a half years since the beginning of their friendship'
 [CONSTRUCTION E2: (DEFINITE DETERMINER + X-TIME +) *desde* + telic
 (or telic-like) NP]

A second one (that I will refer to as F2) is similar to F1, but also with a nominal eventuality-denoting complement, rather than a clausal one. However, when the whole relevant atelic situation is described by nominal means (e.g., *a amizade entre a Ana e o Pedro* 'Ana and Pedro's friendship'), the preposition *desde* is not used. Rather, the preposition *de* ('of') precedes the relevant NP – cf. (66).

- (66) nos seus dois anos e meio **de** **amizade**
 in.the their two years and half of friendship
 'in their two and a half years of friendship'
 [CONSTRUCTION F2: (DEFINITE DETERMINER + X-TIME +) *de* + atelic NP]

Constructions E2 and F2 are perfectly grammatical, and can be used as alternatives to the problematic constructions explored up to now (whenever an adequate equivalent nominal

expression is available). CETEMPúblico contains at least 5 examples of construction E2 (i.e., this construction does not seem to be very frequent either) – cf. example in (67); its counterpart with a relative clause with *passar* or *decorrer* ('elapse'), instead of with direct application of the *desde*-phrase (comparable to (64) above) is more common (20+ examples in the corpus CETEMPúblico), and therefore may potentially sound more natural – cf. example in (68). As for construction 6B, it is extremely frequent; I provide just one example, in (69):

- (67) Mas durante
os dois anos **desde** o colapso do comunismo
the two years since the collapse of the communism
as organizações deram passos importantes para se tornarem organismos independentes e
representativos. (ext711127-pol-92a-1)
'(during) the two years since the collapse of communism'
- (68) Nos dois anos **que passaram desde** os acontecimentos da
in the two years that.REL elapsed.PERF since the events of the
Praça Tiananmen,
Square Tiananmen
os chineses contiveram a inflação,... (ext1478152-pol-91b-2)
'in the two years that have elapsed since the Tiananmen Square incident'
- (69) Esta força especial é acusada ... de ser responsável pelas piores atrocidades ocorridas
durante
os vinte anos **de** ocupação indonésia ...
the twenty years of occupation Indonesian
(ext228125-pol-95a-1)
'(during) the twenty years of Indonesian occupation'

- *Excursus. The expression of time-anchored atelic duration in relative clauses and comparable since-adjuncts in English (vs. Portuguese)*

For the sake of comparison – and with the subsidiary aim of contributing to English-Portuguese translation studies –, let us now briefly consider constructions similar to all those observed so far (in 3.2.1) in English, using the British National Corpus for illustration.

When subordinate clauses within the relevant NPs are involved, English constructions come in essentially two forms, both very common. The choice between them seems to be dictated by the telicity of the described eventualities. When an atelic eventuality (still holding at the TPpt) is represented, a situation comparable to Portuguese constructions A-D above, English resorts to relative clauses, with perfect verb forms (e.g., present perfect, as in (70), or past perfect, as in (71)). Observe the following illustrative examples:

- (70) (a) I have heard of three deaths during rugby matches in [the seven years *I have been secretary*], but nothing like this.
 (b) ...[that] must be one of the few roads that has not been metalled in [the five years **that** *Mr Rajiv Gandhi has been cosseting his home constituency of Amethi*].
 (c) In [the three years **that** *the revised scheme has now operated*] the Council has noted that...
 (d) ... David... has had to guard Whitney from hordes of obsessed fans in [the four years *he has been working for her*].
- (71) (a) In [the four years *they had been separated*], she had seen her husband only twice...
 (b) Abie... had long grown used to the taunt – it was Aronson’s stock joke for all of [the ten years *they had been lodging with Mrs Neumann*], and he no longer minded it.

As for these constructions, a few notes are in order: (i) the relative pronoun (*that*) is often omitted in English, but is sometimes explicit – cf. the bolded pronouns in (70); (ii) present perfect and past perfect are used in sequences with present and past perspective points, respectively – cf. (70) vs. (71); (iii) it is possible to use continuous verb forms, or deictic or anaphoric cues (*now*, *then*), which coerce a time-anchored duration reading (i.e., preclude ambiguity by excluding a simple duration reading involving a past, bounded, atelic eventuality) – cf. the bolded suffixes and adverbs in (70) and (71).

When a telic eventuality is represented, a situation comparable to Portuguese construction E1 above, English regularly resorts to subordinate *since*-clauses (with preterite or pluperfect forms), often directly applied to the predicate of amounts of time – as in (72a–b) –, though it is possible (just like in the Portuguese construction (64)) to use the *since*-clause inside a relative clause involving a relativized argumental predicate of amounts of time, as in (72c).

- (72) (a) During [the six years *since he joined the company*], he has been involved in many of the major changes...
 (b) However, many things had happened during [the two years *since she had been told that her mother had died of the fever*]...
 (c) In [the four months **that have elapsed** *since we asked for your help...*], we have been overwhelmed by the show of goodwill... from friends ... around the world.

The similarity between these two groups of constructions – (i) with relative clauses, and atelic descriptions, as in (70)–(71), and (ii) with *since*-clauses, and telic descriptions, as in (72) – can be evinced by means of paraphrases: for instance, *the seven years I have been a secretary*, in (70a), is equivalent to *the seven years since I became a secretary*, and *the six years since he joined the company*, in (72a), is equivalent to *the six years he has been in the company*.

Still with respect to English, constructions similar to (70)–(71), on the one hand, and (72), on the other hand, but using nominal complements, rather than clausal ones, are possible, and also

common – cf. (73) and (74) below, respectively. They are very similar – in form and meaning – to the constructions E2 and F2 above, respectively, and can easily be translated using parallel strategies.

(73) There were over a hundred letters covering [the two years *since our meeting in Brown's*].

(74) During [the 400 years *of occupation*] many of the Roman soldiers married British women...

As said, the translation from English to Portuguese is particularly challenging for the clausal structures involving atelic descriptions, of the type exemplified in (70)–(71). In fact, their more or less (morphosyntactically) parallel counterparts are either anomalous or non-standard (constructions A-C), or do require – unlike in English – extralinguistic information to secure the relevant (time-anchored) interpretation, with the possibility that an undesired (non-time-anchored) interpretation is made (construction D). More unproblematic translations could involve various other strategies: (i) exploring the possibility of expressing the relevant eventuality with a telic description rather than with an atelic one, thus being able to use construction E1 (cf., e.g., translating *in the two and a half years Ana and Pedro have been friends* by the Portuguese parallel of *in the two and a half years since Ana and Pedro became friends*, i.e., *nos dois anos e meio desde que a Ana e o Pedro se tornaram amigos*); (ii) exploring the possibility of expressing the relevant eventuality via nominal phrases rather than clauses, thus being able to use constructions E2 and F2 (*nos dois anos e meio desde o início da sua amizade*, *nos seus dois anos e meio de amizade* – cf. (65)–(66) above); (iii) exploring the possibility of expressing the relevant eventuality as an argument, rather than as an adjunct, thus being able to explore the much less restricted relativization or arguments in combination with durative verbs (a possibility mentioned in (44) above, and to be better explored in 3.2.2 below – cf. *nos dois anos e meio que já têm/levam de amizade*); (iv) interestingly still, despite involving more significant changes, simply avoiding subordination, and resorting to juxtaposition instead – cf., e.g., translating (70a), *I have heard of three deaths during rugby matches in the seven years I have been secretary, but nothing like this*, by the Portuguese parallel of *I have been a secretary for seven years (now); in these seven years, I have heard of three deaths during rugby matches, but nothing like this*, i.e., *sou secretário há sete anos; nestes sete anos, ouvi falar de três mortes em jogos de rãguebi, mas nunca nada assim*.

3.2.2. Relativization of arguments expressing time-anchored atelic duration

Let us now turn to constructions similar to those observed in 3.2.1, but resorting to relativized arguments, rather than to relativized adjuncts (or to comparable strategies with *desde* and *de*). These constructions are quite frequent in the corpus CETEMPúblico, and appear to be the most common way of circumventing the grammatical restrictions described above. In these structures, an argument – typically corresponding to a simple predicate of amounts of time (or a time-denoting phrase

containing predicates of amounts of time) – is relativized, and occurs with a durative predicate, like (mainly) *levar* ('to take'), or *ter* ('to have'), inflected in a tense that expresses overlapping of the described eventuality to the relevant TPpt (typically, present or imperfective past).

The counterpart of construction A1 above involving argumental duration is illustrated in the following CETEMPúblico example, containing a perfectly natural – and common – construction. I add for comparison (preceded by the symbol #) the equivalent sequence using the novel construction with adjunct *há que*, similar to that in (48).

- (75) E é assim que enfrenta uma conjuntura de dificuldades... com um Governo cansado e velho de sete anos – tal é
o tempo **que** alguns ministros já **levam** em funções.
the time that.REL some ministers already take.PRES in functions
(ext1294212-nd-93a-2)
cf. #o tempo **há que** alguns ministros já estão em funções
'(... seven years – that is) how long some ministers have been in office'

The counterpart of the (somewhat anomalous) constructions A2, B and C, involving relativized arguments is particularly interesting, since it offers a simple standard alternative to those constructions. Its use is widespread. Here are three examples from CETEMPúblico with the present form of *levar*, which illustrate various categorial possibilities in the complements of the verb (clausal, and nominal). I add the corresponding equivalent form of the verb *ter* ('to have') in brackets, when it is possible to use it (last example). I also add, for comparison, the equivalent sequence using the novel construction with the adjunct *há que*, similar to that in (49) (preceded also by the symbol #):

- (76) Nos quase quatro anos **que** já **leva** a treinar equipas
in.the almost four years that.REL already takes.PRES.3SG to train teams
da I Divisão,
of.the first division
nunca ninguém o viu ... reagir de forma imprópria. (ext558692-des-95a-2)
cf. #nos quase quatro anos **há que** treina equipas da I Divisão
'in the nearly four years he has been training First Division teams'
- (77) Mas se a marca de Vitor Baía constitui, a nível nacional, um feito invejável,
os 989 minutos **que** o portista já **leva** sem
the 989 minutes that.REL the FCPorto.player already takes.PRES without
sofrer golos
suffer.INF goals
... estão longe de alguns recordes internacionais conhecidos. (ext1358916-des-91b-1)
cf. #os 989 minutos **há que** o portista não sofre golos
'the 989 minutes the Porto goalkeeper has not conceded a goal'

- (78) ... comenta, lembrando-se
 das dezenas de anos **que** a zona já **leva** [= **tem**] de
 of.the dozens of years that.REL the zone already takes.PRES [= has] of
 abandono ... (ext1249115-soc-98b-2)
 abandonment
 cf. #das dezenas de anos **há que** a zona está abandonada
 ‘the dozens of years the zone has remained abandoned’

Now, it is important to note that, with respect to time-anchored argument duration, two subsets of verbs need to be distinguished (as shown in Mória, 2015). The first subset includes verbs like *levar* and *ter*, exemplified above: they select simple predicates of amounts of time as complements, and the relativization of these complements poses no issues whatsoever. A second subset includes verbs like *durar* (‘last’), *prolongar-se* (literally ‘prolong’ + an intrinsic unanalysable clitic *se*), and *arrastar-se* (literally ‘drag’ + an intrinsic unanalysable clitic *se*), the latter two roughly equivalent to English *go on for*. This second subset behaves differently, in that it selects predicates of amounts of times preceded by a connective (namely *há*, or *havia*), i.e., it selects as complements homonyms of time-anchored duration adjuncts.

- (79) A guerra já **dura** / **se arrasta** / **se prolonga há** twenty years
 the war already lasts / SE drags / SE prolongs HÁ (‘there.is’) vinte anos
 ‘The war has been going on for twenty years (now).’

The very common verb *durar* (‘last’) is interesting, inasmuch as it belongs only in the second group in European Portuguese, but it is more flexible in Brazilian Portuguese: it can either be used like in European Portuguese, with the connective *há* (as in (79)), or it can take simple predicates of amounts of time (without any connective) as complements – (79) being equivalent (only in BP) to *a guerra já dura vinte anos* (cf. Mória, 2020, pp. 69–71). As a matter of fact, this latter use – without *há* – is much more common in Brazilian newspaper registers (the sequence *durar há* only occurring twice in the Brazilian corpus NILC/São Carlos).

I did not find any corpora examples of relativization of arguments with *há que* (in combination with these durative verbs), though this construction – illustrated in (80), for the relativization of a genuine predicate of amounts of time, and in (81), for the relativization of a comparable time-denoting expression – seems as much acceptable as their counterparts with adjunct *há que* ((48) and (49) above, respectively).

- (80) 30: são os anos **há que** a guerra já **dura/se arrasta**
 30 are the years HÁ (‘there.is’) that.REL the war already lasts/SE drags
 ‘30: this is the number of years the war has been going on. /
 30 years: that is how long the war has been going on.’

- (81) Os trinta anos **há** **que** a guerra já **dura/se arrasta**
 the thirty years HÁ ('there.is') that.REL the war already last/SE drags
têm sido muito difíceis
 have been very difficult
 'The thirty years the war has been going on have been very tough.'

I believe the absence of examples like (80) and (81) is more related with the connective *há*'s general reluctance to occur before relative pronouns (as a full-fledged preposition would) than with the argument (vs. adjunct) character of the relativized constituent. In other words, I believe the restrictions are more of morphosyntactic nature, having to do with the unfinished grammaticalization process of *há*, than of semantic nature. The fact that *durar* ('last') is apparently compatible with relativized constituents (of the form *que*) in Brazilian Portuguese aligns with this conjecture.¹⁶ Though I could only find 3 examples of this structure in the 1+ billion-word Corpus Brasileiro – cf. examples (82) (comparable to (80)), and (83) (comparable to (81)) –, which shows that the structure is not frequently used, various Brazilian speakers consulted said they accept them without problems. Recall that, in BP, *durar* can belong in the same group of *levar* and *ter*, taking simple predicates of amounts of time (which unrestrictedly accept relativization – cf. (75)–(78)) as complements when expressing time-anchored duration.

- (82) A auditoria do BC examinou operações do Banespa durante os últimos oito meses,
 o tempo **que** já **dura** a intervenção do BC no Banespa.
 the time that.REL already lasts the intervention of.the BC in.the Banespa
 "(... eight months:) that's how long the intervention of BC in Banespa has been going on"
- (83) Nos mais de três meses **que** já **dura** o campeonato,
 in.the more than three months that.REL already lasts the championship
 cada equipe jogou, no máximo, 13 vezes...
 "in the more than three months the championship has been going on"

¹⁶ Another indication that this is so comes from the fact that (homonymous) temporal location *há*-phrases (the Portuguese counterparts of XTIME *ago/before*-phrases) also resist relativization – cf., e.g., *o Paulo casou há dois anos (atrás)* (the Paulo married.PERF HÁ ('there.is') two years behind), 'Paulo got married two years ago'. No examples of structures like (i) below – parallel to those in (48) and (49), but involving simple temporal location rather than duration – were found in any Linguatca corpus:

- (i) Dois anos é o tempo **há** **que** o Paulo casou.
 two years is the time HÁ ('there.is') that.REL the Paulo married.PERF
 'Two years. {That's how long ago Paulo got married. / That is the time that has elapsed since Paulo got married.}'

I found a construction of the subtype in (82) in a translated text published in Portugal (which is anomalous in my grammatical judgement as a native speaker of EP), indicating that this is clearly an area of intense language variation (and hesitation) in contemporary Portuguese:

- (84) Vinte anos, pensou. Era o tempo **que** aquilo já **durava**.
 twenty years thought.3PL was the time that.REL that.DEM already lasted.IMPERF
 (Stieg Larsson, *Os Homens que Odeiam as Mulheres*, translated text, Leya, 2011, p. 61)
 “Twenty years, he thought. That’s how long that had been going on.”

3.3. Relativization of constituents expressing non-anchored atelic duration and comparable forms of temporal location

Let us now consider non-anchored (or simple) duration of atelic eventualities, and comparable forms of temporal location involving predicates of amounts of time. As in the previous section, I will start with the structures involving adjuncts, and consider afterwards the structures involving arguments, but, since the data is relatively simpler, I will not separate their analysis in different subsections.

The possibilities of relativization of adjuncts of the type under analysis are particularly varied. Let us first consider strict duration, and then comparable temporal location.

As said, adjunct atelic duration is prototypically expressed in Portuguese by phrases headed by *durante*_{DUR} (‘for’). Very often – and quite importantly for the issues of relativization at stake – this preposition is dropped and atelic duration adjuncts surface as simple predicates of amounts of time – cf. (85).

- (85) As tropas combateram (**durante**_{DUR}) **dois anos e meio**.
 the troops fought.PERF for two years and half
 ‘The troops fought **for two and a half years**.’

Relativized atelic duration adjuncts are quite common in Portuguese. This is in stark contrast to what happens with the subtype of adjuncts discussed in the previous section. Consider the following structures with *tempo* being interpreted as *quantidade de tempo* (‘amount of time’), marked as *tempo*_{mt}. Two relativization possibilities are in principle available, parallel to those in (85): using an unprepositioned predicate of amounts of time (relativized by *que*), as in (86), or a predicate of amounts of time preceded by *durante* (relativized by *o qual*), as in (87). Note that the preposition *em* cannot occur in this context (cf. however the anomalous corpora examples in (98)–(101) below), since *em* does not head atelic duration adjuncts in Portuguese.

- (86) o tempo_{mt} **que** as tropas combateram
 the time that.REL the troops fought.PERF

(87) o tempo_{mt} **durante**_{DUR} **o qual** as tropas combateram¹⁸
 the time for which the troops fought.PERF

(88) *o tempo_{mt} **em que** as tropas combateram
 the time in that.REL the troops fought.PERF

The structure with simple *que*, as (86), is by far the most common and the one that sounds more natural – cf. (89). The structure with *durante*_{DUR} *o qual* is relatively rare, but it does occur in corpora of newspaper texts – cf. (90).

(89) Os três copos de chá têm sabores diferentes consoante [o tempo **que** a infusão permanece dentro da água a ferver]_{mt}. (CETEMPúblico, ext1474342-soc-98b-1)
 ‘(depending on) how long the infusion is kept in the boiling water’

(90) O tabique é depois retirado e um elemento da equipa mede [o tempo **durante o qual** o bebé observa o boneco ou os bonecos]_{mt}. (CETEMPúblico, ext210425-clt-soc-92b-2)
 ‘(measures) the time the baby observes the dummy, or dummies’

As said, temporal location (allowing systematic duration inferences) can be expressed by adjuncts containing time-denoting NPs with predicates of amounts of time (cf. section 3.1.2, particularly structure (35)). These adjuncts can be headed by locative homonyms of *durante* and *em* (not to be confused with their duration counterparts). Furthermore, with this specific type of time-denoting expressions, the locative prepositions are sometimes dropped (in standard Portuguese), and the locating adjuncts surface as NPs rather than PPs.

(91) As tropas combateram (**{durante**_{LOC} / **em**_{LOC}) **os dois anos e meio**
 the troops fought.PERF for / in the two years and half
que durou a invasão.
 that.REL lasted.PERF the invasion
 ‘The troops fought **for the two and a half years the invasion lasted.**’

These locating adjuncts often occur as relativized constituents, which explore the three possibilities just mentioned (note in particular the contrast with respect to the use of *em* between (88) and (94)):

(92) os dois anos e meio **que** as tropas combateram
 the two years and half that.REL the troops fought.PERF

¹⁷ Since in contemporary EP (contrary to contemporary BP), atelic duration adjuncts seldom use the preposition *por* (cf. Mória, 2001), the sequence *por que/pelo qual* in relativized adjuncts is rare in Portuguese corpora – cf. however the following exceptional case: «São arquivos pessoais, se não quero mostrar o meu namorado ou namorada, ponto final parágrafo. Mas tenho de definir [o tempo **pelo qual** não mostro]_{mt}.» (CETEMPúblico, ext489128-clt-97a-2).

- (93) os dois anos e meio **durante**_{LOC} **os quais** as tropas combateram
 the two years and half for which the troops fought.PERF
- (94) os dois anos e meio **em**_{LOC} **que** as tropas combateram
 the two years and half in that.REL the troops fought.PERF
 ‘the two and a half years the troops were fighting’

The first possibility, illustrated in the corpus example (95), is common and widespread.¹⁸ The second possibility, illustrated in the corpus example (96), is more formal, and occurs in much lower numbers, though it is by no means rare in newspaper writing. The third possibility (which would be unexpected if strict duration, rather than locating, adjuncts were being relativized, since the preposition *em* does not occur in atelic duration adjuncts) is also widespread, in competition with the first possibility; it is illustrated in the corpus example (97).

- (95) Durante [as cinco horas **que** estiveram no exterior do vaivém], os astronautas testaram um guindaste que será usado na construção da estação espacial (...). (ext1443515-clt-97b-1)
 ‘(during) the five hours they were outside the space shuttle’
- (96) Um dia depois de ele morrer, a viúva divulgou um manuscrito em que se referia a[os seis anos **durante os quais** Brad Davis mantivera segredo, com medo de não arranjar trabalho se revelasse a doença]. (ext28338-clt-93a-1)
 ‘(mentioned) the six years Brad Davis had kept his secret, fearing he wouldn’t be giving a job if he disclosed his illness’
- (97) Durante [os quatro meses **em que** permaneceram na cidade sob ocupação sérvia], perderam a casa e os bens, viveram grande parte do tempo em abrigos... (ext464637-soc-93a-1)
 ‘(during) the four months they stayed in the town under Serbian occupation’

An interesting area of variation and instability can be observed here. As said, it would be unexpected that, given the impossibility of using *em* in atelic duration adjuncts (cf. the ungrammaticality of (85) if the preposition *em* is used instead of *durante* – **as tropas combateram em dois anos e meio*), this preposition would surface in a relative clause when genuine predicates of amounts of time (not time-denoting expressions containing predicates of amounts of time) are involved. Indeed, I think this structure – exemplified in (88) above – is very anomalous.

¹⁸ The omission of *em* before *que* in these structures is comparable to the omissions observed in section 2 of this paper. However, this particular instance of omission (after predicates of amounts of time) seems much more frequent: search “os|as” [] {1,1} “segundos|minutos|horas|dias|semanas|meses|anos” “em” “que”, in CETEMPúblico, yielded 331 relevant results, that contrast with 116 relevant results for the same search without *em* (i.e., a rate of preposition omission of 26% in this particular context). This fact is possibly correlated with the fact that the preposition can sometimes be dropped in the non-relativized phrases (before predicates of amounts of time within definite NPs) as well.

However, likely by contamination from closely-related canonical structures of type (94), they sometimes occur in written text, documenting a ‘critical area’ of linguistic variation. See the following four examples from CETEMPúblico (the latter with the curiosity of having as nucleus the complex expression *quantidade de tempo* ‘amount of time’, which unequivocally signals a strict duration interpretation).

- (98) Continua a escrever histórias que duram [o tempo **em que** consegue estar sentado ao computador, de uma vez]_{mt}? (ext1364699-clt-95b-2)
 ‘the amount of time you are able to remain uninterruptedly seated at his computer’
- (99) ... estou disposto a converter-me ao judaísmo se me explicares a tua religião durante [o tempo **em que** se pode ficar apoiado só num pé]_{mt}. (ext90473-nd-94a-1)
 ‘the amount of time a person can stand on one leg’
- (100) A perpetuação do trabalho temporário reflecte-se, por sua vez, n[o tempo **em que** estiveram empregados]_{mt}. (ext89413-eco-98a-1)
 ‘the amount of time they were employed’
- (101) ... eles gostam mesmo é de dormir – a avaliar pel[a quantidade de tempo **em que** nesse estado sonolento se mantêm]_{mt}... (ext197057-soc-91b-2)
 ‘the amount of time they stay in that somnolent state’

Let us now move to the relativization of arguments. Here, the possibilities are less varied, but there are some intriguing grammatical facts as well. Of course, these structures compete with those described above – with relativized duration adjuncts – and the two can be used, with the relevant modifications, to paraphrase each other.

As for argumental atelic duration, the most common duration predicates in Portuguese include *passar* (‘spend’), *durar* (‘last’), *prolongar-se* (‘go on for’, ‘last’), and *arrastar-se* (‘go on for’, ‘last’). They all select an eventuality-denoting argument, and an argument containing (or coinciding with) a predicate of amounts of time. The eventuality-denoting argument is typically a prepositioned infinitival clause (though it can also be a proposition-like AP or PP) with *passar*, as illustrated in (102), and an NP with *durar*, *prolongar-se* and *arrastar-se*, as illustrated in (103)–(104). The argument containing (or coinciding with) a predicate of amounts of time is unprepositioned in the case of *passar* and *durar*,¹⁹ as illustrated in (102)–(103), and preceded by the preposition *por* (or sometimes *durante*) in the case of *prolongar-se* and *arrastar-se*, as illustrated in (104).

¹⁹ In older literary registers (and sometimes, rarely, in some contemporary ones), complements of *durar* are headed by *por* – cf. the following two examples (in corpus Vercial), from the 19th century writer Alexandre Herculano: «Com sucessos diversos a guerra **durou por** mais de um ano...» (‘lasted for more than a year’); «... os documentos conspiram cada vez mais em nos revelar esse estado de anarquia entre os nobres e os prelados que **durou por** quase todos os três primeiros anos do reinado de Sancho...» (‘lasted almost for the whole first three years of Sancho’s reign’).

- (102) As tropas **passaram dois anos e meio** a combater.
 the troops spent.PERF two years and half at fight.INF
 ‘The troops spent **two and a half years** fighting.’
- (103) O combate entre as tropas **durou dois anos e meio**
 the fighting among the troops lasted.PERF two years and half
 ‘The fighting between the troops **went on for two and a half years.**’
- (104) O combate entre as tropas **prolongou-se por dois anos e meio**
 the fighting among the troops prolonged.PERF SE for two years and half
 ‘The fighting between the troops **went on for two and a half years.**’

Furthermore, all these verbs can also take as complements time-denoting NPs containing predicates of amounts of time, like (the Portuguese counterparts of) *the two and a half years the invasion lasted*, or *those two and a half years* (which can occur in the same position of the simple predicate of amounts of time *dois anos e meio* ‘two and a half years’, in the three examples above).

The relativization of the arguments containing (or coinciding with) a predicate of amounts of time reflects the mentioned variation with respect to the use of prepositions: *que*, for *passar* and *durar*, *por que* (sometimes *durante o qual*) for *prolongar-se* and *arrastar-se*:

- (105) {o tempo / os dois anos e meio} **que** as tropas passaram a combater
 the time the two years and half that.REL the troops spent.PERF at fight.INF
 ‘{the time / the two and a half years} the fighting went on /
 {the time / the two and a half years} the troops spent fighting’
- (106) {o tempo / os dois anos e meio} **que** o combate durou
 the time the two years and half that.REL the fighting lasted.PERF
- (107) {o tempo / os dois anos e meio} **por que** o combate se prolongou
 the time the two years and half for that.REL the fighting SE prolonged.PERF

Note that – as discussed in section 3.1.2 – the whole NP containing the relative clause can be either of the class predicates of amounts of time (*mt*), or of the class time-denoting expressions (*t*), but without a variation in the form of the relative constituents – cf., e.g., [*o tempo que passei a estudar*]_{mt} *foi muito pouco* ‘the time I spent studying was very short/I spent very little time studying’ vs. *n[as duas horas e meia que passei a estudar]*_t *muita coisa aconteceu* ‘many things happened in the two and a half hours I spent studying’.

The structures with *que* are common and widespread. See the following examples with *durar* and *passar* from the corpus CETEMPúblico:

- (108) Ouvir música foi uma das técnicas de sobrevivência que Wei Jingsheng usou durante [os 18 anos **que passou** nas prisões chinesas]. (ext118041-pol-98a-1)
‘the 18 years he spent in Chinese prisons’
- (109) [Os quinze anos **que** a investigação **durou**]... fizeram com que Sobral... se virasse definitivamente para o estudo do barroco português. (ext693161-clt-98a-1)
‘the fifteen years the investigation lasted’

The structures with *por que*, or *durante o qual* – with *prolongar-se* or *arrastar-se* – do occur, although they are rather infrequent. I found only a handful of examples (viz., 3 with *prolongar-se* + *por que*, 1 with *arrastar-se* + *por que* and 1 with *arrastar-se* + *durante o qual*) in the corpus CETEMPúblico, e.g.:

- (110) Durante [as três horas **por que se prolongou** o encontro...], as questões... incidiram sobre quatro grandes áreas... (ext370030-eco-91a-2)
‘the three hours the meeting lasted’
- (111) ... os países ricos são avessos a abdicar do seu proteccionismo, e [os mais de sete anos **durante os quais se arrastaram** as negociações...] são [disso] prova evidente. (ext305406-clt-soc-94b-1)
‘the more than seven years the negotiations... lasted’

An interesting area of variation can also be observed here. In particular, two non-standard constructions are found in the corpora.

In one, a spurious locative preposition *em* is added in contexts where unprepositioned relativized phrases (i.e., simple *que*) are the norm. This occurs namely with the verb *durar*, when it signals durative location. I found no examples of this use of *em que* when *durar* signals true duration (cf., e.g., **fiquei espantado com {o tempo/a quantidade de tempo} em que a guerra durou*). The corpus CETEMPúblico contains various examples of this anomalous construction with *em que*, at least 2 with the antecedent *tempo* and 3 with other antecedents, e.g.:

- (112) ...ao longo d[o tempo **em que durou** o boicote], [a população] se foi revezando em turnos... (ext134870-soc-96a-1)
‘the time the boycott lasted’
- (113) Entre 200 mil e 300 mil pessoas comprimiram-se na área de segurança durante [as seis semanas **em que** a matança **durou**]. (ext585212-pol-97b-1)
‘the six weeks the killings lasted’
- (114) Durante [as longas horas **em que** o motim **durou**], familiares dos presos... foram chegando ao local. (ext739350-soc-94a-1)
‘the many hours the mutiny lasted’

A second non-standard construction consists in using the locative preposition *em* instead of the canonical prepositions (*por* or *durante*) with the verbs *prolongar-se* and *arrastar-se*. There are at least 3 instances of the anomalous construction *em que* + *prolongar-se/arrastar-se* in the corpus CETEMPúblico, one of which, given in (117), with a strict duration interpretation:

- (115) Durante [as duas semanas **em que se prolongou** o julgamento]_p, foram chamados a depor 35 ex-militantes... (ext1193361-soc-94a-2)
 ‘the two weeks the trial lasted’
- (116) Apenas durará pel[o tempo **em que se arrastar** essa mesma convulsão]_t... (ext524967-pol-95a-2)
 ‘the time that same upheaval will last’
- (117) Alguns processos judiciais “históricos”,... pel[o tempo **em que se vêm arrastando** em tribunal]_m,... deverão chegar a julgamento ainda durante o ano judicial que hoje... se abre. (ext1312728-nd-97a-1)
 ‘the amount of time they have dragged in court’

3.4. Relativization of constituents expressing telic duration and comparable forms of temporal location

Let us finally consider the duration of telic eventualities, i.e., culminated processes. As said, this temporal value can be expressed via duration adjuncts headed by the preposition *em* (‘in’), as in (118), or via a combination verb-argument (with verbs like *demorar* ‘take’, or *levar* ‘take’, the latter homonymous with the verb that also expresses time-anchored duration), as in (119), for clausal arguments, and (120), for eventuality-denoting NP arguments.

- (118) O Pedro escreveu a tese **em dois anos e meio**.
 the Pedro wrote.PERF the thesis of two years and half
 ‘Pedro wrote his dissertation **in two and a half years.**’
- (119) O Pedro **demorou/levou dois anos e meio** a/para escrever a tese
 the Pedro took.PERF two years and half to write the thesis
 ‘It **took Pedro two and a half years** to write his dissertation.’
- (120) A redação da tese **demorou/levou dois anos e meio**.
 the writing of.the thesis took.PERF two years and half
 ‘The writing of the dissertation took two and a half years.’

Time-denoting expressions containing predicates of amounts of time (like *os dois anos e meio que viveu em Londres* ‘the two and a half years he lived in London’, or *os últimos dois anos e meio* ‘the last two and a half years’) can also occur in the contexts above. In complements, the interpretation

is very similar (allowing the inference that the duration of the described eventuality coincides with the duration of the described interval) – cf. *o Pedro demorou os dois e meio que viveu em Londres a escrever a tese* ‘it took Pedro the whole two and a half years he lived in London to write his dissertation’). However, in adjuncts the interpretation differs significantly.

- (121) O Pedro escreveu a tese **nos dois anos e meio** que viveu
 the Pedro wrote.PERF the thesis in.the two years and half that.REL lived.PERF
 em Londres.
 in London
 ‘Pedro wrote his dissertation **in the two and a half years he lived in London.**’

It is a well-known fact that locating adjuncts (with *in/em*, or other connectives) when applied to telic expressions trigger an interpretation that involves temporal inclusion (formally: $[ev \subseteq t]$), not coextension ($[loc (ev) = t]$) – cf., e.g., Kamp and Reyle (1993, p. 513). Therefore, unless world-knowledge or other pragmatic facts indicate that a coextensive interpretation is meant, the adjuncts in question do not trigger a duration interpretation of the relevant sort ($[dur (ev) = dur (t)]$), i.e., for (121), that it took Pedro the whole two and a half years he lived in London to write his dissertation. The standard interpretation is that the writing took place somewhere within those two and a half years: the sentence is true even if it took only one year, for instance.

With respect to relativization, an intriguing fact is revealed by the corpora: almost all the structures referring to telic eventualities found in CETEMPúblico involve predicate-argument combination, not adjuncts, i.e., are of the type (123), not (122):

- (122) {o tempo / os dois anos e meio} **em que** o Pedro escreveu
 the time the two years and half in that.REL the Pedro wrote.PERF
 a tese
 the thesis
 ‘{the time / the two and a half years} Pedro wrote his dissertation’

- (123) {o tempo / os dois anos e meio} **que** o Pedro **demorou** a/para
 the time the two years and half that.REL the Pedro took.PERF to
 escrever a tese
 write the thesis
 ‘{the time / the two and a half years} it took Pedro to write his dissertation’

Below are three examples from CETEMPúblico of the extremely common constructions that resort to durative predicates *levar* and *demorar* combined with relativized predicates of amounts of time, in (124), or comparable time-denoting expressions, in (125)–(126).

- (124) Sylvester Stallone... espantava-se com [o tempo **que** Flaubert **tinha levado** a escrever Madame Bovary]_{mt}.... (ext244981-clt-93a-1) [BASIC CULMINATED PROCESS]
 ‘the time it had taken Flaubert to write Madame Bovary’
- (125) Durante [os sete anos **que** o túnel **demorou** a construir], os britânicos zurziam no projecto ... cada vez que era extraído mais um dos 20 milhões de metros cúbicos da camada de giz... (ext311859-nd-96a-2) [BASIC CULMINATED PROCESS]
 ‘the seven years it took for the tunnel to be built’
- (126) Durante [os sete anos **que** a Cassini-Huygens **levará** a chegar até Titã], os astrónomos ... vão desenvolver modelos computacionais de atmosferas... (ext392352-clt-97b-2) [DERIVED CULMINATED PROCESS]
 ‘the seven years it will Cassini-Huygens to arrive in Titan’

In my opinion, all these sentences sound somewhat unnatural, or even ungrammatical, with a relativized adjunct with the form *em que* instead of a relativized argument, *que*:²⁰ *?espantava-se com [o tempo em que Flaubert escrevera Madame Bovary], ?durante [os sete anos em que o túnel foi construído], *durante [os sete anos em que a Cassini-Huygens chegará até Titã]*. The latter example – involving location and Aktionsart shift (from culmination to culminated processes, via addition of a preparatory phase – cf., e.g., Moens, 1987) – seem to be the worst, maybe because *em* cannot secure the appropriate shift. But the others do not seem natural either.

That the sentences involving temporal location do not resort to *em que* possibly results from the fact that *em* in adjuncts does not guarantee the intended co-extensive interpretation – cf. the discussion about sentence (121). It is not so clear why this seems to be the case as well for those that involve strict duration, like the alternative to (124) above. However, corpora analysis seems to clearly indicate that argument relativization, rather than adjunct duration, is the unmarked case. In the corpus CETEMPúblico, I could only find 1 register of the type of *em que* at stake (where I get the same feeling of slight oddity):

- (127) a CT... propôs à Administração que “os anos de casa fossem pagos na íntegra”, independentemente d[o tempo **em que** [esse valor] seria pago]_{mt}.
 ‘(regardless) of the time it would take to pay that sum’

This sequence could be paraphrased, using argumental duration, as the much more natural sequence *independentemente do tempo que esse valor demorasse/levasse a ser pago*.

²⁰ The following example is the closest I can come to a natural clause containing a relativized telic duration adjunct: *n[os 40 segundos em que o Pedro resolve o cubo de Rubik], eu não consigo sequer colocar a mesma cor numa das faces* (‘in the 40 seconds it takes Pedro to solve the Rubik’s cube, I can’t even get the same colour on one of its faces’).

Table 2 below summarises the main findings of section 3, concerning relative clauses.²¹ The relevant numbered examples are indicated in each cell (with the superscripted symbol “C” signalling the “real” examples, found either in online corpora of newspaper text or in

| type of relativized constituent → | | | | |
|---|--|---|--|--|
| telicity of the relative clause (with predicates of amounts of time as, or in, the antecedent) ↓ | adjunct | prepositioned argument | non-prepositioned argument | |
| atelic [+ anchored] | há que [NOVEL] | | | |
| | há que_{mt}: (46), (48) ^C | há que_i: (47), (49) ^C | há que_{mt/t} + DURAR, PROLONGAR-SE, ARRASTAR-SE: (80), (81) [no corpus example] | |
| | (em) que _i + anteriority tense (time-anchoring pragmatically deduced) as in (56), (57), (59) ^C [likely], (60) ^C | | | que_{mt/t} + LEVAR, TER, DURAR_{PB}: (75) ^C , (76) ^C , (77) ^C , (78) ^C , (82) ^C , (83) ^C , (84) ^C |
| | *que _i : (50), (52) ^C , (53) ^C | | | |
| | *em que _i : (51), (54) – cf. also (55) ^C | | | |
| atelic [- anchored] | – que _{mt} : (86), (89) ^C – durante o qual _{mt} : (87), (90) ^C | – que _i : (92), (95) ^C – durante o qual _i : (93), (96) ^C – em que _i : (94), (97) ^C | – por que _{mt/t} + PROLONGAR-SE, ARRASTAR-SE: (107), (110) ^C – durante o qual _{mt/t} + PROLONGAR-SE, ARRASTAR-SE: (111) ^C *em que _{mt/t} + PROLONGAR-SE, ARRASTAR-SE: (115) ^C , (116) ^C , (117) ^C *em que _{mt/t} + DURAR: (112) ^C , (113) ^C , (114) ^C | que_{mt/t} + PASSAR, DURAR: (105), (106), (108) ^C , (109) ^C |
| | *em que _{mt} : (88), (98) ^C , (99) ^C , (100) ^C , (101) ^C | | | |
| telic | em que _{mt} : (122), (127) ^C [INFREQUENT, OFTEN UNNATURAL] | | | que_{mt/t} + DEMORAR, LEVAR: (123), (124) ^C , (125) ^C , (126) ^C |

Table 2: Linguistic variation, anomaly and change in the use of prepositions and preposition-like operators in relativized constituents expressing strict duration and comparable forms of (durative) temporal location in Portuguese.

²¹ As observed in section 3.2.1 and its excursus above, the information conveyed by the NPs containing these relative clauses can also be expressed via NPs without relative clauses, viz. by applying *since/desde-* or *of/de-* temporal adjuncts directly to predicates of amounts of time (cf. constructions E1, E2, F1 and F2 in 3.2.1); in English, *since*-adjuncts are regularly used with telic complements, and relative clauses with atelic ones – cf. *in the two and a half years since Ana and Pedro became friends* [*since*-adjunct] vs. *in the two and a half years Ana and Pedro have been friends* [relative clause].

published translations). I use rectangles with rounded corners to distinguish the novel (still non-canonical) *há que*-construction, and the five other documented anomalous constructions, which represent areas of possible dynamic developments. I use a dashed rectangle with rounded corners to signal the infrequent and often unnatural constructions with relativized telic duration adjuncts.

4. Conclusions

In this paper, I discussed the use of temporal prepositions, or preposition-like connectives, in relativized constituents as an area of particularly intense language variation and change in Portuguese. Two constructions were in focus. In section 2, the much-discussed tendency to omit the locating preposition *em* in relativized temporal adjuncts – producing, e.g., *o dia que ele chegou* instead of *o dia em que ele chegou* ‘the day he arrived’ – was assessed. The conclusion was that – despite it being a seemingly old phenomenon, which is widespread in contemporary informal oral speech – the likelihood of it becoming dominant in neutral and formal written registers of the language (as those illustrated by newspaper texts) seems low. The analysis of EP and BP corpora showed the persistence of the preposition – in a sense superfluous, given that its semantic contribution can be inferred, and whose counterparts in other languages, like English, are normally omitted – in over 90% of the cases (in the type of register investigated). Differences between EP and BP and differences with respect to various syntactic environments were also documented and quantified.

In section 3, the relativization of genuine duration phrases, and comparable locating phrases containing predicates of amounts of time, was scrutinized. The analysis of the data revealed the emergence of a novel strategy – relativizing temporal *há*-adjuncts with the sequence *há que* –, which seems to represent a step forward in the grammaticalization process of *há* as a prepositional connective: e.g., *31 são os anos há que não ganhamos uma medalha* ‘31 this is the number of years {we haven’t won a medal/since we last won a medal}’. A gain in efficiency would arguably be obtained should this strategy become more widely used in the future, which does not seem unplausible. The analysis of the data furthermore revealed the existence of several areas of grammatical instability, or microvariation, where non-standard constructions surface, namely the following: (i) using *que* (and less frequently *em que*) in combination with present or imperfective past to express time-anchored duration – e.g., *nos dois anos e meio (em) que somos amigos* ‘in the two and a half years we have been friends’ –, as discussed in section 3.2.1; (ii) using *em que* (instead of simple *que*, or *durante o qual*) to relativize atelic duration adjuncts – cf. *{o tempo/a quantidade de tempo} em que se consegue ficar apoiado só num pé* ‘the amount of time a person can stand on one leg’–, as discussed in section 3.3; (iii) using *em que* (instead of *por que*) to relativize complements of *prolongar-se* and *arrastar-se* – cf. *as duas semanas e meia em que se prolongou/arrastou o boicote* ‘the two and a half weeks the boycott lasted’ – and (iv) using *em que* (instead of simple *que*) to relativize complements of *durar* – cf. *as duas semanas e meia em que*

durou o boicote ‘the two and a half weeks the boycott lasted’ –, the latter two discussed in section 3.3 as well. In a nutshell, with respect to these variations, we observe that the existence of several similar, though subtly different, constructions seems to create the conditions for the emergence of non-standard forms. Finally, the analysis of the data also revealed, as discussed in section 3.4, an overall resistance to relativizing telic duration adjuncts, that contrasts with the widespread relativization of simple atelic duration adjuncts.

All in all, with the aim of discussing instances of emergent and future changes in contemporary Portuguese (the topic of the collection in *Journal of Portuguese Linguistics* this paper is part of), prepositions – and preposition-like connectives – in relativized constituents were investigated. An old – but apparently not increasing – tendency to drop the locating preposition of the sequence *em que* was assessed, and a novel combination, with *há que* as a relativized constituent, which might become standard in the future, was documented. In parallel, examples of microvariation involving non-standard uses of prepositions in relativized temporal phrases – showing the area is particularly prone to linguistic change – were also documented.

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Competing interests

The author has no competing interests to declare.

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