Consecutive sentences in European Portuguese: a quantificational approach

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Abstract

The sentences with consecutive clauses have been a controversial topic because not only their syntactic status but also their semantic interpretation are confronted with many problems which give rise to different analysis. The scrutiny of several grammar books and studies concerning this matter in different Romance languages such as European Portuguese, Spanish, French and Italian clearly shows the absence of a unified approach to this linguistic phenomenon.

Our aim in this paper is to propose a semantic analysis of finite subordinate consecutive sentences in European Portuguese grounded on quantificational issues.

Firstly, we will look over the treatment of consecutive sentences in some grammar books of the languages already mentioned. Secondly, we will focus our attention on some 'triggers' of consecutive structures like *tanto* ('so much/ so many'), *tão* ('so'), *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such') and on possible semantic readings. Finally, we will present our semantic proposal of analysis for consecutive sentences in European Portuguese.

As matter of fact, quantification in consecutive sentences plays a very important role regarding their interpretation. The data suggest the existence of three different types of quantificational consecutive sentences corresponding to quantification over individuals (objects), quantification over situations and quantification over properties. This tripartition helps to explain some relevant restrictions related to the sort of linguistic 'triggers' of consecutive structures and, in some cases, related to the classes of words that can occur with these, to the nature of aspectual classes of situations of the main clause and to the type of nominal predicates involved in the quantification.

Key words: finite subordinate consecutive sentences, semantic proposal, quantificational analysis.

Resumo

As frases com orações consecutivas têm sido um tópico controverso porque, não só o seu estatuto sintáctico, como também a sua interpretação semântica são confrontados com muitos problemas que dão origem a análises diferentes. A observação de várias gramáticas e estudos sobre este assunto em diferentes línguas românicas como o Português Europeu, o Espanhol, o Francês e o Italiano mostra claramente a ausência de uma abordagem homogénea deste fenómeno linguístico.

O nosso objectivo neste artigo é propor uma análise semântica das frases consecutivas subordinadas finitas em Português Europeu baseada em critérios quantificacionais.

Em primeiro lugar, debruçar-nos-emos sob o tratamento das frases consecutivas em algumas gramáticas das línguas já mencionadas. Seguidamente, focaremos a nossa atenção em alguns marcadores de estruturas consecutivas como *tanto*, *tão*, *cada*, *um*, *um tal* e *tal* e nas leituras semânticas possíveis. Por fim, apresentaremos uma proposta semântica de análise das frases consecutivas em Português Europeu.

De facto, a quantificação nas frases consecutivas desempenha um papel muito importante no que diz respeito à sua interpretação. Os dados sugerem a existência de três tipos diferentes de frases

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consecutivas quantificacionais correspondendo à quantificação sobre indivíduos (objectos), quantificação sobre situações e quantificação sobre propriedades. Esta tripartição ajuda a explicar algumas restrições relevantes relacionadas com o tipo de marcadores linguísticos das frases consecutivas e, em alguns casos, relacionadas com classes de palavras que podem ocorrer com estes, com a natureza das classes aspectuais das situações da oração principal e com o tipo de predicados nominais envolvidos na quantificação.

Palavras-chave: frases consecutivas subordinadas finitas, proposta semântica, análise quantificacional.

Resumée

Les phrases aux propositions consécutives constituent un problème complexe parce que son statut syntaxique et son interprétation sémantique envisage beaucoup de problèmes qui donnent lieu à des analyses très différentes. L'observation de plusieurs grammaires et études sur ce sujet en diverses langues romanes comme le Portugais Européen, l'Espagnol, le Français et l'Italien montre clairement l'absence d'un traitement homogène de ce phénomène linguistique.

Notre but, dans cet article, est donc celui de proposer une analyse sémantique des phrases subordonnées consécutives finies en Portugais Européen fondée sur des critères de quantification.

D'abord, nous aborderons le traitement des phrases consécutives dans quelques grammaires des langues signalées ci-dessus. En suite, nous concentrerons notre attention sur quelques marqueurs de structures consécutives comme *tanto* ('tant'), *tão* ('si' / 'tellement'), cada ('chaque'), *um* ('un'), *um tal* ('un tel') et *tal* ('tel') et sur leurs lectures sémantiques possibles. Finalement, nous présenterons une analyse sémantique des phrases consécutives en Portugais Européen.

En effet, nous conclurons que la quantification joue un rôle très important dans les phrases consécutives en ce qui concerne leur interprétation. Les données observées suggèrent l'existence de trois types différents de phrases consécutives – celles quantifiant sur des individus (objects); celles quantifiant sur des situations et celles quantifiant sur des propriétés. Cette tripartition nous aide à expliquer quelques restrictions importantes relatives aux différents marqueurs linguistiques dans les phrases consécutives. Elle peut expliquer aussi quelques restrictions sur les classes de mots, la nature des classes aspectuelles des situations de la proposition principale et le type de prédicats nominaux compris dans la quantification.

Mots-clefs: Phrases subordonnées consécutives finies; analyse sémantique; quantification.

Contents

1. Introduction

Consecutive sentences constitute a complex and controversial topic in linguistics. In European Portuguese, for instance, (but also in other Romance languages) there is no agreement neither on the syntactic nature of this kind of sentences, nor on the linguistic means involved. As matter of fact, as we will see shortly, the grammar books on Romance languages discussed in this paper differ substantially in some important

aspects concerning the analysis of these constructions. Thus, our main goal will be to provide answers to the following questions:

(i)   How can we characterise consecutive sentences?
(ii)   What are their core properties?
(iii)   What linguistic structures are involved in consecutive sentences?

In order to obtain satisfactory answers to those questions, we will discuss in more detail the expression of consecutive sentences in European Portuguese. In particular, we will explore some syntactic and semantic restrictions associated with the different 'triggers'[3] available in this language, namely *tanto* ('so much/so many'), *tão* ('so much'), *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such'), comparing their linguistic behaviour and characteristics.

Finally, we will provide a semantic analysis of consecutive sentences based on the notion of quantification. As we will argue, consecutive sentences may quantify over individuals, over eventualities or over properties and this will be a distinctive characteristic of these constructions.

2.   The analysis of consecutive sentences by grammar books of European Portuguese, Spanish, French and Italian

An examination of some grammar books on Romance languages such as European Portuguese, Spanish, French and Italian will endows us with a general view of how the complex sentences with consecutive clauses are treated within those languages and, simultaneously, it will disclose the upsides and downsides of those treatments.

In order to achieve this goal, we consulted the following grammar books of reference for each of the languages already mentioned:

- European Portuguese - Mateus, M. H., A. Brito, I. Duarte e I. Faria (2003). *Gramática da Língua Portuguesa*. Lisboa: Ed. Caminho, 5ª edição, revista e aumentada.
- Spanish- I. Bosque e V. Demonte (orgs) (1999). *Gramática descriptiva de la lengua española*. Madrid: Espasa.
- French - Grevisse, Maurice (1988). *Le Bon Usage: Grammaire Française*. Douzième édition refondue par André Goose. Paris: Duculot.
   Riegel, Martin, Jean-Christophe Pellat & René Rioul (1997). *Grammaire Méthodique du Français*. Paris: Presses Universitaires de France.
- Italian - Renzi, Lorenzo e Giampaolo Salvi (orgs.) (1997). *Grande Grammatica Italiana di Consultazione.,* Urbino: Ed. Il Mulino.

The study of these grammar books reveals an analysis of complex sentences with consecutive clauses focused mainly on syntactic and lexical questions. In fact, all the five grammar books, in a more or less detailed manner, refer to the definition of this type of sentences; to the types of consecutive sentences; to the type of words that introduce the main and subordinate clauses; to the word classes that are modified by the

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[3] We chose to use in this paper the term 'trigger' to refer to words or expressions that occur in the main clause of consecutive sentences expressing some kind of quantification or intensification that leads to the consequence represented by the consecutive clause. The choice of this more neutral term is justifiable by the fact that, although some of these words or expressions are inequivocally quantifiers, others aren't.

quantifiers in the main clause; to the selection of the mood in the consecutive clause; and to their syntactic features.

For a start, the analysed grammar books present a very brief semantic definition of complex sentences with consecutive clauses. Brito (2003: 754) defines the consecutive clauses as "orações que exprimem uma consequência da intensidade de uma qualidade, da quantidade de um objecto, da qualidade de um processo descritos na oração matriz". According to I. Alvarez (1999: 3741), the consecutive clauses express the consequence of an action, the circumstance or the quality referred to in the main clause. In their *Grammaire Méthodique du Français*, Riegel *et al.* (1997: 516) suggest that consecutive clauses mainly express "la conséquence (…) pour justifier une évaluation marquant le degré élevé d'une qualité ou l'intensité d'un procès". Giusti (1997: 824) says that "le frasi consecutive esprimono l'effecto o il resultato di un element o dell'intero evento della frase principale."

As far as the classification of the consecutive sentences is concerned, the criteria vary from grammar book to grammar book. On one hand, the French and the Italian grammar books distinguish between consecutive clauses with and without antecedent. On the other hand, the Spanish grammar book differentiates between the consecutive clauses featured by subordination (consecutives of intensity, consecutives of manner, consecutive-comparatives and causal-intensive) and those featured by coordination and juxtaposition. The Portuguese grammar book establishes one type of canonical consecutive clauses, the consecutive clauses of intensity, and it approximates these to the infinitive consecutive clauses and to some conclusive coordinate clauses[4].

A recurrent topic in the analysis of complex sentences with consecutive clauses by grammar books is what type of words or expressions introduce the consecutive clauses and which their antecedents are. Notwithstanding that, the designations of those words or expressions vary a lot: some call them 'markers', other 'subordinators' or 'lexical items'; some call them 'adverbs', other 'expressions of quantity' or 'quantifiers'. The following table illustrates some of the words or expressions used in a complex sentence with a consecutive clause[5].

	European Portuguese	Spanish	French	Italian
Main clause	tal, tanto, tão, tamanho	tanto, tal, cada, un, assí	si, tant, tellment	Così, tanto, talmente
Subordinate clause	que	que	que	che
Example	Este filme é tão cómico que os espectadores riem todo o tempo. (755)	Gritaba tanto que no podíamos oír nada (3741)	Elle a tant d'amoureux qu'elle ne sait lequel prendre. (516)	Ha sposato una ragazza così bell ache fa girare la testa a tutti.(826)

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[4] Although the author points out that the typical consecutive clauses are of intensity and that the other two only relate to those insofar as meaning is concerned, she still names one of these consecutive. However, as far as we know, there is not enough syntactic or semantic evidence to support this classification of clauses introduced by expressions as suficiente, bastante (enough)... para (to). The same observation is valid for the classification proposed by the Spanish grammar book for these types of clauses. The author named them consecutive-comparative.

[5] The aim of this table is not at all to establish a comparison between the four languages, but merely to exemplify the words and expressions used as subordinators of consecutive clauses and as their antecedents.

Another common step of the analysis is the scrutiny of which word classes can be modified by the quantifiers in the main clauses. It follows that they can select nouns, adjectives and verbs, according to the French and Italian grammar books. Besides these, the European Portuguese and Spanish grammars books add adverbs to the list of possible word classes that can co-occur with the quantifiers in the main clause.

Furthermore, the consultation of the grammar books informs us that the selection of the mood by the subordinate clause is also considered in the characterisation of consecutive clauses. One can come across with the Indicative, the Subjunctive, the Infinitive or the Conditional depending on the subordinator and/ or the degree of certainty intended for the situation expressed by the subordinate clause. Nonetheless, the Italian grammar book, for instance, doesn't go into the different readings originated by the use of different moods.

What is more, only the Spanish grammar book examines thoroughly the possible combinations of tenses in complex sentences with consecutive clauses.

Undoubtedly, the syntactic description occupies a prominent place in the analysis of this type of sentences. Nevertheless, one fact is clear from the analysis: there are still many unsolved problems as to their classification. The European Portuguese grammar book groups the consecutives with the comparative, 'conformational' and proportional sentences under the branch of structures of gradation and comparison, separating them from the adverbial sentences and from the relative sentences. Yet, the author observes that the consecutive sentences also differ from the comparative as respect to the type of subordinator that introduces the subordinate clause:

"Todos estes comportamentos permitem concluir que as consecutivas diferem das comparativas pelo facto de o *que* ser um complementador; distinguem-se das subordinadas adverbiais por não serem deslocáveis e não poderem ser objecto de clivagem; têm afinidades, mas também diferenças importantes, com as relativas." (Brito 2003: 759)

The Spanish grammar book states that consecutive sentences are closer to the comparative and relative sentences than to the adverbial ones:

"Constituyen, así pues, un tipo de subordinada diferenciado de las adverbiales causales, condicionales, concesivas, modales, temporales, o locativos, puesto que no funcionan como complementos del núcleo verbal de la oración sino integrados junto con su antecedente en un sintagma nominal, adjetival o adverbial." (I. Álvarez 1999: 3746)

The French grammar books claim that the consecutive sentences belong to the so-called *système corrélatif* (correlative system) (they are neither subordinate nor coordinate sentences), since the two clauses involved in this construction are interdependent. Regardless of that, Grevisse (1988) recognises that not all consecutive sentences are correlative propositions. In fact, expressions like *de telle sorte que* ('in such a manner that'), *si bien que* ('so well that') or *à tel point que* ('to such a point that') introduce adverbial subordinate clauses, having no antecedent in the matrix.

The Italian grammar book classifies the consecutive sentences as adverbial sentences ("frasi avverbiali") next to the temporal, final, causal, conditional, concessive and comparative sentences.

There are other syntactic features that are considered by the grammar books namely: the possible positions of the main clause and subordinate clause; the places of

the quantifier and the modified element in the main clause; and the syntactic functions of the antecedent.

Overall, the analysis of the consecutive sentences by the grammar books takes the examined topics into consideration. Even so, there are two grammar books, the European Portuguese and the Spanish, that go into a semantic description of this type of sentences, though to a different extent. Whereas, the former only alludes to the expression of degree, quantity and intensity as a distinguishing feature of the consecutive sentences, the latter does an examination to a larger extent, taking into account the different semantic readings resulting from the use of several expressions of intensity.

All in all, the treatment proposed by the five grammar books poses some questions which we will address in the following paragraphs.

The definitions presented mention two important features of the consecutive clauses, that is, the expression of some kind of intensity in the main clause and the expression of the consequence of that intensity in the subordinate clause. But is it enough such a definition to characterise the consecutive clauses? We argue that in fact the definitions are vague and imprecise and they don't include relevant aspects such as what type of intensity is represented in the main clause.

Furthermore, the list of the words and expressions that can occur in the main clause, though necessary, reveals itself precarious without a thorough description of their possible readings. The same observation is valid for the list of word classes that are modified by the quantifiers in the main clause.

The selection of mood and possible combinations of tenses represent, without a doubt, an important contribution to the study of consecutive sentences. Nonetheless, there are aspectual restrictions imposed by the use of some quantifiers and/ or the co-occurrence of some quantifiers with nouns, adjectives, verbs or adverbs that need to be taken into consideration too.

Moreover, the syntactic analysis is not peaceful and many problems arise. Although many syntactic tests validate the hypothesis that the consecutive sentences aren't neither adverbial nor relative, there isn't still a solid argumentation and background that allow us to create a consistent classification. Maybe, a more complete semantic description may contribute to a clarification of a possible classification.

In sum, the grammar books subjected to our study show some of the upsides and downsides of the treatment of consecutive sentences. On one side, the lexical information and some syntactic knowledge present themselves quite valuable for a more complete understanding of this type of sentences. On the other side, the lack of a systematic semantic analysis constitutes a significant obstacle to a full comprehension of several types of readings and, therefore, to a more accurate characterisation of consecutive sentences.

For the remainder of this paper, we will focus on structures that are consensually classified as consecutive sentences, since they involve some kind of quantification. To this end, we will take into consideration in our analysis finite subordinate consecutive sentences involving triggers like *tanto* ('so much/ so many'), *tão* ('so'), *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such').

As matter of fact, we claim that a semantic analysis of the finite subordinate consecutive sentences, more specifically, an analysis grounded on quantificational issues is of significant importance for an adequate treatment of this type of sentences because it gives us information that will enable us to propose a semantic classification, clarifying the role of each type of consecutive sentences.

3. Some triggers of consecutive structures in European Portuguese: a brief analysis

In this section, we will describe and analyse some of the linguistic expressions that give rise to consecutive sentences in European Portuguese. In particular, we will focus on *tanto* ('so much/so many'), on *tão* ('so'), on *cada* ('such'), on *um* ('such a') and on *tal* ('such'), discussing some of the syntactic and semantic restrictions that limit their possibilities of occurrence, as well as the type of quantification in which they are normally involved. We will specifically take into consideration the ontological nature of the entities that are in the scope of the quantification.

3.1 *Tanto* ('so much/so many')

One of the most frequent triggers of consecutive sentences in European Portuguese is the quantifier *tanto* ('so much/so many'). However, we must clearly distinguish two different operators that, as we will see shortly, behave quite differently: the determiner-like inflected *tanto* ('so much/so many'), selecting nominal expressions, and the adverb-like non-inflected *tanto* ('so much'), having scope over predications.

3.1.1 The inflected *tanto* ('so much/so many')

In European Portuguese, the inflected *tanto* ('so much/ so many') behaves like a determiner in that it takes in its scope only nominal expressions. In addition, it agrees with them in gender and number. Furthermore, it must always appear in adjacency to the noun phrases in its scope, as the following examples illustrate:

(1) O Guilherme   comeu tantas   bolachas   que
     ficou doente.
     The Guilherme   ate   so-manyFEM/PL   cookiesFEM/PL   that
     got   sick.
     'Guilherme ate so many cookies that he got sick.'
(2) *O Guilherme   tantas   comeu bolachas   que
     ficou doente.
     The Guilherme   so-manyFEM/PL   ate   cookiesFEM/PL   that
     got   sick.
     *'Guilherme so many ate cookies that he got sick.'
(3) *Tantas   o Guilherme   comeu bolachas   que
     ficou doente.
     So-manyFEMPL   the Guilherme ate   cookiesFEMPL   that
     got   sick.
     *'So many the Guilherme ate cookies that he got sick.'

Almost all kinds of nominals are compatible with the inflected *tanto* ('so much/so many'). In fact, it can combine either with count or mass nouns, as (4) and (5) confirm:

(4) A Ana   ganhou   tantos   prémios   que
     ficou rica.
     The Ana   won   so-manyMASC/PL   prizesMASC/PL   that
     got   rich.
     'Ana won so many prizes that she got rich'

(5) A Ana   ganhou   tanto   dinheiro
que   ficou   rica.
The Ana   won   so-muchMASC/SING   moneyMASC/SING
that   got   rich.
'Ana won so much money that she got rich.'

In any case, the occurrence of the eventuality expressed in the consecutive clause seems to be dependent on the attainment of some quantity associated with the nominal in the antecedent clause. In the case of (1), for instance, it is the number of cookies that Guilherme ate that leads to his state of sickness. Similarly, in (5), it is the amount of money won by Ana that leads to her state of richness.

In the case of count nouns, it is the number of entities that is responsible for the consequence expressed in the consecutive clause; in the case of mass terms, it is the amount of stuff that gives rise to the conveyed consequence.

Even in sentences like (6),

(6) O João   fez   tanto   barulho   que
acordou   os   vizinhos.
The João   made so-muchMASC/SING   noiseMASC/SING   that
woke-up   the   neighbours.
'John made so much noise that he woke up his neighbours.'

it is the quantity or the amount of noise that is relevant for the waking up of the neighbours.

When combined with the noun *vezes* ('times'), the inflected *tanto* ('so much/so many') unambiguously brings on the quantification over situations reading, as the following example illustrates:

(7) A Maria   lavou   o   casaco tantas   vezes que   ele
encolheu.
The Maria   washed   the   coat   so-many   times that it
shrank.
'Maria washed the coat so many times that it shrank.'

In (7), it is the quantity of repeated situations in which Maria washed her coat that leads to its shrinking.

This is not quite surprising since, as pointed out, among others, in Cunha e Leal (2006) and in Cunha (2007), the quantification over situations is frequently carried out by expressions involving the noun *vezes* ('times'), such as *N vezes* ('N times'), *cada vez mais vezes* ('more and more times') or *muitas/ poucas /algumas vezes* ('many/ few/ some times').

Finally, it is interesting to point out that, given some interactions between inferences and our world knowledge, some sentences involving quantification over individuals can indirectly prompt a quantification-over-situations reading. Consider the example in (8):

(8) Este   crocodilo   comeu tantos   gnus   que   cresceu
rapidamente.
This   crocodile   ate   so-many   gnus   that   grew-up
quickly.

'This crocodile ate so many gnus that it grew up quickly.'

In sentences like (8), the determiner *tanto* ('so much/so many') quantifies explicitly over the individuals in its scope – namely, gnus ('gnus'). The interpretative conditions imposed by the consequence referred to in the subordinate clause, however, force an inference of multiple eventualities: in order for the crocodile to grow up, it must have eaten many gnus in different situations. Such reading does not, nonetheless, follow from the semantics of the quantifier *tanto* ('so much/so many') but from the semantics of the whole sentence and from our world knowledge.

3.1.2 The non-inflected *tanto* ('so much')

Contrary to the inflected *tanto* ('so much/ so many'), which, as we have just seen, obligatorily combines with nominal expressions, the non-inflected *tanto* ('so much') applies to the predication as a whole. In this sense, it will quantify either over a range of eventualities or over the properties characterising a given eventuality.

Since it applies to the whole predication and, consequently, it is not restricted to any of its constitutive parts, the non-inflected *tanto* ('so much') may occur in several positions in the sentence (cf. (9)-(11)). As we will argue shortly, the different positions that *tanto* ('so much') takes in a sentence, in combination with other information, will have important consequences with respect to its interpretative possibilities.

(9)	O	gnu	correu	tanto	que	escapou	ao	ataque
	dos	leões.						
	The	gnu	ran	so-much	that	escaped	from-the	attack
	of-the	lions.						

'The gnu ran so much that it escaped from the lions' attack.'

(10)	O	gnu	tanto	correu	que	escapou	ao	ataque
	dos	leões.						
	The	gnu	so-much	ran	that	escaped	from-the	attack
	of-the	lions.						

'The gnu ran so much that it escaped from the lions' attack.'

(11)	Tanto	o	gnu	correu	que	escapou	ao	ataque
	dos	leões.						
	So-much	the	gnu	ran	that	escaped	from-the	attack
	of-the	lions.						

'So much the gnu ran that it escaped from the lions' attack.'

As we have just pointed out, the non-inflected *tanto* ('so much') can be used not only to quantify over a set of situations, as in (12), but also to express a high degree of some property that, in a way or another, characterises the eventuality of the antecedent clause and that leads to the consequence expressed, as in (13).

| (12) | O Guilherme | | comeu | tanto | que | ficou | doente. |
| | The Guilherme | | ate | so-much | that | got | sick. |

'Guilherme ate so much that he got sick.'

| (13) | O Guilherme | | comeu | tanto | que | engordou. |
| | The Guilherme | | ate | so-much | that | got-fat. |

'Guilherme ate so much that he got fat.'

The preferred reading of a sentence like (12) seems to involve a single occurrence of the eating situation, the state of sickness being a consequence of some property of that eventuality (e.g. Guilherme ate an enormous amount of food). Conversely, in (13), the most likely reading points to a repetition of the eating situation: Guilherme only can get fat if he eats repeatedly a great quantity of food.

So, we may conclude that the non inflected *tanto* ('so much') is clearly ambiguous between a quantification-over-situations and a quantification-over-properties readings. The consequence expressed in the subordinate clause, as well as other contextual factors, such as our world knowledge, may favour one of the two available interpretations.

It is interesting to notice that, in some of these examples, the position in the sentence occupied by the non-inflected *tanto* ('so much') is somehow relevant with respect to its final interpretation. Thus, a quantification-over-situations reading seems to be preferred when *tanto* ('so much') occupies a pre-verbal position than when it occurs in a post-verbal one; in this last case, the property intensifying interpretation seems to be strengthened.

Although undoubtedly subtle, this difference shows up more sharply if we consider structures in which we can explore some scope ambiguities. Consider the following illustrative examples:

(14) O João   bateu tanto   na Maria   que   ela
      saiu   de   casa.
      The João   beat   <u>so-much</u>/so-many-times   in-the Maria that   she
      left   from   home.
      'João beat Maria <u>so much</u>/so many times that she left home.'
(15) O João   tanto   bateu   na Maria   que
      ela   saiu   de   casa.
      The João   so-much/<u>so-many-times</u>   beat   in-the Maria   that   she
      left   from   home.
      'João beat Maria so much/<u>so many times</u> that she left home.'

Although both sentences are, to a certain extent, ambiguous, their preferential readings seem to be quite different. While (14) points to an intensive property interpretation, in which Maria leaves home as a consequence of a particularly violent or long beating by João – the post-verbal quantifier is considered to have narrow scope –, (15) expresses typically a quantification over situations in which Maria leaves home as a consequence of repeated beatings by João: here, the pre-verbal quantifier is seen as having wide scope over the whole eventuality, causing its reiteration.

In short: although the adverbial *tanto* ('so much') leads to a true interpretative ambiguity between an intensive property and a quantification-over-situations reading, which normally is solved by the nature of the eventuality expressing the consequence and by some other contextual factors, its placement in the sentence may be relevant concerning the choice speakers make.

3.2 *Tão* ('so')

In European Portuguese, *tão* ('so') typically quantifies over properties, preferably selecting adjectives[6] (cf. (16)) and adverbs (cf. (17)). However, unlike the non-inflected

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[6] We follow the division proposed, in Mateus *et al.* (2003), Demonte (1999) and Miguel (2006), in three lexical-syntactic classes of adjectives: qualificative adjectives (express qualities or states of the names

tanto ('so much'), which, as we have just pointed out, always applies to properties of the whole predications, *tão* ('so') can also refer to properties ascribed to particular individuals.

(16) O João   é   tão   rico   que   tem   cinco casas.
     The João   is   so   rich   that has   five   houses.
     'João is so rich that he has five houses.'

(17) A   escola da Maria   é   tão   longe que   ela   demora
     três   horas a   chegar lá.
     The   school of-the Maria is   so   far   that she   takes
     three   hours to   arrive there.
     'Maria's school is so far that she takes three hours to get there.'

In order to be quantified by *tão* ('so'), an adjective must establish some kind of "scale" or "gradation" – in fact, it is the attainment of a certain degree of that scale that leads to the consequence expressed in the consecutive clause. Thus, it is not surprising that qualificative adjectives are suitable to occur in these constructions, as shown in (18), contrasting with the relational ones, which normally induce semantic anomaly, as illustrated in (19)[7].

(18) A   invasão   foi   tão   brutal que   morreram   milhões
     de   pessoas.
     The   invasion   was   so   brutal that died   millions
     of   persons.
     'The invasion was so brutal that millions of people died.'

(19) *A   invasão   foi   tão   militar   que   morreram
     milhões   de   pessoas.
     The   invasion   was   so   military   that died
     millions   of   persons.
     *'The invasion was so military that millions of people died.'

However, if it is possible to recategorise a relational adjective (cf. (20)) and an adverbial adjective (cf.(21)) into a qualificative one, ascribing to it a "scalar" structure, the combination with *tão* ('so') becomes perfectly acceptable.

(20) A   escola do Jaime   era   tão   urbana que   os   alunos
     do   campo   eram discriminados.
     The   school of-the Jaime was   so   urban that the   students
     from-the   countryside   were discriminated.
     'James' school was so urban that the students from the countryside were
discriminated.'

(21) A   promessa   era   tão   falsa que   a Maria   nunca mais
     acreditou   nele.
     The   promise   was   so   false that the Maria   never again
     believed   in-him.

'The promise was so false that Maria never believed him again.'

Similar observations can be extended to adverbs co-occurring with *tão* ('so). In fact, we can find adverbs of manner (22), adverbs of time (23) and adverbs of place (24) in these contexts, provided that they convey properties that, in a way or another, can be "gradated" in a qualitative scale, what amounts to say that they can be placed in some point of that scale, in order to fulfil the conditions to get the consecutive clause.

(22) O   gnu   correu tão   rapidamente que   fugiu   ao
ataque dos   leões.
The   gnu   ran   so   fast   that   escaped   from-the
attack of-the lions.
'The gnu ran so fast that it escaped from the lions' attack.'

(23) A Maria   chegou   à   escola tão   tarde que   perdeu a
primeira   aula.
The Maria   arrived   at-the school so   late   that   lost   the
first   class.
'Maria arrived at school so late that she lost the first class'

(24) O   avião   voou   tão   baixo que   chocou   contra os
prédios.
The   airplane   flied   so   low   that   collided   against the
buildings.
'The airplane flied so low that it collided with the buildings.'

It is interesting to notice that, while *tão* ('so') combined with adjectives typically ascribes a property to an individual, co-occurring with adverbs it normally describes a property of a situation.

Tão ('so') is normally ruled out when it is combined with nominal expressions, as the following example illustrates:

(25) *O Guilherme   comeu tão   bolo   que   ficou doente.
The Guilherme   ate   so   cake   that   got   sick.
*'Guilherme ate so cake that he got sick.'

Nevertheless, if a noun is used adjectivally, expressing some relevant scalar characteristics of a given individual, it will be fairly acceptable in this context, as (26) shows:

(26) Sou   tão,   tão   fado   que   até   me   sinto feliz por   ser
triste. (*corpora*)[8]
Am   so,   so   fado   that   even   me   feel   happy to   be
sad.
'I am so, so fado that I even feel happy to be sad.'

3.3 *Cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such')

Similarly to the inflected *tanto* ('so much/so many'), expressions such as *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such') exclusively apply to nominal expressions. In spite of this, they differ from the trigger discussed in 3.1.1 in that they do not quantify over the number of individuals involved but rather over their characterising properties. That is, although we have nouns under the scope of *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such'), the quantification is effectively made over some relevant properties associated with the selected nominal expressions.

Therefore, we can say that the consecutive triggers under analysis in the present subsection combine with nominal expressions but do not quantify over individuals; they convey some kind of intensive quantification over relevant qualities or properties associated with them.

It is interesting to observe that *cada* ('such') obligatorily requires a plurality of individuals in its scope; however, it is not the number of entities that is quantified. Consider the following example:

(27) A   gazela deu   cada   salto   que   espantou   os   leões.
      The   gazelle gave   such   jump   that   scared   the   lions.
      'The gazelle gave such a jump that it scared the lions.'

What is relevant in (27) is not the real number of jumps performed by the gazelle, but the quality of those jumps (e.g. their height or their length).

Similar remarks can be made for the other expressions considered here, except for the plurality requirement. In the sentences of (28)-(30) we get a consistent intensive quantification over properties:

(28) O João   deu   UM   pontapé   ao   amigo que   o   pôs
      a   chorar.
      The João   gave   A   kick   at-the friend that   him   put
      to   cry.
      'João gave his friend A kick that it made him cry.'
(29) Cristiano Ronaldo   marcou   um   tal   golo   que   entusiasmou
      os   espectadores.
      Cristiano Ronaldo   scored   a   such   goal   that   roused
      the   viewers.
      'Cristiano Ronaldo scored such a goal that it roused the viewers.'
(30) A Maria   sentiu   tal   dor   que   chamou   uma   ambulância.
      The Maria   felt   such   pain   that   called   an   ambulance.
      'Maria felt such pain that she called an ambulance.'

In sentence (29), for instance, what is said is that it were the exceptional characteristics of the goal performed by Cristiano Ronaldo that caused the enthusiasm of the viewers; in fact, Cristiano Ronaldo scored a single goal, so it is not the quantity of entities (goals, in our example) that is measured out by expressions as those we are analysing here.

It is important to point out that structures including "um" and, to a certain extent, "cada", are only considered consecutive sentences if it is used a special prosody. In fact, in (28), unless there is a special prosody, "um" is interpreted as an indefinite article and the subordinate clause as a relative.

Note, finally, that, although they frequently occur in the singular, nothing prevents *um* ('a'), *um tal* ('such a') and *tal* ('such') from taking in their scope a plurality of entities. However, their interpretation does not change, i.e., they continue to quantify over properties, not over individuals. (31) exemplifies with *tal* ('such'):

(31) A Teresa contou tais histórias às crianças que elas ficaram assustadas.
The Teresa told such stories to-the children that they became frightened.
'Teresa told the children such stories that they became frightened.'

In summary, we can say that operators such as *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such') do not quantify directly over entities but, instead, they intensify some relevant qualitative properties associated with the nominals in their scope. The consecutive clause will be the result of the attainment of a certain degree on the scale provided by the above-mentioned property.

4. A semantic classification of consecutive sentences

The analysis of the data strongly suggests a semantic classification of the described consecutive sentences grounded on the types of quantification, namely on the ontological nature of the entities that are quantified.

We argue that consecutive sentences can be divided into three types. In fact, whenever consecutive sentences occur, there is quantification over individuals (objects), over situations or over properties. Furthermore, the expression of a contextually established quantity of individuals, situations or properties described in the main clause is responsible for the existence of the eventuality represented in the consecutive clause.

4.1 Quantification over individuals

In the case of the quantification over individuals consecutive sentences, the occurrence of the eventuality expressed by the consecutive clause is dependent on the existence of a certain quantity of entities or it is dependent on the existence of a certain portion of an entity. This variability is due to the fact that the relevant noun can be a count or a non count one. In both cases, the denotations of the nouns are involved in the state of affairs expressed by the main clause. For example, in (32) and (33), the occurrence of the eventuality "ficar mal disposto" (to get sick) is related to the existence of a certain portion of the entity "água" (water), a non count noun, or of a certain quantity of objects denoted by "bolachas" (cookies), a count noun.

(32) O João bebeu tanta água que ficou mal disposto.
The-João drank so-much water that got sick.
'João drank so much water that he got sick.'

(33) O João comeu tantas bolachas que ficou mal disposto.
The-João ate so-many cookies that got sick.
'João ate so many cookies that he got sick.'

The exact amount of entities or of portions of an entity is not determined and it is lexically and/or contextually dependent, as illustrated by (34). In both cases, the

eventuality expressed by the consecutive clause ("ganhar o jogo/ o campeonato" – *to win the game/ the championship*) is related to the number of goals FC Porto scored. In (34a), the quantity of goals may be three, four or five goals, but, in (34b), the quantity of goals may be forty, fifty or even more. This difference is due to the fact that the required number of goals to be champion is greater because it is necessary to play several games, and not only one game.

(34)

a.

FC Porto	marcou	tantos	golos	que	ganhou	o

jogo.

FC Porto	scored	so-many	goals	that	won	the

game.

'FC Porto scored so many goals that it won the game.'

b.

FC Porto	marcou	tantos	golos	que	ganhou	o

campeonato.

FC Porto	scored	so-many	goals	that	won	the

championship.

'FC Porto scored so many goals that it won the championship.'

4.2 Quantification over situations

In the quantification over situations consecutive sentences, the eventuality expressed by the consecutive clause arises as a result of the repetition or the recurrence of a given situation, expressed by the main clause, in a non-specified number of times. In other words, the repetition of a given situation (expressed by the main clause) gives rise to the eventuality in the consecutive clause. In (35), the repetition of occurrences of the event "o Pedro gritar" (Peter screaming) in a non specified number of occasions leads to the eventuality "acordar os vizinhos" (to wake up the neighbours).

(35)

O Pedro	gritou	tantas	vezes	que	acordou	os

vizinhos.

The Pedro	screamed	so-many	times	that	woke	the

neighbours.

'Pedro screamed so many times that he woke up the neighbours.'

Notice that this kind of quantification implies some restrictions in what concerns the aspectual types that can occur in the main clause. Events that cannot be repeated are excluded (cf. (36)). This restriction also applies to all individual-level non-phase statives (cf. Cunha 2004), as we can see in (37).

(36)

* O	meu	gato	morreu	tantas	vezes	que	o

enterrei	no	jardim.

The	my	cat	died	so- many	times	that	him

buried	in-the	garden.

*'My cat died so many times that I buried him in the garden.'

(37)

* O João	foi	tantas	vezes	alto	que	jogou	numa	equipa

de	basquetebol.

The João was so-many times tall that played in-a team
of basketball.
*'João was tall so many times that he played in a basketball team.'

4.3 Quantification over properties

The "quantification over properties" consecutive sentences can be divided into two groups, according to the kind of quantification: quantification over properties of individuals and quantification over properties of situations.

As far as the quantification over properties of individuals is concerned, there is the representation of an intensified property belonging to referents that are denoted by noun phrases occurring in the main clause (cf. (38)). In the case of the quantification over properties of situations, there is the representation of a property of a stative or eventive situation denoted by the verb phrase of the main clause (cf. (39)).

(38) Cavaco Silva foi tão democrata que nem quis
contrariar o Catroga (*corpora*).
Cavaco Silva was so democrat that not-even wanted
to-go-against the Catroga.
'Cavaco Silva was so democrat that he didn't even want to go against Catroga.'

(39) Neste Mundial, há equipas que correm tanto
que parecem acreditar que, dessa forma atlética,
o jogo dura menos ou acaba antes.(*corpora*)
On-this World-Championship are teams that run so-
much that seem believe that in-that way athletic
the game last less or ends before.
'On this world championship there are teams that run so much that they seem to believe that, in that athletic way, the game lasts less time or it ends before.'

This kind of quantification over properties requires the locating of a property in a point of a qualitative scale featured by many points. Therefore, there are some restrictions as to the adjectives, nouns and adverbs that can occur in this construction (cf. section 3).

5. Conclusions

In this paper, we tried to provide a unified semantic analysis of a group of consecutive sentences based on the notion of quantification.

We began by recognising some of the most relevant upsides and downsides of the treatment of consecutive sentences presented in several grammar books of European Portuguese, Spanish, Italian and French. In particular, we observed that the authors didn't agree with respect to the properties that unambiguously distinguish and unify consecutive sentences.

Then, we explored some linguistic properties associated with different triggers of consecutive clauses in European Portuguese, namely *tanto* ('so much/so many'), *tão* ('so much'), *cada* ('such'), *um* ('a'), *um tal* ('such a') and *tal* ('such'). We observed that they take different syntactic constituents in their scope (nominal, adjectival, verbal, adverbial or even clausal configurations) and that these restrictions have important consequences in their semantic interpretation in the sense that they regulate, to a certain extent, the kind of quantification expressed.

Finally, we proposed a semantic characterisation of consecutive sentences based on the core notion of quantification. We argue that consecutive sentences must perform some kind of quantification or intensification that takes scope either over individuals, over eventualities, or over properties. A consecutive sentence must include, in the main clause, some linguistic trigger that takes individuals, eventualities or properties in its scope and that will be responsible for the consequence expressed in the subordinate clause.

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