On the Structural Position of Adverbial Clauses, Discourse Features and Informational Structure

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1. Introduction

The syntax of adverbial clauses hasn't received much attention in the generative literature. This paper intends to contribute to a better knowledge of the syntactic behaviour of these constructions, focusing mainly on Portuguese. Both adverbial clauses introduced by connectives (i.e. finite and infinitival clauses) and adverbial clauses without connectives (i.e. gerund and past participial clauses) will be considered. Semantic types will be partitioned according to their syntactic behaviour with respect to syntactic tests already known in the literature and applied to other languages (cf. Quirk et al. 1985; Renzi & Salvi 1991; Bosque & Demonte 1999; a.o.). It will be claimed that the syntactic behaviour of finite and infinitival adverbial clauses is a consequence of lexical features of their connectives, which display different discourse and grammatical properties according to the class they belong to. As to gerund and past participial clauses, which in Portuguese generally lack connectives, it will be claimed that their syntactic behaviour is a consequence of an interaction between semantic restrictions, morphological properties, and the structural position in which adverbial clauses can surface.

2. The syntactic behaviour of finite and infinitival adverbial clauses and the distribution of semantic types

In descriptive grammars, there is a well-established distinction between two types of adverbial clauses, which have received different names in the literature: adjuncts vs. disjuncts (cf. Quirk et al. 1985); predicate adjunct clauses vs. sentence adjunct clauses (cf. Renzi &
Salvi 1991, Berta et al. 1999, and Bosque & Demonte 1999); or integrated adverbial clauses vs. peripheral adverbial clauses (cf. Galán Rodríguez 1999). Let's call them respectively Class1 and Class2 adjunct clauses. As described in descriptive grammars, these two types of clauses behave differently with respect to several properties.

First, they differ with respect to the unmarked position which they occupy in the matrix clause. Adverbial clauses in Class1 may be initial or final (without an intonational break) as in (1), whereas adverbial clauses in Class2 are usually initial. The final position is only allowed when there is a pause or intonational break (||). This is illustrated for Portuguese in (1) and (2):

(1)  
a. O Zé faltou à aula porque esteve doente.
    Zé missed the class because [he] was sick.

b. Porque esteve doente, o Zé faltou à aula.
    Because [he] was sick, Zé missed the class.

(2)  
a. Uma vez que esteve doente, o Zé faltou à aula.
    Since (lit. 'one time that') [he] was sick, Zé missed the class.

b. *O Zé faltou à aula uma vez que esteve doente.
    Zé missed the class since [he] was sick.

c. O Zé faltou à aula, || uma vez que esteve doente.
    Zé missed the class, since [he] was sick.

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1 Adverbial clauses are closer in behaviour to circumstantial adjuncts (which usually correspond to PPs) than to adverbs. As Cinque 1999 (§ 1.5.) points out, circumstantial adjuncts do not behave as adverbs do.

2 This sentence is grammatical in a temporal reading, where the that clause functions as a relative clause:
   i) Zé missed the class one time/once that he was sick.
As described for other languages (cf. Quirk et al. 1985; Renzi & Salvi 1991; Bosque & Demonte 1999; a.o.), the two types of adverbial clauses also behave differently with respect to several syntactic constructions: clefts; answers to wh- questions; scope of negation (focus negation); scope of focus particles; alternative negation; alternative interrogation. Only Class1 adjunct clauses may be clefted, function as answers to wh-questions, be under the scope of negation and of focus particles, and occur in alternative negation or interrogation. This is illustrated for Portuguese in (3)-(14) for reason and conditional clauses:

(3)  
a. Foi porque estava doente que o Zé faltou à aula.
   It was because [he] was sick that Zé missed the class.

b. *Foi como/já que/uma vez que estava doente que o Zé faltou à aula.
   It was since [he] was sick that Zé missed the class

(4)  
a. Era se eu ganhasse a lotaria que eu comprava esta casa.
   [It] would-be if I won the jackpot that I would-buy this house.

b. *Era desde que eu ganhasse a lotaria que eu comprava esta casa.
   [It] would-be provided that I won the jackpot that I would-buy this house.

(5)  
a. - Por que faltou o Zé?/ - Porque esteve doente.
   Why did Zé miss the class?/Because [he] was sick

b. *- Por que faltou o Zé?/ - Como/já que/uma vez que estava doente.
   Why did Zé miss the class?/Since [he] was sick

(6)  
a. - Em que circunstâncias compravas esta casa?/ - Se ganhasse a lotaria.
   In what circumstances would [you] buy this house?/ If [I] won the jackpot.

b. ??/*- Em que circunstâncias compravas esta casa?/ - Desde que ganhasse a lotaria.
   In what circumstances would [you] buy this house?/ Provided that [I] won the jackpot.

(7)  
a. O Zé não faltou à aula porque esteve doente.
Zé didn't miss the class because [he] was sick.

b. *O Zé não faltou à aula como/já que/uma vez que esteve doente.
Zé didn't miss the class since [he] was sick.

(8) a. Eu não comprava esta casa se ganhasse a lotaria.
I wouldn't buy this house if [I] won the jackpot.

b. *Eu não comprava esta casa desde que ganhasse a lotaria.
I wouldn't buy this house provided that [I] won the jackpot.

(9) a. O Zé só faltou à aula porque esteve doente.
Zé only missed the class because [he] was sick

b. *O Zé só faltou à aula como/já que/uma vez que estava doente.
Zé only missed the class since [he] was sick

(10) a. Eu só compraria esta casa se ganhasse a lotaria.
I only would-buy this house if [I] won the jackpot

b. *Eu só compraria esta casa desde que ganhasse a lotaria.
I only would-buy this house provided that [I] won the jackpot

(11) a. O Zé não faltou à aula porque esteve doente, mas porque acordou tarde.
Zé didn't miss the class because [he] was sick, but because [he] woke-up late.

b. *O Zé não faltou à aula já que esteve doente, mas já que acordou tarde.
Zé didn't miss the class since (lit. already that) [he] was sick, but since [he] woke up late.

(12) a. Não comprava esta casa se ganhasse a lotaria, mas (sim) se mudasse de emprego.
I wouldn't buy this house if [I] won the jackpot but (yes) if [I] changed jobs

b. *Não comprava esta casa desde que ganhasse a lotaria, mas (sim) desde que mudasse de emprego.
I wouldn't buy this house provided that [I] won the jackpot but (yes) provided that [I] changed jobs.

(13) a. O Zé faltou à aula porque esteve doente ou porque acordou tarde?

Did Zé miss the class because [he] was sick or because [he] woke up late?

b. *O Zé faltou à aula já que esteve doente ou já que acordou tarde?

Did Zé miss the class since (lit. already that) [he] was sick or since [he] woke up late?

(14) a. Compravas esta casa se ganhasses a lotaria ou se mudasses de emprego?

Would-[you]-buy this house if [you] won the jackpot or if [you] changed jobs?

b. *Compravas esta casa desde que ganhasses a lotaria ou desde que mudasses de emprego?

Would-[you]-buy this house provided that [you] won the jackpot or provided that [you] changed jobs?

Interestingly there isn't a strict correlation between traditional semantic classes and syntactic classes. At least for reason clauses and conditional clauses, in the same semantic class it is possible to find different syntactic classes.³

The distribution of the main semantic types between these two syntactic classes is the following: in Class1, we find temporal clauses, 'because' reason clauses (e.g. prt. *porque*), purpose clauses, a subset of 'if' conditional clauses, and manner clauses; in Class2, we find

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³ Clauses which traditionally are classified as subordinate adverbial clauses, but which do not show mobility (e.g. comparatives, result clauses, and reason clauses with coordination-like properties) were excluded from this study (cf. Lobo (2001a) and Lobo (in prep.) for a justification). I also leave apart clauses which are clearly speech-act modifiers (cf. Kortmann 1998), for instance 'speech-act' purpose clauses, classified as 'style disjuncts' in Quirk et al. 1985:

i) Para ser sincero, o teu amigo não me agrada nada.

   To be honest, your friend doesn't please me.
'since' reason clauses (prt. *uma vez que*, *como*...), conditional clauses with complex connectives in biconditional constructions (e.g. prt. *contanto que*, *a menos que*, eng. *provided that*, *unless*), concessive-conditional clauses, concessive clauses.

3. Informational structure and structural position of adverbial clauses

The contrasts seen above raise the following questions. Why do adverbial clauses display a uniform behaviour with respect to clefts, answers to wh-questions, scope of negation and scope of focus particles? Is this behaviour determined by structural properties, by other factors, or both?

Despite the fact that different constructions may be at stake, all these tests may share two properties: a structural one - manifested by c-command relations -, and a discourse one - these constructions involve in one way or another focus on the adverbial clause (whether it is informational focus - e.g. answers to wh-questions - or contrastive focus - e.g. clefts; cf. Duarte 1997; Kiss 1998; Ambar 1997, 1999; Costa 1998, 2000; a.o. for these distinctions).

It is a fact that, in spite of evident differences between different kinds of focus constructions, some authors have proposed that a single semantic principle can account for focus. In Rooth 1985 and 1992 analysis, for example, different constructions in which a constituent is associated with focus have a common property: in all cases, the focused constituent is contrasted to a set of possible alternatives. Zubizarreta 1998 also treats all focus constructions as involving a variable to which a value is assigned.

Whatever syntactic analysis is proposed for each of these focus constructions, it is tempting to analyse the uniform behaviour of adverbial clauses in these different constructions as the result of both structural and discourse properties.

1. Class1 adverbial clauses can be focused. Class2 adverbial clauses cannot be focused.
2. Class 1 adverbial clauses are merged in low positions. Class2 adverbial clauses are merged in higher positions.

3.1. Initial and final position of adverbial clauses

As we saw before, Class1 adverbial clauses can occur both in initial and in final position. It can be shown, using question-answer pairs, that these positions have a different informational status.

As exemplified in (15)-(17), final Class1 adverbial clauses can be focused (but need not be), whereas initial Class1 adverbial clauses, as is often referred for initial adjuncts (e.g. Cinque 1990), have a different interpretation, and behave essentially as background information. They can't be the focus (cf. Ambar 1997, 1999, and Zubizarreta 1998, a.o., where question-answer pairs are used to test the informational status of constituents).

(15) O que aconteceu ao Pedro quando chegou a casa?

'What happened to Pedro when [he] came home?'

a. (Quando chegou a casa, o Pedro) desmaiou.

'(When [he] came home, Pedro) fainted.'

b. # O Pedro desmaiou quando chegou a casa.

'Pedro fainted when he came home'

(16) O que aconteceu ao Pedro?

'What happened to Pedro?'

a. ?Quando chegou a casa, (o Pedro) desmaiou.

'When [he] came home, (Pedro) fainted.'

b. (O Pedro) desmaiou quando chegou a casa.

'(Pedro) fainted when [he] came home.'

(17) Quando é que o Pedro desmaiou?
'When is [it] that Pedro fainted?'

a. (O Pedro desmaiou) quando chegou a casa.

'(Pedro fainted) when [he] came home.'

b. # Quando chegou a casa, o Pedro desmaiou.

'When [he] came home, Pedro fainted.'

This different behaviour of Class2 and Class1 adverbial clauses can lead us to make the hypothesis that Class1 adverbial clauses are underspecified for a feature [α expectedness], whereas Class2 adverbial clauses are inherently specified as [+ expectedness], i.e. they have a presuppositional content, they convey, at least partially, information which is 'expected'.

How can we account for the syntactic distribution of adverbial clauses? In what adverbs are concerned, it is generally assumed that semantic properties determine (partly at least) their distribution: agent-oriented adverbs will surface in positions different from manner adverbs, for instance.

However, if the distribution of adverbial clauses were conditioned only by their basic semantics, we wouldn't expect to find in the same semantic class different syntactic behaviours. The question here is precisely that the different syntactic behaviour of the two types of adverbial clauses is a consequence of an additional feature [+ expectedness] which is only found in peripheral adverbial clauses (cf. the behaviour of reason clauses). This will account for the fact that class2 adverbial clauses can never enter a focus construction, whereas class 1 adverbial clauses can be (but don't have to be) focused.

The fact that non-peripheral adverbial clauses can have a different informational status according to the context and to the position they occupy in the clause seems to show that they are not inherently specified for discourse features, they don't have an inherent presuppositional content. Class 2 adverbial clauses, in contrast, are associated with a
presuppositional reading, or an 'according to expectations' reading, which is easily inferred from the contrasts between the a. and b. sentences in (18)-(20):

(18) a. Uma vez que/como/já que/visto que o João não pôde vir, acabámos a reunião mais cedo.
    'Since John couldn't come, we finished our meeting earlier.'
    b. Acabámos a reunião mais cedo porque o João não pôde vir.
    'We finished our meeting earlier because John couldn't come.'

(19) a. Embora a reunião fosse longa, foi possível chegar a um acordo.
    'Although the meeting was long, it was possible to reach an agreement.'
    b. Foi possível chegar a um acordo, mas a reunião foi longa.
    'It was possible to reach an agreement, but the meeting was long'

(20) a. Desde que haja quorum, poderemos dar início à reunião.
    'Provided there is quorum, we can start our meeting.'
    b. Poderemos dar início à reunião se houver quorum.
    'We can start our meeting if there is quorum'

3.2. Structural position

Empirical evidence suggests that there is a different structural merge for each type of adverbial clause.

Structurally, the tests mentioned above seem to involve quite different constructions (although there isn't a consensus in the literature about most of them):

i) Clefts have been analysed as base copular constructions (cf. Frison 1988; Ouhalla 1999; Duarte & Costa 2001; a.o.) or as structures where be lexicalizes a functional category (TP or FocP) which selects CP (cf. Ambar 1997; Kiss 1999). In the first case, restrictions on the clefting of constituents may be seen as a consequence of the that clause being a free
relative and of there being an operator-variable relation, which standardly requires c-command. In the second case, restrictions on clefting could be the result of semantic factors - clefts usually require an exhaustiveness reading, for instance, which may explain that some indefinites are not allowed:

(21) *Foi alguém que bateu à porta.

[It] was someone that knocked on the door.

ii) Question-answer pairs are frequently used as a diagnosis for the informational status of constituents. It is possible to think that in order for a constituent to be under the domain of a wh-operator, it has to be c-commanded by this operator.

iii) Assuming that in Romance languages sentence negation can also function as focus negation (which is not straightforward, since in some languages there are two different morphological elements for each type of negation cf. Ouhalla 1993), then, according to current assumptions (cf. Pollock 1989; Belletti 1990) it corresponds to a functional node above VP. It is reasonable to assume that, in order to be under the scope of negation\(^4\), a constituent has to be c-commanded by it. Therefore, right Class1 adjunct clauses surface in lower positions than Class2 adjunct clauses, and they are c-commanded by Neg.

(22) a. O Zé não faltou às aulas porque esteve doente.

b. *O Zé não faltou às aulas visto que esteve doente.

iv) In what concerns focus particles, it is standardly assumed that they take scope (i.e. c-command) over the ‘focus associate’ (Rooth 1992; Declerck 1995; a.o.).

(23) a. O Zé só faltou às aulas porque esteve doente.

\(^4\) But see the problem of the ambiguous status of Romance sentential negation mentioned before.
Another type of evidence for low generation of Class 1 adjunct clauses vs. high generation of Class 2 adjunct clauses comes from possibilities of referential dependencies between subjects. A DP subject of a Class 1 right adjunct clause cannot be coreferential with a pronominal subject of a matrix clause, whereas a DP subject of Class 1 left adjunct clause may be coreferential with a *pro* subject in the matrix clause:

(24) *[-], abriu a janela quando o Zé, entrou.

[he] opened the window when Zé came in

(25) Quando o Zé, entrou, [-], abriu a janela.

when Zé came in, [he] opened the window

Assuming that this is a Binding theory Principle-C effect, the subordinate clause has to be c-commanded by the matrix subject.

For right Class 2 adjunct clauses, things are not so clear. Note that coreference between a left pronoun and a DP subject to its right is always difficult, as can be seen from coordinate sentences, as in (26):

(26) ??[-] chegou atrasado, mas o Zé não ficou aflito.

[he] arrived late, but Zé not was upset.

However, there seems to be a slight contrast between Class 2 and Class 1 adjunct clauses. In the latter, coreference is completely forbidden (cf. examples a. of (27)-(29)), whereas in the former it is only marginal (cf. examples b. of (27)-(29)).

(27) a. *[-], só chegou a casa às onze porque o director, recebeu um telefonema inesperado.
[he] only came home at eleven because the director received an unexpected phone call

b. ??[?], só chegou a casa às onze, uma vez que o director, recebeu um telefonema inesperado.

[he] only came home at eleven, since the director received an unexpected phone call

(28) a. *Ele até desatou aos pontapés porque o homem, estava completamente fora de si.

[he] started kicking around because the man was completely out of his mind

b. ??Ele até desatou aos pontapés, uma vez que o homem, estava completamente fora de si.

[he] started kicking around, since the man was completely out of his mind

(29) a. *[-], chegará a casa cedo se o pai, tiver pouco trabalho.

[he] will come home sooner if dad has little work

b. ??[-], chegará a casa cedo, || desde que o pai, tenha pouco trabalho.

[he] will come home sooner, provided that dad has little work

Note that an adjunct-as-complement analysis (cf. Larson 1988 and 1990; Stroik 1990; Kayne 1994) doesn't seem to be empirically adequate, as mentioned in Williams 1994 and Bianchi 2000, for instance (cf. (31)). Pronominal objects can be coreferential with DP subjects of right adjunct clauses but not with DP subjects of complement clauses (cf. (30)):

(30) a. *Este médico só lhe contou que o Zé, já estava muito doente.

This doctor only him told that Zé already was very sick.

b. Este médico só o, tratou quando o Zé, já estava muito doente.

This doctor only him treated when Zé already was very sick.

c. Este médico só o, tratou porque o Zé, estava muito doente.

This doctor only him treated because Zé already was very sick.
(31) a. Mary shot him, before John, could leave.
    b. *Mary told him, that John, could leave. (Williams 1994)

Also, the well-known asymmetries between complements and adjuncts (i.e. extraction limitations, possibility of being stranded from the VP, and so on... cf. Jackendoff 1990) would be lost in this approach.

Another difference between the two types of clauses which seems to be structurally driven is their behaviour with respect to VP preposing. Only Class1 adverbial clauses can be subject to this process, as shown in (32):

(32) a. Fechar a porta a cadeado porque estava com medo, o Zé nunca (o) fez.
    Close the door with a lock because [he] was scared, Zé never did.
    b. *Fechar a porta a cadeado uma vez que estava com medo, o Zé nunca (o) fez.
    Close the door with a lock since [he] was scared, Zé never did.
    a'. Comprar um carro novo se for aumentado, o Zé fá-lo-á certamente.
    Buy a new car if [he] gets a raise, Zé will certainly do.
    b'. *Comprar um carro novo desde que seja aumentado, o Zé fá-lo-á certamente.
    Buy a new car provided that [he] gets a raise, Zé will certainly do.

These empirical facts point to a lower merge for right Class1 adverbial clauses, in an adjunct position to the right of VP or some other projection below TP.

In spite of potential theoretical problems of right adjunction (cf. Kayne 1994; a.o.), I will assume here an analysis of adjuncts which occur in the rightmost position as base generated right adjuncts, as in classical treatments of adverbial clauses (e.g. Haegeman 1991; Chomsky 1986). This analysis continues to be assumed in many recent works (cf. Ernst 2000 and 2002; Svenonius 2001; Chomsky 2001; Lobo 2002 a.o.). Alternatives to right adjunction
(e.g. Bianchi 2000; Barbiers 1995; Nilsen 2000; a.o.) and theoretical and empirical problems which they raise are discussed in Lobo 2002b. Following Chomsky 2001, I will assume that adverbial clauses are subject to a process of predicate-composition, and introduced in the derivation by 'pair-merge'.

If we assume a hierarchical structure for the clause as in (33) with at least the following functional nodes

\[
(33) \quad [\text{CP} ([\text{XP}) [\text{AgrSP} ([\text{NegP}) [\text{TP} [\text{vP} [\text{VP}... \]
\]
\]
\]
\]
\]

it seems that mapping of left adverbial clauses is not restricted to a single position. CP, AgrSP or TP seem to be possible adjunction sites for left adverbial clauses.

The fact that left adverbial clauses may occur in more than one position, and the fact that there can be more than one left adverbial clause per sentence seem to favour an adjunction analysis instead of a specifier one.

\[
(34) \quad \text{Quando o Zé chega a casa, antes de cumprimentar quem quer que seja, vai lavar as mãos.}
\]

When Zé comes home, before greeting anyone, [he] washes his hands

\[
(35) \quad \text{Como hoje é domingo, se o menino estiver com febre, quando o pai vier, terá de ir a uma farmácia de serviço.}
\]

Since today is Sunday, if the boy has fever, when his father comes, [he] will-have to go to a chemist on duty.

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5 I maintain here the functional node AgrS, although it is no longer considered in many works, since it definitely plays a role in the licensing of null subjects in Portuguese (cf. Lobo 2001b).

6 Alternatively, we could adopt Rizzi 1997 analysis, according to which there are several Top projections in the left periphery of the clause.
The availability of adjunction to CP, AgrSP or TP seems to hold both for Class2 adverbial clauses and for left Class1 adverbial clauses.

They may occur to the left of a wh operator, as shown in (36) and (37):

(36) Uma vez que o pai não se consegue levantar sozinho, quem fica a dormir com ele?
Since dad can't get up by himself, who stays to sleep with him?

(37) Quando o Zé chegou, quem lhe abriu a porta?
When Zé arrived, who to-him opened the door?

They may occur to the right of a complementizer, in embedded sentences, as shown in (38) to (40):

(38) O Zé acha que, uma vez que o pai não se consegue levantar sozinho, alguém tem de ficar a dormir com ele.
Zé thinks that, since dad can't get up by himself, someone must stay to sleep with him.

(39) O Zé perguntou se, desde que fosse reduzida a actual carga horária, eu não me importava de dar uma cadeira nova.
Zé asked if, provided that was reduced the actual timetable, I wouldn't mind teaching a new course.

(40) O professor avisou que, quando o exame começasse, não poderia haver barulho nenhum.
The teacher warned [us] that when the exam started, there couldn't be any noise.

Note, however, that this may be a case of adjunction to another functional projection above AgrSP. If Costa 1998 is right in assuming that adjunction to Agr categories is ruled out, this could be a case of adjunction to a second CP projection. In fact, in colloquial and non
standard registers of Portuguese, recursive complementizers are quite common after a
topicalized constituent, as illustrated in (41) and (42):

(41) O Zé disse que, se tivesse mais dinheiro, que compraria esta casa.

Zé said that, if [he] had more money, that [he] would buy this house.

(42) Eu acho que ontem que ninguém te telefonou.

I think that, yesterday, that nobody you phoned.

Finally, evidence for the availability of adjunction to TP is provided by the fact that left
adverbial clauses may occur to the right of a non topicalizable subject. It has been shown that
in Portuguese some indefinite expressions cannot undergo topicalization (cf. Duarte 1987,
1996, 1997; a.o.):

(43) *Ninguém, o João encontrou.

Nobody, João found.

(44) *Nada, o Zé encontrou.

Nothing, Zé found.

Adverbial clauses may occur to the right of indefinite subjects (although this option is more
marked for Class2 adverbial clauses). This can be evidence for the possibility of adjoining
adverbial clauses to TP:

(45) Ninguém, embora já fosse bastante tarde, se tinha levantado ainda.

Nobody, although it already was quite late, had got up yet.

(46) Nada, uma vez que tudo estava no sítio, tinha sido roubado.

Nothing, since everything was in its place, had been stolen.

(47) Ninguém, quando o Zé tocou à campainha, abriu a porta.

Nobody, when Zé rang the bell, opened the door.
Ninguém, se ele tivesse de sair, seria capaz de o substituir.

Nobody, if he had to leave, would be able to replace him.

Adverbial clauses, however, may not occur between an Auxiliary and a main verb, nor between the main verb and its complement, unless the complement is heavy, which suggests that, in this case, the complement has been extraposed. For Class2 adjunct clauses, lower positions are only allowed after an intonational break, as shown in (49) and (50). I won’t discuss further the right-dislocated position of adverbial clauses, which has particular properties.

(49)  a. Quando está bom tempo, o Zé tem feito longos passeios.

   'When [there] is good weather, Zé has done long walks'

   b. O Zé, quando está bom tempo, tem feito longos passeios.

   c. *O Zé tem, quando está bom tempo, feito longos passeios.

   d. *O Zé tem feito, quando está bom tempo, longos passeios.

   e. O Zé tem feito, quando está bom tempo, longos passeios pela Serra.

   f. O Zé (só) tem feito longos passeios quando está bom tempo.

(50)  a. Visto que está bom tempo, os meninos têm ido à praia.

   'Since (lit. seen that) [there] is good weather, the children have gone to the beach'

   b. Os meninos, visto que está bom tempo, têm ido à praia.

   c. *Os meninos têm, visto que está bom tempo, ido à praia.

   d. *Os meninos têm ido, visto que está bom tempo, à praia.

   e. Os meninos têm ido, visto que está bom tempo, à praia mais próxima da nossa aldeia.

   f. Os meninos (só) têm ido à praia, ll visto que está bom tempo.
As to the initial position of Class1 adverbial clauses, it is necessary to decide whether it is derived by Movement (external merge) or whether it is base-generated. Empirical evidence seems to support a base generation analysis.

First, consider Principle-C effects: class1 adverbial clauses in initial position allow coreference between their DP subject and a pronominal subject in the matrix clause, contrary to what happens in final position:

(51)  
a. *[-], abriu a janela quando o Zé entrou.  
[He] opened the window when Zé came in.

   b. Quando o Zé entrou, [-], abriu a janela.  
   When Zé came in, [he] opened the window.

(52)  
a. *[-], saiu mais cedo porque o Zé estava doente.  
[He] left earlier because Zé was sick.

   b. Porque o Zé estava doente, [-], saiu mais cedo.  
   Because Zé was sick, [he] left earlier.

Second, an initial adverbial clause isn’t reconstructed under negation:

(53)  
a. O Zé não faltou à aula porque tinha exame. (Faltou por outra razão)  
Zé didn't miss the class because [he] had exam. ([he] missed [it] for another reason)

   b. Porque tinha exame, o Zé não faltou à aula (*Faltou por outra razão)  
   Because [he] had an exam, Zé didn't miss the class ([he] missed [it] for another reason)

(54)  
a. O Zé não tirou os sapatos quando chegou a casa. (Tirou mais tarde)  
Zé didn't take off the shoes when [he] came home ([he] took [them] off later)

7 Note that an analysis like Bianchi 2000 doesn’t account properly for this sort of contrasts. In her analysis, sentences with coreferent subjects like: Before going to school, Mary had breakfast, or Before she left, Mary gave me a call, should be bad, contrary to fact.
b. Quando chegou a casa, o Zé não tirou os sapatos. (*Tirou mais tarde)
   When [he] came home, Zé didn't take off the shoes ([he] took [them] off later)

Finally, a long dependency reading is not available:

(55) a. O Zé disse que o Pedro desmaiou quando chegou a casa. (ambiguous)
   Zé said that Pedro fainted when [he] came home.

b. Quando chegou a casa, o Zé disse que o Pedro desmaiou. (non ambiguous)
   When [he] came home, Zé said that Pedro fainted.

(56) a. O Zé disse que o Pedro era antipático por ser muito tímido. (ambiguous)
   Zé said that Pedro was antipathetic because [he] is very shy.

b. Por ser muito tímido, o Zé disse que o Pedro era antipático. (non ambiguous)
   Because [he] is very shy, Zé said that Pedro was antipathetic.

(57) a. O Zé vai dizer que o exame vai ser fácil se os alunos tiverem estudado. (ambiguous)
   Zé will say that the exam will be easy if the students have studied.

b. Se os alunos tiverem estudado, o Zé vai dizer que o exame vai ser fácil. (non ambiguous)
   If the students have studied, Zé will say that the exam will be easy.

(58) a. O Zé disse que o director tinha escrito uma carta a explicar a situação para que todos ficassem mais descansados. (ambiguous)
   Zé said that the director had written a letter explaining the situation in order that everybody be less worried.

b. Para que todos ficassem mais descansados, o Zé disse que o director tinha escrito uma carta a explicar a situação. (non ambiguous)
In order that everybody be less worried, Zé said that the director had written a letter explaining the situation.

These contrasts seem to favour a base generation analysis for left adverbial clauses.\(^8\)

Note that an analysis according to which adverbial clauses in initial position are a case of Portuguese topicalization or clitic left dislocation with a null resumptive pronoun doesn't explain why adverbial clauses in initial position, contrary to argumental topics, strongly resist reconstruction and long-dependency readings.\(^9\)

However, there seem to be contexts in which the long dependency reading is available: with declarative verbs long dependency reading is blocked, but with epistemic verbs it is allowed:

\begin{enumerate}
\item[(59)] Quando chegar a casa, o Zé acha que o Pedro vai almoçar.
\end{enumerate}

When he comes home, Zé thinks that Peter is going to have lunch.

\begin{enumerate}
\item[(60)] *Quando chegar a casa, o Zé disse que o Pedro vai almoçar.
\end{enumerate}

When he comes home, Zé said that Peter is going to have lunch.

The influence of the type of matrix verb, as well as other factors (e.g. morphological tense), on the availability of embedded readings deserves further investigation.

To conclude, the Base Generation Hypothesis proves to be more explanatory than the Movement (or external merge) hypothesis:

---

\(^8\) As Francesca DelGobbo (p.c.) pointed out to me, Chierchia 1995 suggests on the basis of binding of pronouns in left adjunct clauses by quantifiers in the matrix clause that both the left base generation and the movement analysis may be needed (cf. also Bianchi 1997). In Portuguese, the kind of data analysed by these authors doesn't give straightforward results (cf. Lobo 2002b). I leave this matter for further investigation.

\(^9\) See also Cinque (1990: 90 ff.) for a base-generation proposal for initial PP adjuncts.
- it is theoretically more economical: merge is more economical than move (cf. e.g. Chomsky 1995);
- there is no need to reconstruct a semantic vacuous movement (notice that this possibility isn't available for arguments: these must satisfy thematic relations and morphological principles - e.g. Case);
- there is no need to assume that adjuncts are exceptional in what concerns reconstruction (since there are no reconstruction effects).

Different merge positions will be derived by different discourse properties of left and right adverbial clauses.

3.3. Structural position and discourse status of adverbial clauses

The facts seen above seem to show that informational structure and semantic readings which somehow codify a presupposition are (partly) related to structural domains in the clause. In fact there seem to exist two different domains for the mapping of these constituents, with TP functioning as a boundary. TP peripheral positions cannot be focused, and codify 'background' or 'expected' information; TP internal positions can be focused. A similar proposal is made in Duarte 1996, who suggests that topics must be outside the c-command domain of TP at spell out, and movement can be driven by interpretative reasons.

Why should TP be a mapping boundary for constituents with different discourse-like properties?

Some authors have proposed that there exists a relation between Focus and Event (cf. Ambar 1997). Following these proposals, I suggest that T plays a role in the licensing of Focus. Note that TP is the natural candidate to function as an Event boundary. Morphological tense can be crucial to define the status of an Event (cf. tense-aspectual distinctions can
change the aspectual class (*Aktionsart*) of the predicate; Agr plays no role in this respect. Also, only event-internal adjuncts can modify the aspectual class of the event.

(61) O Zé leu 'O Crime do Padre Amaro'. (telic)

   Zé read 'O Crime do Padre Amaro'

(62) O Zé leu 'O Crime do Padre Amaro' durante duas horas. (atelic)

   Zé read 'O Crime do Padre Amaro' for two hours

(63) O Zé escreveu. (atelic)

   Zé wrote

(64) O Zé escreveu em dois meses. (telic)

   Zé wrote in two months

So it seems reasonable to think that TP acts as an Event boundary. Class1 adverbial clauses will be mapped onto TP internal positions (when they are not 'backgrounded'). Class2 adverbial clauses will be mapped onto TP external positions. Only Event internal elements can be subject to focus constructions. [@ presuppositional] adverbial clauses will be mapped inside TP when they are not positively specified. Inherently [+ presuppositional] adverbial clauses will always be mapped outside TP. When underspecified adverbial clauses are 'backgrounded', they will be mapped outside TP.

4. Connectives of adjunct clauses and discourse features

A plausible hypothesis which can be made is that the syntactic and discourse status of finite and infinitival adverbial clauses is somehow linked to properties of their connectives. Let's make the following hypothesis. The 'expectedness' or presuppositional status of Class2 clauses is lexically codified in their connectives. Connectives of Class1 adjunct clauses will
be underspecified in the lexicon for such discourse features, i.e. they can occur in different discourse contexts.

Assuming that connectives can be classified according to a hierarchy of features and that lexical relations of hyperonymy/hyponymy, synonymy, exclusiveness, and contingent substitution can be established among connectives (as Knott & Mellish 1996 do for what they designate as 'cue phrases'), [expectedness] can be seen as a feature which is inherent to (or positively specified for) a subset of adverbial connectives only.

In this perspective, conditional connective *se* 'if' would function as a sort of hyperonym for conditional connectives, i.e. it is the most unmarked conditional connective.

This hypothesis seems to hold at least for Romance languages, in which, interestingly, the discourse status of connectives of each class seems to correlate with other grammatical properties.

In the following table, which for space limitations won’t be considered in detail, connectives of finite and infinitival adverbial clauses are arranged according to their discourse status, their basic semantic meaning, and their categorial status.

<table>
<thead>
<tr>
<th>connectives of Class1 clauses</th>
<th>connectives of Class2 clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td>[α expectedness]</td>
<td>[+ expectedness]</td>
</tr>
<tr>
<td>cause/reason</td>
<td>cause/reason</td>
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<tr>
<td>pl. por(que)</td>
<td>pl. já que</td>
</tr>
<tr>
<td>fr. parce que</td>
<td>fr. puisque</td>
</tr>
<tr>
<td>it. per(ché)</td>
<td>it. poiché, giacché (già che)</td>
</tr>
<tr>
<td>sp. porque</td>
<td>sp. va que</td>
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<tr>
<td>purpose (for, in order to)</td>
<td></td>
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<tr>
<td>pl. para (que), a fim de/que</td>
<td>pl. uma vez que</td>
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<tr>
<td>fr. pour (que)</td>
<td>fr. une fois que</td>
</tr>
<tr>
<td>it. per(ché), affinché, al fine di</td>
<td></td>
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<tr>
<td>sp. para que, a fin de (que)</td>
<td></td>
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<tr>
<td>time (initial boundary)</td>
<td></td>
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<tr>
<td>pl. desde que (+ indicative)</td>
<td></td>
</tr>
<tr>
<td>fr. depuis que</td>
<td></td>
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<tr>
<td>it. da quando, da che, dacché</td>
<td></td>
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<tr>
<td>sp. desde que</td>
<td></td>
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<tr>
<td>time (final boundary)</td>
<td></td>
</tr>
<tr>
<td>pl. até (que)</td>
<td></td>
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<tr>
<td>fr. jusqu’à ce que</td>
<td></td>
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<tr>
<td>it. fino a che/quando</td>
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<tr>
<td>sp. hasta que</td>
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<tr>
<td>Time отношения</td>
<td>Positive (bi)conditional</td>
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<tr>
<td>-----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>prt. antes de/que</td>
<td>fr. desde que (+ subjunctive), contanto que</td>
</tr>
<tr>
<td>fr. avant de/que</td>
<td>it. purché, pur di?</td>
</tr>
<tr>
<td>it. prima di/che</td>
<td>sp. sempre que?</td>
</tr>
<tr>
<td>sp. antes (de) que</td>
<td></td>
</tr>
<tr>
<td>Time 'before'</td>
<td>concessive</td>
</tr>
<tr>
<td>prt. depois de</td>
<td>fr. embora, apesar de, se bem que</td>
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<tr>
<td>fr. après (que)</td>
<td></td>
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<tr>
<td>it. dopo (che)</td>
<td></td>
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<tr>
<td>sp. después (de) que, después de</td>
<td></td>
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<tr>
<td>Time 'when'</td>
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<tr>
<td>prt. quando</td>
<td></td>
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<tr>
<td>fr. quand, lorsque</td>
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<tr>
<td>it. quando, allorché</td>
<td></td>
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<tr>
<td>sp. cuando</td>
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<tr>
<td>Time 'while'</td>
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<tr>
<td>prt. ao (+ infinitive)</td>
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<td>it. al (+ infinitive)</td>
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<td>sp. al (+ infinitive)</td>
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<tr>
<td>Time 'as long as'</td>
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<tr>
<td>fr. tant que, aussi longtemps que</td>
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<tr>
<td>Time 'as soon as'</td>
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<tr>
<td>prt. à medida que</td>
<td></td>
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<tr>
<td>fr. à mesure que</td>
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<tr>
<td>it. a medida que</td>
<td></td>
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<tr>
<td>Time frequency</td>
<td></td>
</tr>
<tr>
<td>prt. sempre que, (de) cada vez que, todas as vezes que</td>
<td></td>
</tr>
<tr>
<td>fr. chaque fois que, toutes les fois que</td>
<td></td>
</tr>
<tr>
<td>it. sempre che, sempre quando, ogni volta che, tutte le volte che</td>
<td></td>
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<tr>
<td>sp. cada vez que</td>
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**manner**

<table>
<thead>
<tr>
<th>Time</th>
<th>conditional</th>
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<tbody>
<tr>
<td>prt. como</td>
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<tr>
<td>fr. comme</td>
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<tr>
<td>it. come</td>
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<tr>
<td>sp. como</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>negative manner/negative circumstance</td>
</tr>
<tr>
<td>prt. sem (que)</td>
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<tr>
<td>fr. sans (que)</td>
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<tr>
<td>it. senza che/(di)</td>
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<td>sp. sin que</td>
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<td>Time</td>
<td>conditional</td>
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<td>fr. si</td>
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<td>it. se</td>
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<td>sp. sí</td>
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### Table of Conjunctions

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<tr>
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<tbody>
<tr>
<td>prt. antes de/que</td>
<td>fr. avant de/que</td>
<td>it. prima di/che</td>
<td>sp. antes (de) que</td>
</tr>
<tr>
<td>prt. depois de</td>
<td>fr. après (que)</td>
<td>it. dopo (che)</td>
<td>sp. después (de) que, después de</td>
</tr>
<tr>
<td>prt. quando</td>
<td>fr. quand, lorsque</td>
<td>it. quando, allorché</td>
<td>sp. quando</td>
</tr>
<tr>
<td>prt. ao (+ infinitive)</td>
<td>it. al (+ infinitive)</td>
<td>sp. al (+ infinitive)</td>
<td></td>
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<tr>
<td>prt. enquanto</td>
<td>fr. pendant que</td>
<td>it. mentre</td>
<td>sp. mientras</td>
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<td>prt. logo que, assim que</td>
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<tr>
<td>prt. logo que, assim que</td>
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<td>prt. sempre que, (de) cada vez que, todas as vezes que</td>
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<td>sp. cada vez que</td>
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<td>prt. como</td>
<td>fr. comme</td>
<td>it. come</td>
<td>sp. como</td>
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<td>prt. sem (que)</td>
<td>fr. sans (que)</td>
<td>it. senza che/(di)</td>
<td>sp. sin que</td>
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<tr>
<td>prt. caso</td>
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</table>
Connectives of Class1 adjunct clauses are generally categorially and semantically transparent. When they contain a P, this P occurs in the language with other categories, preserving its meaning. When they contain an adverb, its meaning is not different from the adverb in other contexts or in isolation.

In Portuguese, *logo, sempre and antes*, for instance, distributionally behave as adverbs. They can occur without any complement and they don't select a DP complement:

(65) O João chegou antes *(de) mim.

João came before *(of) me

(66) O João chegou antes.

João came before.

*Para and por* distributionally behave as prepositions: they cannot occur without a complement, and they can have a DP complement marked with oblique Case, which is the Case manifested by complements of prepositions.

(67) O João escreveu esta carta para *(mim).

João wrote this letter for *(me)

Adverbial clauses may be introduced by connectives which contain one of these elements, which have approximately the same semantic value as in other grammatical contexts. This is shown in (68)-(70):

(68) a. O Zé liga a televisão logo que chega a casa.
   Zé turns-on the TV immediately that [he] comes home.
   'Zé turns on the TV as soon as he comes home'

b. O Zé liga logo a televisão.
   Zé turns-on immediately the TV.

(69) a. O Zé levantou-se antes de o despertador tocar.
   Zé got up before of the alarm-clock to-ring
   'Zé got up before the alarm clock rang'

b. O Zé levantou-se antes das oito da manhã.
   Zé got up before of eight in the morning

   c. O Zé levantou-se antes.
      Zé got up before.

(70) a. O Zé ficou zangado por lhe teres mentido.
   Zé became angry by [you] to-him to-have lied (because you lied to him)

   b. O Zé ficou zangado por tua causa.
      Zé became angry by your cause (because of you)

The *that*-clause can be either a complement (e.g. *para que ficassem calados*), a restrictive relative (e.g. *sempre que chega a casa*), or a free relative (e.g. *desde que o Zé adoeceu*). They can also correspond categorially to wh-elements (temporal *quando*) or conjunctions (conditional *se*).

Connectives of disjunct clauses are in the general case semantically more opaque and restricted to the clausal domain. Conditional *desde que* (prt.) and *sempre que* (sp.) have lost their temporal meaning. Reason *já que, uma vez que* (prt.) have lost their temporal meaning. Conditional *contanto que* (prt.) occurs only in this context.
Therefore, the internal structure of connectives of Class2 clauses is no longer available in the syntax. Connectives which are marked [+ expectedness] were subject to a deeper grammaticalization process.

5. Adverbial clauses without connectives: gerund and past participial clauses

Up to now, we have only considered finite and infinitival adverbial clauses, which in Romance are always introduced by some connective. What about gerund and participial adverbial clauses? If the informational status of finite and infinitival adjunct clauses is partially determined by a lexical feature of their connectives, how can we account for Romance past participial and gerund clauses, which usually lack connectives?

Let's see how gerund and participial clauses behave with respect to the syntactic tests considered above. When we apply the syntactic tests to gerund and participial clauses, we observe that participial clauses behave as Class2 adjunct clauses, whereas gerund clauses may behave as Class1 or Class2 clauses. Gerund clauses which have a manner reading or a

---

11 A possible exception are conditional and temporal clauses with subject-verb inversion:
   i) Tivesse eu menos vinte anos, poderia dormir descansado.
      Had I less twenty years, could sleep peacefully
      'If I had twenty years less, I could sleep peacefully.'
   ii) Era eu criança, já a minha mãe me dizia isso
       Was I child, already the my mother me told that.
       'When I was a child, my mother already told me that'
In these sentences, however, it is not clear that there is a subordination structure. Notice that it is possible to have a coordination conjunction before the so-called matrix clause. This is impossible in sentences with a gerund or participial clause, which also display subject-verb inversion in standard Portuguese:
   iii) Tivesse eu menos vinte anos, e poderia dormir descansado.
      Had I less twenty years, and could sleep peacefully.
   iv) Era eu criança, e já a minha mãe me dizia isso.
      Was I child, and already the my mother me told that.
   v) Estando eu em casa, (*e) entrou um ladrão.
      Being I at home, (*and) came a thief.
   vi) Terminado o exercício, (*e) os alunos saíram.
      Finished the exam, (*and) the students left.
   as well as in finite sentences with a connective:
   vii) Se eu tivesse menos vinte anos, (*e) poderia dormir descansado.
      If I had less twenty years, (*and) could sleep peacefully
   viii) Quando eu era criança, (*e) já a minha mãe me dizia isso.
       When I was child, (*and) already my mother me told that

12 The syntactic behaviour of gerund clauses in Spanish is described in Fernández Lagunilla 1999. Following this author, I distinguish here gerund clauses which behave as secondary predicates (and which seem to be integrated
simultaneous temporal reading behave as Class1 clauses; reason gerund clauses, 'time before' gerund clauses, conditional gerund clauses, and concessive gerund clauses behave as Class2 adjunct clauses.\(^\text{13}\)

Reason and 'time before' finite and infinitival clauses differ from reason and 'time before' gerund and participial clauses w.r.t. their syntactic behaviour. The latter pattern with Class2 adverbial clauses, as shown in (71) to (80):

(71) O João chegou atrasado por haver muito trânsito.

the João came late by to-be much traffic

'João came late because there was much traffic'

(72) O João chegou atrasado porque havia muito trânsito.

the João came late by-that was much traffic

'João came late because there was much traffic'

(73) a. *O João chegou atrasado havendo muito trânsito.

João came late [there] being much traffic

b. Havendo muito trânsito, o João chegou atrasado.

[There] being much traffic, João came late

(= Uma vez que havia muito trânsito, ...)

(74) Por que é que o João chegou atrasado?

\[^{13}\text{Purpose reading is unavailable.}\]
'Why did João came late?'

a. - Por haver muito trânsito.

Because [there] to be much traffic

b. - Porque havia muito trânsito.

Because [there] was much traffic

c. - *Havendo muito trânsito.

[There] being much traffic

(75)  a. Foi por haver muito trânsito que o João chegou atrasado.

It was because [there] to be much traffic that João came late

b. Foi porque havia muito trânsito que o João chegou atrasado.

It was because [there] was much traffic that João came late

c. *Foi havendo muito trânsito que o João chegou atrasado.

It was [there] being much traffic that João came late.

(76)  O João só me telefonou depois de chegar a casa.

João only called me after to arrive home.

(77)  O João só me telefonou depois que chegou a casa.

João only called me after he arrived home.

(78)  a. *O João só me telefonou chegado a casa.

João only called me arrived home.

b. Chegado a casa, o João telefonou-me.

Arrived home, João called me.

(79)  a. *O João só me telefonou tendo chegado a casa.

João only called me having arrived home

b. Tendo chegado a casa, o João telefonou-me.
Having arrived home, João called me.

(80) Quando é que o João te telefonou?

When did João called you?

a. - Depois de chegar a casa.
    After to arrive home

b. - Depois que chegou a casa.
    After he arrived home

c. - *Chegado a casa
    Arrived home

d. - *Tendo chegado a casa.
    Having arrived home

Simultaneous temporal gerund clauses and manner gerund clauses behave differently from reason and 'time before' gerund clauses. They pattern with Class1 adverbial clauses, as illustrated in (81) to (88):

(81) a. O João teve essa ideia quando estava a passar férias em Roma.
     João had this idea when [he] was on vacation in Rome.

b. O João teve essa ideia estando a passar férias em Roma.
     João had this idea being on vacation in Rome

(82) Quando é que o João teve essa ideia?

When did John have this idea?

a. - Quando estava a passar férias em Roma.
    When he was on vacation in Rome

b. - Estando a passar férias em Roma.
    Being on vacation in Rome
(83)  a. O João não teve essa ideia quando estava a passar férias em Roma.
    João didn't have this idea when [he] was on vacation in Rome
b. O João não teve essa ideia estando a passar férias em Roma.
    João didn't have this idea being on vacation in Rome

(84)  a. Foi quando estava a passar férias em Roma que o João teve essa ideia.
    It was when [he] was on vacation in Rome that João had this idea
b. Foi estando a passar férias em Roma que o João teve essa ideia.
    It was being on vacation in Rome that João had this idea

(85)  Os meninos construiram a cabana usando canas e folhas.
    The children built the hut using canes and leaves

(86)  - Como é que os meninos construiram a cabana?
    How did the children built the hut
    - Usando canas e folhas.
    Using canes and leaves

(87)  Os meninos não construíram a cabana usando canas e folhas.
    The children didn't build the hut using canes and leaves

(88)  Foi usando canas e folhas que os meninos construíram a cabana.
    It was using canes and leaves that the children built the hut

    Notice that in Romance languages, unlike English *ing*-clauses, gerund clauses seem to be verbal in nature, and gerunds contrast with infinitives in several respects. Romance infinitival clauses occur in Case marked contexts; Romance gerund and participial clauses occur in non case marked contexts:

(89)  a. John prefers washing his car on weekends.
b. *O João prefere lavando(GERUND) o carro no fim-de-semana.
b'. O João prefere lavar(INFINITIVE) o carro no fim-de-semana.

(90) a. After washing the car, John read his newspaper.
b. *Depois (de) lavando(GERUND) o carro,...
b'. Depois de lavar(INFINITIVE) o carro,....

(91) a. the washing of the car
   b. *o lavando(GERUND) do carro
   b'. o lavar(INFINITIVE) do carro

Let's make the assumption that T of Romance gerunds is 'defective': when c-commanded by matrix T, it has an anaphoric behaviour, that is, it is obligatorily interpreted as simultaneous to matrix T. When the gerund clause is merged in a VP adjunction position, matrix T c-commands embedded T and binds it. If this is true, low merge of some gerund clauses may result in a semantic clash. Therefore, for semantic and morphological reasons, gerund reason and 'time before' clauses will obligatorily be mapped outside TP. The exclusive [+ expectedness] reading of reason and 'time before' clauses will simply be a side-effect of a morphological property of Romance gerunds.

As to past participial clauses, a similar analysis holds: past participle, which is inherently [perfective], won't be able to occur in a position c-commanded by matrix T. In the absence of a preposition or adverbial connective, matrix T will obligatorily 'bind' defective past participle or gerund.

Notice that the binding relation seems to be blocked when a connective intervenes. Some participial clauses may be introduced by an adverbial expression like *uma vez* (lit. 'one time'). In this case, the participial clause may behave as a Class1 clause and be clefted, for instance:
(92) a. *Foi assaltado que o Luis entrou em pânico.
    [It] was assaulted that Luis came into panic.

    b. ?/ok Foi uma vez assaltado que o Luis entrou em pânico. (cf. Santos 1999)
    [It] was one time assaulted that Luis came into panic.

As to gerund Class1 adverbial clauses, the initial or final position will be determined by their informational status, as illustrated in (93)-(98):

(93) - Como é que os meninos construíram a cabana?
    How is that the children built the hut?

    a. - #Juntando canas e folhas, os meninos construíram a cabana.
        Putting-together canes and leaves, the children built the hut

    b. - (Os meninos construíram a cabana) juntando canas e folhas.
        (The children built the hut) putting-together canes and leaves

(94) - O que fizeram os meninos juntando canas e folhas?
    The what did the children putting-together canes and leaves?

    a. - Juntando canas e folhas, os meninos construíram uma cabana.
        Putting-together canes and leaves, the children built a hut

    b. - #Os meninos construíram uma cabana juntando canas e folhas.
        The children built a hut putting-together canes and leaves

(95) - O que aconteceu?
    The what happened?

    a. - Os meninos construíram uma cabana juntando canas e folhas.
        The children built a hut putting-together canes and leaves

    b. - ?Juntando canas e folhas, os meninos construíram uma cabana.
        Putting-together canes and leaves, the children built a hut
(96) - Quando é que tiveste essa ideia fantástica?

When is that [you] had that idea fantastic?

a. - #Passeando à beira-mar, tive esta ideia fantástica.

Walking in the sea-side, had that idea fantastic

b. - (Tive esta ideia fantástica) passeando à beira-mar.

(Had that idea fantastic), walking in the sea-side

(97) - O que é que te aconteceu passeando à beira-mar?

The what is that to-you happened walking in the sea-side

a. - Passeando à beira-mar, tive uma excelente fantástica.

Walking in the sea-side, had that idea fantastic

b. - #Tive uma ideia fantástica passeando à beira-mar.

Had that idea fantastic, walking in the sea-side

(98) - O que aconteceu?

The what happened?

a. - Tive uma ideia fantástica passeando à beira-mar.

Had an idea fantastic, walking in the sea-side

b. - Passeando à beira-mar, tive uma ideia fantástica.

Walking in the sea-side, had an idea fantastic

6. Conclusion remarks

The proposal presented here can be summarized as follows. Connectives of Romance finite and infinitival adjunct clauses are either positively specified or underspecified with respect to an [expectedness] discourse feature. This feature specification determines the structural positions where adjunct clauses may be merged, with TP acting as a mapping boundary. Adjunct clauses introduced by underspecified connectives may be merged either in
TP internal positions or in TP external positions. Merge in a TP external position will be determined by the informational status (background) of the clause. Romance adjunct clauses which generally lack connectives, namely gerund and past participial clauses, have a defective T, which will be anaphoric on matrix T when it is in its c-command domain. Therefore, only semantic types which are compatible with a simultaneous temporal reading will be allowed to occur in a TP internal position. This explains for example why there are finite and infinitival reason clauses internal to TP, but no participial and gerund reason clauses internal to TP.

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