

To appear in Joaquim Camps & Caroline Wiltshire (eds.),  
*Romance Syntax, Semantics and L2 Acquisition, Selected papers from the  
30<sup>th</sup> Linguistic Symposium on Romance Languages, Gainesville, Florida,  
February 2000*, Amsterdam: John Benjamins, 2001

## TEMPORAL LOCATION OF EVENTS AND THE DISTRIBUTION OF THE ROMANCE COUNTERPARTS OF *SINCE*-ADVERBIALS<sup>[\*]</sup>

TELMO MÓIA

*Faculdade de Letras da Universidade de Lisboa*

### 0. *Introduction*

The present paper focuses on linguistic data showing that quantification over events – in particular, associated with a summation operation – may act as a constraint on the distribution of some non-punctual temporal adverbials. This data involves mainly four Romance counterparts of English *since*-adverbials, namely those headed by Portuguese *desde*, Spanish *desde*, Italian *da*, and French *depuis*. For the sake of simplicity, throughout the text I will only supply examples with Portuguese *desde*-phrases, as its Romance equivalents exhibit a similar behaviour with respect to the issues at stake. It must be stressed that only the use of the expressions at issue as ‘inclusive adverbials’ is relevant here. Such use is observable whenever the relevant eventuality described in the matrix clause is located somewhere within the time span associated with the adverbial, and not necessarily all through that span. For instance, in a sentence like *John has visited Paris since 1980*, the temporal adverbial can only be ‘inclusive’, as it locates the visit somewhere between 1980 and the moment of speech, but in a sentence like *Paulo has been living in Paris since 1980*, it is ‘durative’, as the state of Paulo living in Paris is said to hold all through the location time (see e.g. Vlach 1993, for this terminology).

I will start by presenting – in section 1 – some linguistic evidence that the distribution of Portuguese *desde*-phrases is much more restricted than that of

---

\* The core content of this text was presented at the Conference on (Preferably) Non-Lexical Semantics, Université de Paris VII, June 1996 (of which no Proceedings were published) and is part of my doctoral dissertation *Identifying and Computing Temporal Locating Adverbials with a Particular Focus on Portuguese and English* (presented to the University of Lisbon in February 2000). I thank João Peres, Hans Kamp and Rainer Bäuerle for insightful comments on previous versions of this text.

English *since*-phrases (according to the descriptions of *since* known from the literature). In fact, *desde*-phrases – and their Romance counterparts – seem incompatible with descriptions of events, except in some contexts that will be briefly described (in section 2), and whose unifying property appears to be that they involve, directly or indirectly, some form of ‘event-quantification’. Roughly, the basic idea is that inclusive location by *desde*-adverbials is restricted to the ‘supremum’ of the set of sub-events which, on the one hand, are of the type described in the matrix structure and, on the other hand, occur within the time span defined by these adverbials. Thus, the basic function of (grammatical) inclusive *desde*-phrases is not to locate the event described in the matrix structure (which they may do, by inference), but to define a temporal frame for the mentioned summation operation. Due to space restrictions, it will not be possible to present here a detailed formal analysis (see Móia 2000 for a proposal within the framework of Discourse Representation Theory, DRT).

In section 2, I will present an extended – though succinct – description of the different contexts in which inclusive *desde*-phrases are sanctioned, which corroborates the hypothesis concerning the distribution of these expressions put forward in section 1.

### 1. *Simple vs. full-scanning inclusive location of events*

As said, *desde*-phrases – and their Romance equivalents – have a more restricted distribution than English *since*-phrases. In particular, their combination with descriptions of single achievements or accomplishments – e.g. the counterparts of *x die*, *x get married*, *x write this book* or *x built a house* – is normally ungrammatical. Sentences below illustrate this fact<sup>1</sup>:

- (1) a. \**O Paulo casou desde 1980.*  
the Paulo marry<sub>SIMPLE PAST-3rd SG</sub> since 1980  
“Paulo has got married since 1980.”
- b. \**O Paulo escreveu este livro desde 1980.*  
the Paulo write<sub>SIMPLE PAST-3rd SG</sub> this book since 1980  
“Paulo has written this book since 1980.”

---

<sup>1</sup> Although I will only consider telic eventualities, it must be noted that (bounded) atelic eventualities behave like telic events in the structures to be described in this paper:

- (i) *O Paulo viveu em Paris duas vezes desde 1980.*  
the Paulo live<sub>SIMPLE PAST-3rd SG</sub> in Paris two times since 1980  
“Paulo has lived in Paris twice since 1980.”

Some authors (e.g. Heinämäki 1974/1978:86, Kamp & Reyle 1993:631n.64) observe that this kind of sentence may be somewhat odd in English, but is good given an appropriate context. This does not seem to be the case for Romance languages, where, irrespective of the context, sentences like (1) are generally considered ungrammatical. Curiously, there are some contexts where – in contrast to what happens in (1) – the combination of *desde*-phrases with event-descriptions is undisputedly grammatical:

- (2) a. *O Paulo casou três vezes desde 1980.*  
           the Paulo marry<sub>SIMPLE PAST-3rd SG</sub> three times since 1980  
           “Paulo has got married three times since 1980.”
- b. *O Paulo escreveu três livros desde 1980.*  
           the Paulo write<sub>SIMPLE PAST-3rd PL</sub> three books since 1980  
           “Paulo has written three books since 1980.”

My contention on these matters (cf. Mória 2000) is that we are dealing with two substantially different modes of temporal location that cross the whole system of adverbial temporal location. Moreover, as shown in examples (1) and (2) above, adverbials of the *desde* kind are sensitive to this opposition. Examples (1) illustrate what can be termed ‘simple inclusive location’, expressed by a condition  $[e \subseteq t]$  (where *e* represents the described event, and *t* the location time defined by the temporal adverbial). This mode of temporal location – where the basic function of the time adverbial is to *provide a frame for locating an event* (by stating that it falls anywhere within that frame) – is usually assumed in the literature to be the one associated with event-descriptions (see e.g. Kamp & Reyle 1993:513 – “This seems to be a general property of event-sentences with temporal adverbials such as *on Sunday*, *yesterday*, *tomorrow morning* and many others: they assert that the event falls entirely within the time denoted by the adverb”).

Examples (2) illustrate a more complex and interesting location mode, which I will term ‘full-scanning inclusive location’. In these sentences, the event described in the matrix structure may be conceived of as a ‘complex event’ composed of sub-events of the type described (Paulo getting married, or Paulo writing a book, respectively). Formally, in the language of DRT, this event can be represented by a non-atomic discourse referent *E*, obtained by summation of the relevant sub-events (an analysis that requires the assumption of a Boolean structure for events – see e.g. Bach 1986). Now, the role of time adverbials in these structures appears not to be the same as in the examples (1). In (2), their role is to *provide a temporal frame for the above-*

mentioned summation operation, assuring that the non-atomic event  $\mathbf{E}$  is the ‘supremum’ of the set of relevant sub-events that occur within this frame (‘maximality requirement’). Metaphorically speaking, the (location) time associated with these adverbials has to be ‘fully-scanned’ in order to gather all the relevant sub-events happening within it. In DRT-terms, this location mode can be expressed by the conditions below (where  $\varepsilon$  is the relevant sub-event expressed in the matrix structure<sup>2</sup>, and  $\mathbf{t}$  the location time, defined by the temporal adverbial):

$$(3) \quad \boxed{E = \Sigma \varepsilon: \begin{array}{c} \dots \\ \varepsilon \\ \varepsilon \subseteq \mathbf{t} \\ \dots \end{array} \quad \text{whence } [E \subseteq \mathbf{t}]} \quad \boxed{K_1}$$

A fundamental characteristic of the full-scanning inclusive location, which distinguishes it from the simple inclusive one, is that, by providing a frame for abstraction, the temporal adverbial *plays a central role in the definition* of the eventuality described in the matrix structure. In fact, this eventuality is defined as the set  $\mathbf{E}$  of (all) subevents  $\varepsilon$  that, at the same time, correspond to the description in the matrix structure, *and happen within*  $\mathbf{t}$ . Thus, if the temporal frame changes, the eventuality  $\mathbf{E}$  may be different, i.e. have a different composition. A consequence of this fact is that the enlargement of the frame does not necessarily guarantee truth value preservation (this happening, namely, when non-upward-monotone quantification is pertinently involved in the clause) – cf. (4), with an *in*-temporal locator. Obviously, matters are different in structures with simple inclusive location. There, the eventuality described in the matrix structure *is defined independently* of the location time, which acts as a mere location frame. Hence, if the frame is enlarged, the truth value of the sentence is preserved (obviously due to the transitivity of the inclusion relation) – cf. (5)-(6):

---

<sup>2</sup> The abstraction in (3) is recursive, that is, the sub-events  $\varepsilon$  in  $K_1$  can also be complex events composed by abstraction over other sub-events, as in (i) below if both NPs have a distributive reading:

- (i) *Três actores receberam três óscares na década de 80.*  
 three actors receive<sub>SIMPLE PAST-3rd PL</sub> three Oscars in-the decade of 80  
 “Three actors received three Oscars in the eighties.”

- (4) Paulo wrote three books in 1985.  
\*→ Paulo wrote three books in the eighties.<sup>3</sup>
- (5) Paulo got married in 1985.  
→ Paulo got married in the eighties.
- (6) Paulo offered this painting to three friends in 1985. [collective offer]  
→ Paulo offered this painting to three friends in the eighties.

In sum, as we can gather from the examples given so far, the contribution of the temporal adverbial is significantly different in the two cases considered. In structures with *simple inclusive location*, it merely locates the described eventuality; in structures with *full-scanning inclusive location*, (i) it locates the sub-events  $\epsilon$  and, consequently (by inference), the maximal event **E** expressed in the matrix structure, and (ii) it contributes, somehow in the manner of a modifier, to defining the maximal event (since the inclusion in the frame associated with the adverbial is a defining property of the elements making up the maximal event). Therefore, it should be stressed that, strictly speaking, what I term ‘full-scanning location’ appears to be more than a mere mode of temporal location, given the role (ii) above. For simplicity, however, I will use this term (despite the likely inaccuracy), together with the more neutral (and appropriate) term ‘full-scanning construction’.

Although in this paper I consider only the distribution of the Romance counterparts of *since*-adverbials, it must be emphasised that sensitivity to the simple *vs.* full-scanning inclusion appears to be a widespread grammatical phenomenon<sup>4</sup>. This is only expected, since two distinct functions of temporal adverbials – ‘definition of frames for temporal location *vs.* definition of temporal frames for quantification’ – are what is ultimately at stake. It must also be emphasised that the full-scanning construction occurs – provided the right triggers are present – with virtually any temporal locating adverbial, and not only with those that – like *desde*-phrases – are sensible to the mentioned distinction.

## 2. *On the distribution of the Romance counterparts of since-adverbials*

Given that *desde*-phrases – and their Romance equivalents – permit a clear differentiation of the simple inclusive construction and the full-scanning

---

<sup>3</sup> In the relevant interpretation here, *three* means *exactly three*, and the Object NP has a non-specific reading.

<sup>4</sup> See e.g. observations on the distribution of *since* in Heinämäki (1974:86), of *until* in Declerck (1995:80), or of Portuguese *durante* [*during*] in Mória (2000:301).

one, I will take their analysis as the main means of further characterising the latter construction. In particular, I will attempt here to describe the contexts in which it occurs, which is tantamount to identifying the class of ‘full-scanning triggers’ (i.e. the operators which give rise to the structure in (3)), and some linguistic facts that may block it.

For methodological reasons, it is advisable to separate two major types of contexts: those where the *desde*-phrases occur adverbially within non-subordinate clauses (as in the examples considered so far) and those where these phrases occur within nominal modifiers (either adverbially, within clausal nominal modifiers, or adnominally). Let us start with the first. *Desde*-phrases are grammatical when applied to a matrix structure which contains one of the following seven licensing elements, which I take to be full-scanning triggers: (i) explicit quantifiers over events; (ii) nominal cardinal quantifiers in an NP with distributive (or cumulative) reading; (iii) nominal quantifiers over parts of discrete (or massive) objects; (iv) temporal measure adverbials which apply to atelic descriptions; (v) quantifiers over properties varying on a scale; (vi) exclusion operators; (vii) co-ordination conjunctions associated with distributive readings and exhaustive enumeration – cf. (7)-(13), respectively.

- (7) *O Paulo casou **três vezes** desde 1980.*  
 the Paulo marry<sub>SIMPLE PAST-3rd SG</sub> three times since 1980  
 “Paulo has got married three times since 1980.”
- (8) ***Três mil** pessoas morreram nesta estrada desde 1980.*  
 three thousand persons die<sub>SIMPLE PAST-3rd PL</sub> on-this road since 1980  
 “Three thousand persons have died on this road since 1980.”
- (9) ***Oitenta por cento** deste edifício foi destruído desde 1980.*  
 Eighty per cent of-this building be<sub>SIMPLE PAST-3rd SG</sub> destroyed since 1980  
 “Eighty per cent of this building has been destroyed since 1980.”
- (10) *O Paulo esteve no escritório (**durante**) **mais de cinquenta horas** desde segunda-feira.*  
 the Paulo be<sub>SIMPLE PAST-3rd SG</sub> in-the office (for) more of fifty hours since Monday  
 “Paulo has been in the office for more than fifty hours since last Monday.”
- (11) *O Paulo cresceu **muito** desde 1980.*  
 the Paulo grow<sub>SIMPLE PAST-3rd SG</sub> much since 1980  
 “Paulo has grown a lot since 1980.”

- (12) *O Paulo só escreveu este livro desde o ano passado.*  
 the Paulo only write<sub>SIMPLE PAST-3rd SG</sub> this book since the year past  
 “Paulo has only written this book since last year.”
- (13) *O Paulo construiu esta casa, esta ponte e esta igreja desde 1980.*  
 the Paulo build<sub>SIMPLE PAST-3rd SG</sub> this house, this bridge and this church  
 since 1980  
 “Paulo has built this house, this bridge and this church since 1980.”

Sentence (7) shows the (previously noted) fact that inclusive *desde* is licensed by the presence of a quantifier over events, such as *três vezes* [*three times*]. This quantifier involves explicit reference to a set of events, namely the set of *all* events of the relevant type (Paulo’s weddings) occurring within the location time, and direct specification of its cardinality. Sentence (8) shows that inclusive *desde* is licensed by the presence of a nominal cardinal quantifier in an NP with a distributive reading. In this example, the licensing NP appears in Subject position, but it might also appear in Object position (as in (2b) above), or in deeper syntactic positions, such as the complement or modifier of a nominal predicate. It must be stressed that this type of sentences – in their distributive reading – involve (at least) as many events as objects relevant for the quantificational process. In fact, we can consider – as is common in the literature – that there is quantification over events also in these cases, albeit an *indirect* one, via the nominal quantifier. These sentences can therefore be taken to represent a set of events **E** whose cardinality equals (or is greater than<sup>5</sup>) that of the relevant set of objects: in (8), for instance, three thousand persons correspond with three thousand dying-events. The crucial fact to note here is that **E** can again be conceived of as the set of *all* events of the relevant type occurring within the location time **t** (which is thus ‘fully-scanned’). At this point, it must be stressed that the presence of an NP with a cardinal quantifier is not sufficient to sanction the use of an inclusive *desde*. For instance, NPs with a group reading apparently do not hold this licensing capacity. Observe the following sentence:

---

<sup>5</sup> If the same object can be involved more than once in the relevant relation, events may outnumber objects. For instance, the sentence *Paulo read three books* can describe an eventuality comprising six reading-subevents, if each book was read twice. Obviously, matters are different with the sentence *Paulo wrote three books*, since book-writings are unrepeatable.

- (14) *Três estudantes compraram um computador nesta loja desde a semana passada.*  
 three students buy<sub>SIMPLE PAST-3rd PL</sub> a computer in-this store since the week past  
 “Three students have bought a computer in this store since last week.”

Whereas without the *desde*-phrase this sentence can have both a distributive reading, involving three different buying-events, and a group reading, involving a single corporate buying-event by the three students, with *desde* it can only have the distributive reading. Formally, I assume, in line with Kamp & Reyle (1993), that NPs with cardinal quantifiers and group readings are not associated with an abstraction operation, contrary to those that have a distributive reading. This amounts to saying that, in such cases, it is existential quantification that is involved. Things being so, it is only natural that the operating monotonicity properties are those of existential quantification, not the (non-)monotonicity of (distributively interpreted) cardinals. That this is the effective inferential pattern for these NPs was already shown above, in (6)<sup>6</sup>. The incapacity of an NP with a cardinal numeral to license the inclusive *desde* is also verified when this NP is combined with collective-like expressions such as *juntos* [*together*], *colectivamente* [*collectively*], *ao mesmo tempo* [*at the same time*], or similar ones – cf. (15). An identical blocking effect is obtained, without these collective-like adverbials if, by virtue of the lexical content of the expressions in the sentence (and given our world knowledge), the interpretation involving multiple temporally discontinuous events is excluded – cf. (16).

---

<sup>6</sup> It is interesting to note, in passing, that NPs with cardinal quantifiers and distributive interpretation can exhibit the same behaviour as group NPs concerning the sort of entailment in question and, hence, may not trigger a full-scanning interpretation. This is the case, for instance, if a sentence like (14), without the *desde*-phrase, is used to describe a (distributional) purchase of computers by three individuals (say, Peter, Susan and Mary) that *the speaker has in mind* but does not want to name. In these utterance conditions, the relevant NP has a referential (or specific) type of interpretation, and the sentence cannot be assigned a full-scanning reading. Accordingly, the inferential pattern in (6) is valid for these NPs, and they are not licensors of the inclusive *desde* (cf. similar behaviour of the definite NP *estes três estudantes* [*these three students*]).



- (15) *\*Três pessoas receberam este prémio colectivamente desde 1980.*  
 three persons receive<sub>SIMPLE PAST-3rd PL</sub> this prize collectively since 1980  
 “Three persons have won this prize *collectively* since 1980.”
- (16) *\*Uma bomba destruiu três edifícios desde a semana passada.*  
 a bomb destroy<sub>SIMPLE PAST-3rd SG</sub> three buildings since the week past  
 “A bomb has destroyed three buildings since last week.”

At this point, it is important to stress that, contrary to what these examples might seem to indicate, the sub-events *need not* temporally distribute over the location time. In fact, they can be simultaneous:

- (17) *O Paulo comprou três fatos desde Janeiro. Por acaso, comprou-os todos ao mesmo tempo.*  
 the Paulo buy<sub>SIMPLE PAST-3rd SG</sub> three suits since January. By chance,  
 [null Subject] buy<sub>SIMPLE PAST-3rd SG</sub> them all at-the same time  
 “Paulo has bought three suits since January. Incidentally, he bought them all at the same time.”

What seems to cause ungrammaticality is that the simultaneity of the sub-events is explicitly asserted, by way of an adverbial like *at the same time*, in the same sentence that contains the *desde*-adverbial, as in (15) (or else, that it is pragmatically coerced, as in (16)). In this case, I hypothesise, the full-scanning is blocked within the sentence with *desde*, thus causing the observed ungrammaticality.

So far, I have only considered distributive and group readings. I will now briefly mention cumulative readings (see Scha 1981), which are also compatible with the inclusive *desde*:

- (18) *Estes três estudantes compraram dez livros desde o início do ano.*  
 these three students buy<sub>SIMPLE PAST-3rd PL</sub> ten books since the beginning of-the year  
 “These three students have bought ten books since the beginning of the year.”

This sentence can describe a situation in which, for instance, the three mentioned students – A, B and C – bought a *total* amount of 5, 2 and 3 books, respectively, within the relevant period. Obviously, this interpretation requires a full-scanning of the location time (in order to count all the book-buying events involving each of the three mentioned students). The

following entailment impossibility furthermore shows that these ‘cumulative structures’ behave like those with distributive NPs (and unlike those with group NPs), with respect to the location time impact on *defining* the main clause eventuality:

- (19) These three students bought (exactly) ten books on May 15.  
 \*→ These three students bought (exactly) ten books in May.

The three contexts illustrated in (9)-(11) contain different types of quantifying elements, which, unlike those observed up to now, express some form of measurement rather than counting, the quantified entities being: parts of discrete ‘ordinary’ objects, the duration of (atelic) eventualities, and properties varying on a scale, respectively. Still, as in the previous cases, the sentences with these elements involve a full-scanning of the location time (which sets a temporal frame for quantification in like manner). In fact, the sentences in question can be taken as representations of the set of *all* subevents of a given type (involving parts of the relevant entities) that occur within the location time *t*. Furthermore, the restrictions on the licensing capacities of the quantifiers and the blocking effects are parallel to those observed before:

- (20) *\*Oitenta por cento deste edifício foi destruído de uma só vez desde 1980.*  
 Eighty per cent of-this building be<sub>SIMPLE PAST-3rd SG</sub> destroyed of one only time since 1980  
 “Eighty per cent of this building has been destroyed all at once since 1980.”

It is quite interesting to note that temporal measure adverbials that quantify the duration of telic eventualities, headed by the preposition *em* [*in*] in Portuguese, do not license the use of the inclusive *desde* (contrary to those that quantify the duration of atelic eventualities):

- (21) *\*O Paulo leu este livro em duas horas desde ontem.*  
 the Paulo read<sub>SIMPLE PAST-3rd SG</sub> this book in two hours since yesterday  
 “Paulo has read this book in two hours since yesterday.”

Now, this difference in the licensing capacity of *durante* [*for*] and *em* [*in*] parallels the following one, concerning entailments of the type presented

above in (4)-(6), which assess whether the location frame contributes to *define* the main clause eventuality:

- (22) Paulo read this book *in two hours* on May 15.  
       → Paulo read this book *in two hours* in May.  
 (23) Paulo worked *for two hours* on May 15.  
       \*→ Paulo worked *for two hours* in May.

What this contrast seems to indicate is that *durante* / *for* measure phrases are full-scanning triggers, whereas *em* / *in* measure phrases are not. In other words, the sentences where the latter occur with a temporal locating adverbial involve simple inclusive location (obviously, if no other full-scanning trigger occurs in it).

Let us now consider sentence (12) – repeated below as (24) –, which shows that the inclusive *desde* can occur in structures with *só*, the Portuguese counterpart of *only*. Note that the exclusion operator may appear in combination with other licensing expressions (e.g. NPs with cardinal quantifiers and distributive reading), but this need not be so, which is the relevant case to consider here.

- (24) *O Paulo só escreveu este livro desde o ano passado.*  
       “Paulo has only written this book since last year.”

This sentence – ungrammatical without the exclusion operator – has different readings, depending on which constituent is focussed. Let us consider three possibilities: (i) focus on *this*: “the set of books that Paulo has written since last year is formed only by this book” (he may have written other things – e.g. papers – within this period); (ii) focus on *this book*: “the set of things that Paulo has written since last year is formed only by this book”; (iii) focus on *written this book*: “the set of (relevant) things that Paulo has done since last year is formed only by the event of writing this book”. The paraphrases just given evince the parallelism between these constructions and those with (singular) cardinal quantifiers<sup>7</sup>, showing that a full-scanning of the location time also operates here. I will not develop the analysis of these structures, since the study of exclusion operators is a topic of its own, but I assume that a representation along the lines of (3) can be used for these cases as well, and is

---

<sup>7</sup> Constructions with plural expressions – e.g. *estes n livros* [*these n books*] instead of *este livro* [*this book*] – are of course also possible.

furthermore in line with the analyses proposed in the literature for exclusion operators (cf. in particular Rooth's 1985 semantics for focus).

The seventh context I considered involves nominal, verbal or sentential coordination, again associated with a distributive reading. It is illustrated – for nominal co-ordination – in (13), repeated below as (25):

- (25) *O Paulo construiu esta casa, esta ponte e esta igreja desde 1980.*  
 “Paulo has built this house, this bridge and this church since 1980.”

In my opinion, this Portuguese sentence is only indisputably grammatical if it represents an ‘exhaustive enumeration’ of the relevant events that happened within the interval defined by the *desde*-phrase (exhaustiveness emerging possibly as an implicature). For instance, in a scenario where Paulo is an architect, the above sentence seems to be (indisputably) felicitous only if the named three works are *all* Paulo accomplished within the mentioned period; should he have built a baseball stadium, for instance, during that time, the sentence would be an inaccurate – insufficient – description of the facts. Accordingly, (25) is paraphrasable as “the set of (*all*) things that Paulo has built since 1980 is formed by this house, this bridge and this church” or, attesting the similarity with contexts illustrated in (8) and (12) above, “Paulo has (*only*) built three things since 1980: this house, this bridge and this church”.

I will now briefly consider sentences where the inclusive *desde*-phrases occur within nominal modifiers. In these sentences, the matrix structure need not contain any of the seven licensing elements described above. In fact, they may appear: (i) in plural definite nominals, both in adverbial position within relative clauses and in strict adnominal position – cf. (26)-(27), respectively; or (ii) in singular or plural nominals which contain ordinals, superlatives or a counterpart of *the only* – cf. (28) and (31)-(32):

- (26) *Muitos dos livros que o Paulo escreveu desde 1980 foram premiados.*  
 many of-the books that the Paulo write<sub>SIMPLE PAST-3rd SG</sub> since 1980  
 be<sub>SIMPLE PAST-3rd PL</sub> awarded-a-prize  
 “Many of the books that Paulo has written since 1980 were awarded a prize.”

- (27) *Todos os golpes de estado na América Latina desde 1980 foram perpetrados pelos militares.*  
 all the coups d'état in-the America Latin since 1980 be<sub>SIMPLE PAST-3rd PL</sub>  
 perpetrated by-the military<sub>NON-COLLECTIVE-PL</sub>  
 “All the coups d'état in Latin America since 1980 were carried out by the military.”
- (28) *Este é o terceiro livro que o Paulo escreveu desde 1980.*  
 this be<sub>SIMPLE PRESENT-3rd SG</sub> the third book that the Paulo  
 write<sub>SIMPLE PAST-3rd SG</sub> since 1980  
 “This is the third book that Paulo has written since 1980.”

In (26), the use of the inclusive *desde* is grammatical – in adverbial position – despite the absence of a licensing operator like those described above within the relative clause (though it may of course be present, as in the counterpart of *many of the books that Paulo has read **three times** since 1980 were awarded a prize*). In (27), there is also no licensing operator of any type mentioned within the nominal constituent containing the *desde*-phrase. The grammaticality of (26)-(27) in the absence of such full-scanning triggers is accounted for by the fact – so I hypothesise – that the *desde*-adverbial itself is processed, in these contexts, within a sub-DRS created by abstraction. In fact, the bracketed structures in these sentences are of the type:

- (29) [N' N<sub>[+PLURAL]</sub> MOD]  
 (where the locating adverbial occurs inside MOD – a relative clause – in (26), and is MOD, in (27)).

Plural nominal constituents often represent the sum of *all* entities corresponding to the descriptive content of N that have the property expressed by MOD, e.g. all the books that Paulo wrote between 1980 and the ‘temporal perspective point’, in (26), and all the coups d'état occurred in Latin America between 1980 and the ‘temporal perspective point’, in (27). Hence, the distribution of inclusive *desde* in these constructions is accounted for by the same principle as those before, to wit: inclusive *desde* is only sanctioned in contexts where the interval it defines is fully-scanned.

Conversely, singular nominal constituents do not, as a rule, license the use of inclusive *desde* (probably due to the fact that they do not normally require an abstraction of the type described above):

- (30) a. \**Conheço um livro que o Paulo escreveu desde 1980.*  
 [null Subject] know<sub>SIMPLE PRESENT-1st SG</sub> a book that the Paulo  
 write<sub>SIMPLE PRESENT-3rd SG</sub> since 1980  
 “I know a book that Paulo has written since 1980.”
- b. *Conheço (todos) os livros que o Paulo escreveu desde 1980.*  
 [null Subject] know<sub>SIMPLE PRESENT-1st SG</sub> (all) the books that the  
 Paulo write<sub>SIMPLE PRESENT-3rd SG</sub> since 1980  
 “I know (all) the books that Paulo has written since 1980.”

Sentence (28) illustrates a context with a sanctioned inclusive *desde*-adverbial where the relevant N'-node is singular, and where none of the triggers considered in (7)-(13) above is present. This structure is, however, not extraordinary, since ordinals are intuitively full-scanning triggers: in order to determine whether the mentioned book was the third to be written within the mentioned time span, this span has to be fully-scanned. Other singular constructions with comparable properties are those containing superlatives, and *o único* [*the only*]:

- (31) *Este é o livro mais interessante que o Paulo escreveu desde 1980.*  
 this be<sub>SIMPLE PRESENT-3rd SG</sub> the book more interesting that the Paulo  
 write<sub>SIMPLE PAST-3rd SG</sub> since 1980  
 “This is the most interesting book that Paulo has written since 1980.”
- (32) *Este é o único livro que o Paulo escreveu desde 1980.*  
 this be<sub>SIMPLE PRESENT-3rd SG</sub> the only book that the Paulo  
 write<sub>SIMPLE PAST-3rd SG</sub> since 1980  
 “This is the only book that Paulo has written since 1980.”

### 3. *Conclusion*

The facts considered in this paper illustrate an intriguing interaction between the system of adverbial temporal location and that of quantification, which – as far as I know – had not been explored in the semantic literature. In fact, the full-scanning construction involves a special use of temporal ‘locating’ adverbials in which the locating function is, as it were, subsidiary. Here, the import of the adverbials lies essentially in the definition of a temporal frame for some quantificational operation – e.g. counting eventualities, determining the total amount of time consumed in a given activity, exhaustively enumerating relevant events, comparing properties of objects, or simply picking up maximal sums of entities to be involved in

verbal predication (cf. (26)-(27) for the latter case). Normally, these quantificational operations are not temporally unbounded, but rather circumscribed in time, and relative to the span taken into account. Now, the temporal circumscription at stake is expressed par excellence via a time adverbial. Formally, in DRT-terms, the time adverbial sets the frame for quantification, in these constructions, by characterising a time discourse referent *t* which occurs in a sub-DRS under the scope of an abstraction operator. Accordingly, in a combination main clause / locating adverbial where full-scanning takes place, the temporal adverbial *contributes to defining* the main clause non-atomic eventuality *E*, given that the inclusion in the frame set by the adverbial is a constitutive property of the sub-events making up *E*. For most temporal adverbials, the difference between the simple temporal location and the full-scanning one is not easily perceptible. Interestingly, though, there are adverbials which occur in one of the contexts but not in the other, allowing a clearer demarcation of the full-scanning construction. The case I explored in more detail is that of Portuguese *desde*-adverbials, which, like their counterparts in other Romance languages, are only compatible with the full-scanning location, in combination with event-descriptions.

## REFERENCES

- Bach, Emmon. 1986. "The Algebra of Events". *Linguistics and Philosophy* 9. 5-16.
- Declerck, Renaat. 1995. "The problem of *not...until*". *Linguistics* 33.51-98.
- Heinämäki, Orvokki. 1974. *Semantics of English Temporal Connectives*. Ph.D. Dissertation, Univ. of Texas, Austin. Reproduced by Indiana University Linguistics Club, 1978.
- Kamp, Hans & Uwe Reyle. 1993. *From Discourse to Logic. Introduction to Modeltheoretic Semantics of Natural Language, Formal Logic and Discourse Representation Theory*. Dordrecht: Kluwer.
- Móia, Telmo. 2000. *Identifying and Computing Temporal Locating Adverbials with a Particular Focus on Portuguese and English*, Ph.D. Dissertation, Univ. de Lisboa.
- Rooth, Mats. 1985. *Association with Focus*. Ph.D. Dissertation, Univ. of Massachusetts. Reproduced by GLSA Publications, Univ. of Massachusetts, Amherst.

- Scha, Remko. 1981. "Distributive, Collective and Cumulative Quantification". *Formal Methods in the Study of Language* ed. by Jeroen A. G. Groenendijk, T. Jansenn and Martin Stokhof, 483-512. Amsterdam: Mathematisch Centrum.
- Vlach, Frank. 1993. "Temporal Adverbials, Tenses and the Perfect". *Linguistics and Philosophy* 16.231-283.